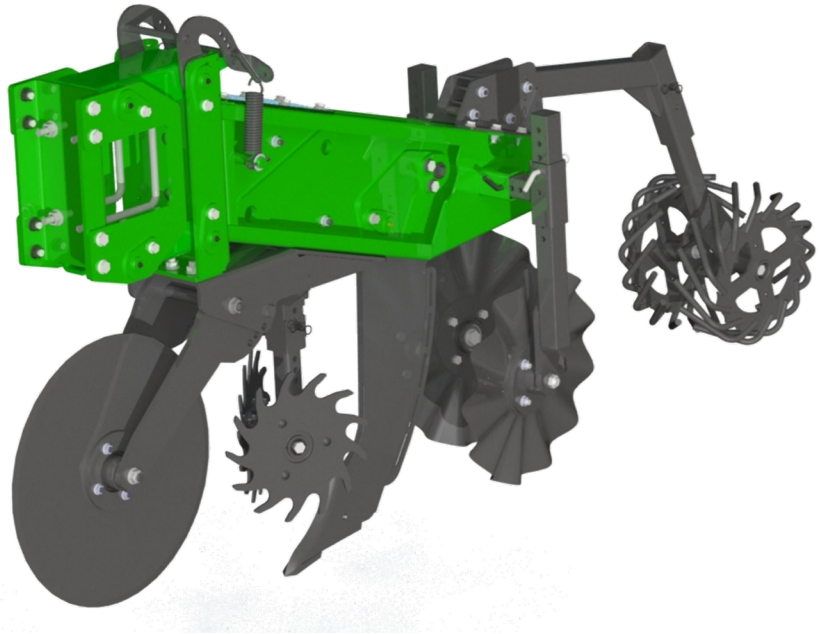
SCHLAGEL

Rapid Till and Rapid Till HD

Operator's Manual

RT-1000 Rapid Till Row Unit



HD-1000 Rapid Till HD Row Unit

Read, Understand, and Follow the instructions and procedures provided in this manual to safely install, operate, and maintain the Rapid Till Row Units.

Si no entiendes inglés, pídele a alguien que te lo traduzca.

Part No. HW-OPMN (Rev. 1/25)

Contents

This manual is applicable to models of the

RT-1000 and HD-1000 Series.

For inquiries call or write to:

Schlagel Manufacturing
4154 Buttermilk Road Torrington, WY 82240

Phone: 307-532-4451
Website: www.schlagel.net

Store this manual in a convenient location for future reference.

1. General Information

⚠ WARNING

To prevent personal injury or even death, be sure you read, understand, and follow all of the instructions in this manual and other related OEM equipment manuals! The Rapid Till row units, if not used and maintained properly, can be dangerous to users unfamiliar with their operation. Do not allow operating, maintaining, adjusting, or cleaning of this product until the user has developed a thorough understanding of the safety precautions and functions of the unit and the equipment it is attached to.

This Rapid Till row unit is designed for the specific purpose of optimizing seedbed preparation and nutrient placement (applying fertilizer). DO NOT modify or use this product for any application other than that for which it was designed.

The Rapid Till row unit, if maintained or operated improperly by untrained personnel, can be dangerous; exposing the user and bystanders to severe injury or even death.

1.1 Product Improvements

The photos and drawings in this manual may differ slightly from your machine due to design changes.

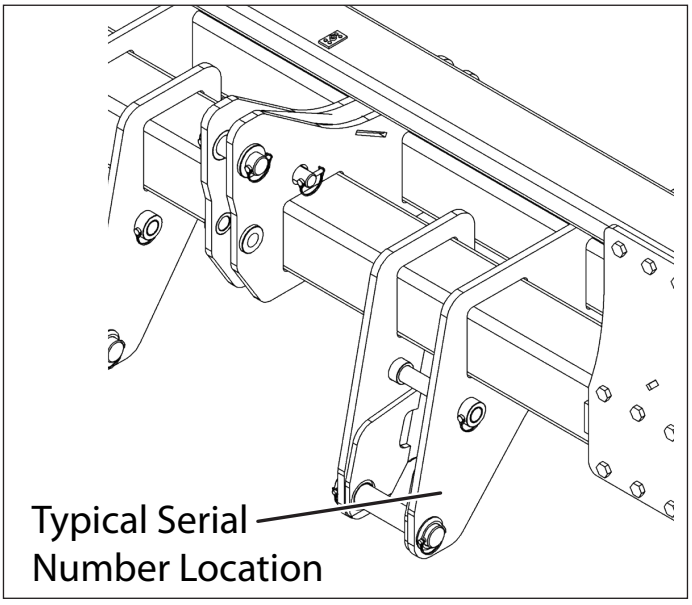
Schlagel Manufacturing reserves the right to change the design of the machine at any time without notifying the customer.

1.2 Serial Number and Decal Location

It is important to have access to the serial number and keep it on record at all times. The serial number decal on the Rapid Till is located on the front side of the main frame near the 3-point plates or Planter Caddy mount plates.

This decal also includes the model number. We recommend the serial and model numbers be written in the space provided. Should the decal become damaged and/or unable to read, you can obtain a new one by sending us your machine's model and serial numbers with a return address.

Having your model and serial number ready when ordering replacement parts will help avoid confusion and ensure that you get the correct parts.



Serial Number:_____

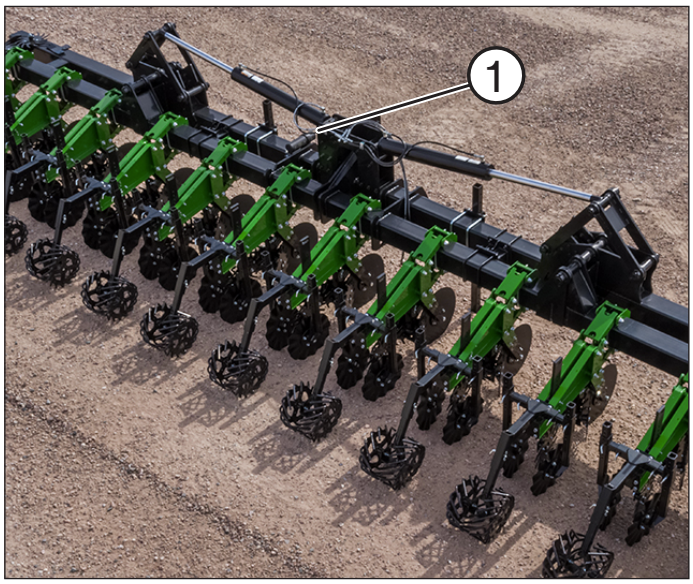
Model Number:_____

1.3 Disposal of Equipment at End of Useful Life

The Schlagel Manufacturing Rapid Till row units have been designed for the specific purpose of optimizing seedbed preparation, nutrient placement (applying fertilizer), and can also be attached directly to your planter to allow for a one-pass planting system. When this product or its components are no longer capable of performing their designed purpose, they should be removed and scrapped. Do not use any materials or components from this unit for any other purpose.

1.4 Product Documents

The manual(s) Rapid Till row units and other related documentation is contained inside the document storage tube (1) attached to the tool bar.



1.5 Warranty

All new Rapid Till row units come with a one year warranty. This warranty covers all non-wear parts (everything except coulters and points) for one year from the date of purchase. Any labor needed for repairs will not be covered unless labor is provided by a Schlagel Manufacturing employee or is pre-approved by Schlagel Manufacturing. If warranty parts or repairs are needed, please contact Schlagel Manufacturing or your local dealer with your Rapid Till serial and model number. Warranty parts and repairs will not be authorized for any part that has been misused, abused, or failed because routine maintenance as specified in this manual was not performed.

1.6 Registration

Please register your product to ensure your one (1) year manufacturing warranty that covers manufacturing defects. Warranty is valid one year from date of purchase.

https://schlagel.net/register/

1.7 Replacement Parts

For availability of replacement parts, contact your dealer or visit the Schlagel website at https://schlagel.net/

2. Safety

2.1 General

Most work-related accidents are caused by failure to observe basic safety rules or precautions. An accident can often be avoided by recognizing potentially hazardous situations before an accident occurs. As you install, operate, and maintain the Rapid Till row unit you must be alert to potential hazards. You should also have the necessary training and skills to operate the tractor and its attached implement.

Improper installation, operation, or maintenance of this product could cause a dangerous situation that results in injury or even death.

Do not use Rapid Till row unit until you read and understand the information contained in this manual. Do not use the Rapid Till row unit for anything other than its intended purpose.

Safety precautions and warnings are provided in this manual, attached to the Rapid Till row unit, the implement, and the tractor If these precautions are not followed, bodily injury or death could occur to you or other bystanders.

Schlagel Manufacturing cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this manual and on the product are, therefore, not all-inclusive. If a method of operation or maintenance not specifically recommended by Schlagel Manufacturing is used, you must satisfy yourself that it is safe for you and others. You should also ensure that the product will not be damaged or be made unsafe by the methods that you choose.

2.2 Safety Alert Symbol

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

This manual contains WARNINGS, CAUTIONS, IMPORTANT NOTICES, and NOTES which must be followed to prevent the possibility of improper service, damage to the equipment, personal injury, or death. The following keywords call the reader's attention to potential hazards.

Hazards are identified by the "Safety Alert Symbol" and followed by a signal word such as "WARNING" or "CAUTION".

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

Indicates that equipment or property damage can result if instructions are not followed.

Safety instructions (or equivalent) signs indicate specific safety-related instructions or procedures.

Note: Contains additional information important to a procedure.

2.3 Safety Icons Nomenclature

This manual has numerous safety symbols. These safety symbols may indicate important information about personal injury hazards from the cylinder, the tractor, or the implement.

2.3.1 Personal Protection/Important Information


Read the manual


Safety Signs


Protection (eye, hand, foot, ear)


Head protection


Remove key

Stop engine

Set parking brake


Fire extinguisher


First aid kit

Use only authorized parts

Safety first


Roll over protection


Use support stands


Use proper tools

2.3.2 Prohibited Actions


Do not operate (drugs)


Do not operate (alcohol)


No children


No riders


No unauthorized welding or modifications

2.3.3 Hazard Avoidance

Safety alert symbol


Crushing hazard


Hot surface


High-pressure fluid hazard


Pressure (zero)


Pressure (high)


Defective or broken part


Defective or worn hoses


Trapped pressure hazard


Slipping hazard


Tripping hazard


Rollover hazard (chock wheeled machines)


Crush hazard (hand or foot)


Entanglement hazard (PTO)


Overhead electrical contact hazard


Sharp object hazard


Contact hazard (foot)


Lifting hazard


Use proper tools


Hose damage


Falling tool bar hazard

2.4 General Safety Instruction

If at any time you have questions about the implement, settings or adjustments, safety issues, repair issues, or any other inquiry, do not hesitate to call for help.

⚠WARNING **Failure to comply with the following safety instructions could result in serious injury and possibly even death if they are not understood and followed.**

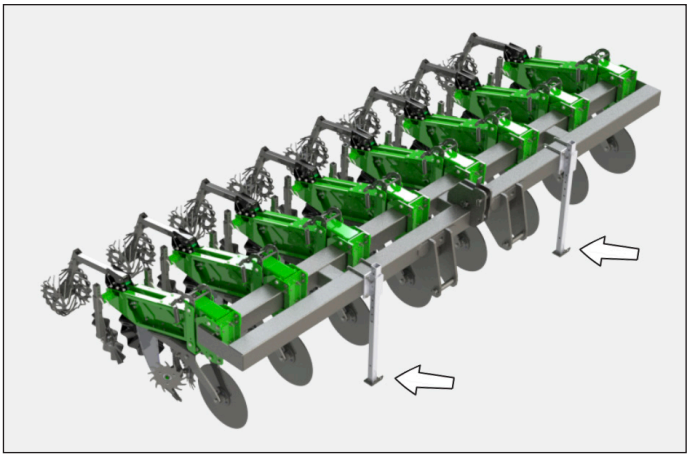
Owner's Manual
Read, Understand, and Follow the instructions in this manual before installing, operating, or performing maintenance on the Rapid Till row unit or its connected components. Review the contents of this manual and any other appropriate equipment manuals at least annually thereafter.

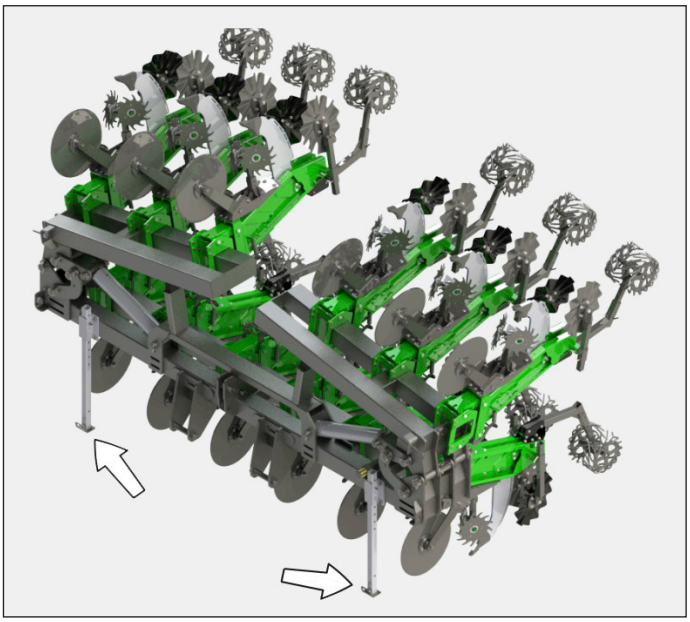
Be sure that only experienced personnel operate the equipment. Do not operate any equipment without all guards and shields in place.

Impaired User Hazard
Do not attempt to operate or maintain any equipment under the influence of drugs or alcohol. Consult your doctor before using any equipment while taking prescription medications.

Fall or Crush Hazard
Do not allow anyone to ride on the tractor, implement, or Rapid Till row unit. Falling or crushing hazards could result in severe injuries or death.

Crush Hazard
The Rapid Till row unit is very heavy and could cause serious injury if not properly used. Never work on or around the implement without the tool bar support stands (shown with arrows). Do not work under the Rapid Till row unit. To prevent injury, if applicable lower the implement to the ground and support it with the tool bar support stands.





⚠CAUTION **The following safety instructions are provided to help prevent potential injury. Not following these instructions may lead to injury.**

Personal Protection Equipment
When using any implement, wear appropriate personal protective equipment. This list may include, but is not limited to:

- **Protective shoes with slip-resistant soles**
- **Protective eyewear**
- **Protective clothing and gloves**
- **Hearing protection**

⚠CAUTION

Hearing Loss

Prolonged Exposure To Loud Noise May Cause Permanent Hearing Loss!

Working environments with noise-producing implements may cause partial to permanent hearing loss. Use hearing protection any time noise levels exceed 80 decibels (dB). Noise levels over 85 dB, on a long-term basis, may cause severe hearing loss. Noise levels over 90 dB over a period of time could cause permanent and even total hearing loss.

Hearing loss from loud noise is cumulative over a lifetime without hope of natural recovery.

Crush Hazard

Tractors must be equipped with a RollOver Protective Structure (ROPS) and a seat belt. A crushing hazard may occur if the driver is ejected from the seat while the tractor is in motion. Fasten the seat belt whenever the tractor is moving.

SAFETY INSTRUCTIONS

The following safety instructions are provided to help prevent injury or limit equipment damage.

Safety Signs

Replace any missing or hard-to-read safety signs or instructional labels. Use care when washing or cleaning the Rapid Till row unit.

First Aid Kit

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

Fire Extinguisher

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

2.5 Operational Safety

⚠WARNING

Crush Hazard

Depressurizing the hydraulic system without the proper bar stands or cylinder stops in place could cause the implement to drop rapidly. Use caution and make sure there is no one or nothing under the implement when depressurizing the hydraulic system.

⚠WARNING

Crush Hazard

Before leaving the tractor's operator seat for any reason:

a. Lower the implement to the ground.
b. Relieve hydraulic fluid pressure, if applicable.
c. Place the tractor in park, shut off the engine, and remove ignition key.
d. Set the parking brake.

Damaged Parts Hazard

Do not use the Rapid Till row unit if it is damaged. If the Rapid Till row unit or its connected components are believed to have a defect which could cause it to work improperly, immediately stop using it and remedy the problem before continuing.

Crush or Entanglement Hazard

Keep hands and feet away from any moving parts at all times.

Crush Hazard

Never crawl or work under a raised implement without proper supports in place.

Electrocution Hazard

On foldable tool bars, always watch for overhead power lines and other structures when raising, folding, or unfolding any implement.

2.6 Maintenance Safety

Refer to section 9. Maintenance for further information.

2.7 Hydraulic Safety (Foldable Tool Bars Only)

⚠WARNING

Hot Oil / Burn Hazard

High fluid temperatures may cause severe burns. Most hydraulic systems typically operate between 150 to 300 degrees Fahrenheit. Oil at these temperatures may burn the skin.

Metal parts (such as fittings and adapters) are also hot and may cause burns. Hoses can also become hot.

⚠WARNING

High-Pressure Fluid Hazard

The tractor's hydraulic system can be under high pressure even without the tractor running. Fluid under pressure can cause serious injury. It can be almost invisible when escaping from a pinhole, and it can pierce the skin. Do not touch or get near a pressurized hydraulic hose assembly with any part of your body. If fluid punctures the skin, even if no pain is felt, a serious emergency exists. Obtain medical assistance immediately.

Fire Hazard

Most hydraulic fluids are flammable when exposed to the proper conditions. Leaking pressurized hydraulic fluids may develop a mist or fine spray that can flash or explode upon contact with a source of ignition. These explosions can be very severe and could result in serious injury or death.

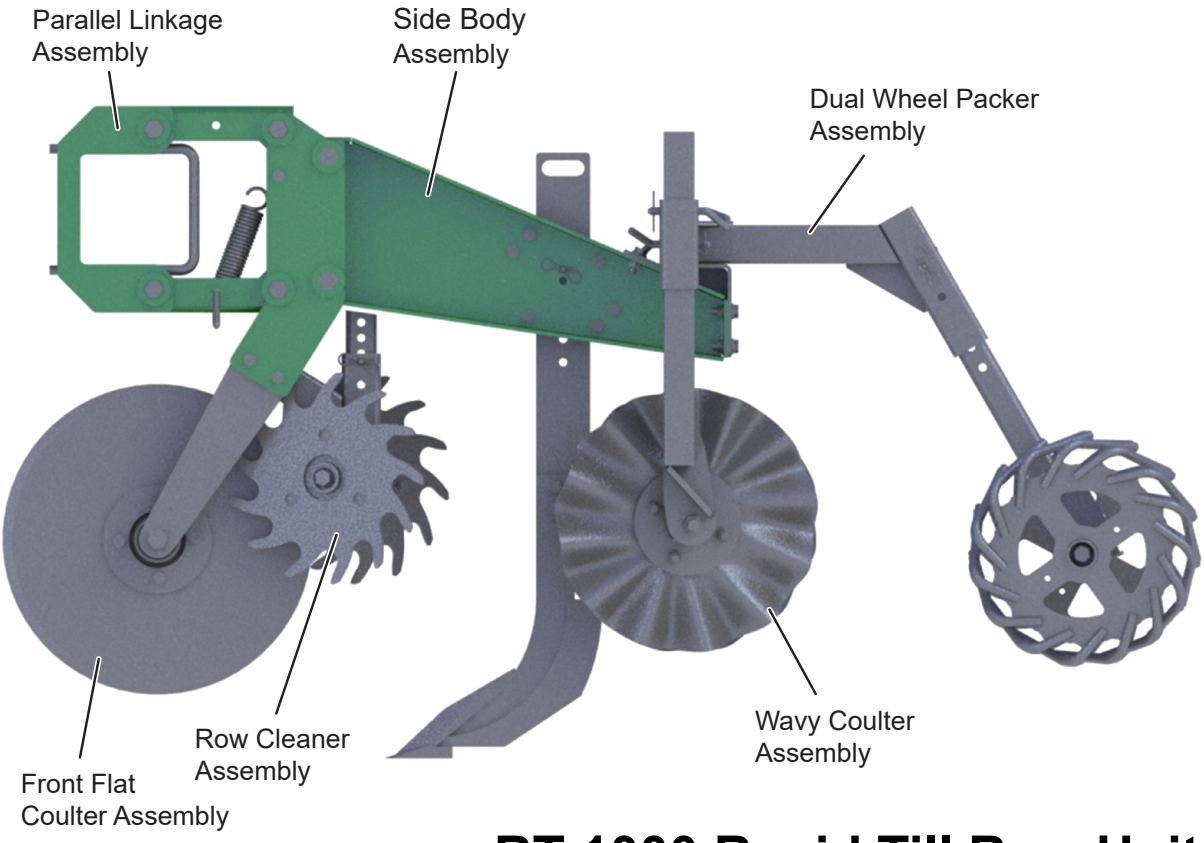
⚠CAUTION **The following safety instructions are provided to help prevent potential injury. Not following these instructions may lead to injury.**

- **Check hydraulic hoses and fittings frequently for leaks or wear.**
- **Remove any buildup of debris that may hinder operation.**
- **Visually inspect and maintain the unit daily. Loose, broken, and missing components may cause the unit to not perform properly and may result in bodily injury or death.**

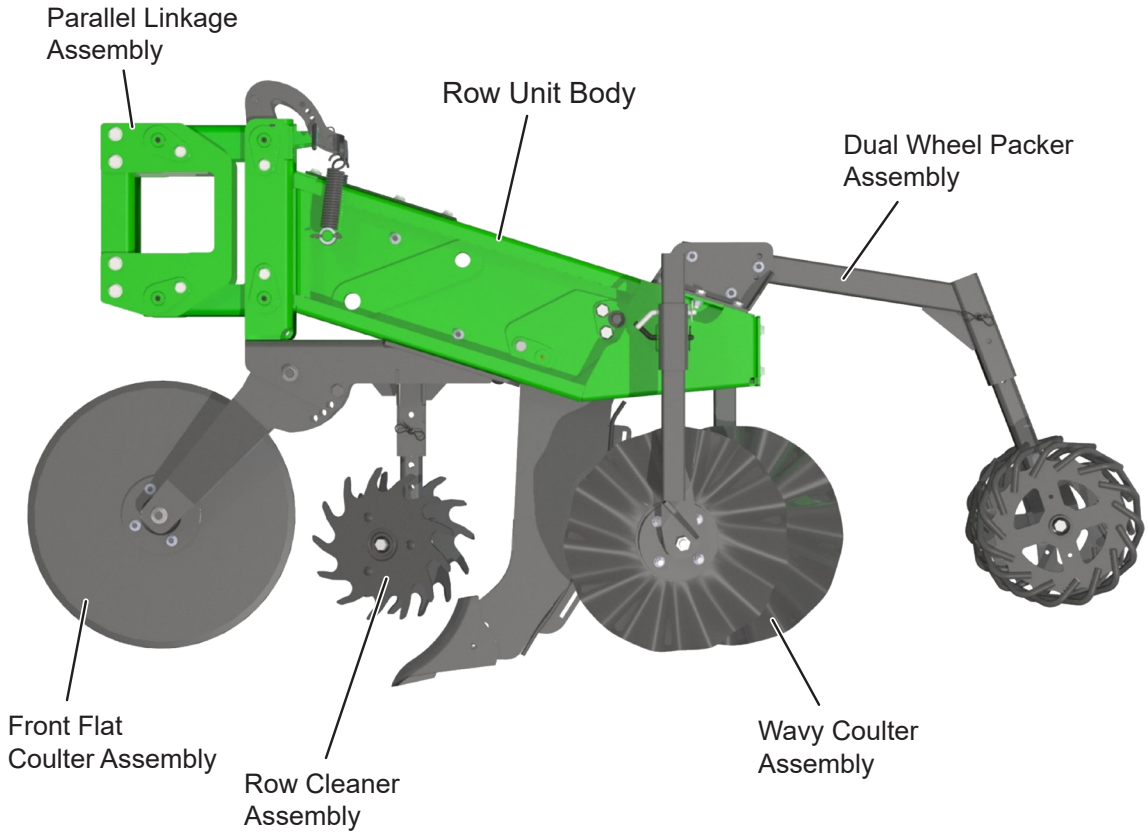
3. Specifications

Description	RAPID TILL	RAPID TILL HD
Travel Speed	up to 10 m.p.h.	
Running Depths	2" to 11"	6" to 16"
Row Cleaners	Adjustable	Adjustable
Flat Coulter	20"	24"
Shank	3/4" x 4"	3/4" semi-parabolic shank with 6" point
Wavy Coulters	Two 17"	Two 20"
Dual-Wheel Light Packer	16"	16"
Rows	6 to 24	6 to 18
Row Spacing	down to 20"	down to 20"
Average per row required horsepower (actual requirements will vary with options and soil conditions.)	20HP	25HP

4. Nomenclature



RT-1000 Rapid Till Row Unit



HD-1000 Rapid Till Row Unit

5. Safety Signs and Labels

5.1 Safety Sign Locations

Item	Description
1	Warning - Pinch / Crush Hazard
2	Notice - NO TURNING

6. Startup and Operation

6.1 User Safety

⚠WARNING Failure to follow the following safety instructions could result in serious injury and possibly even death if they are not understood and followed.

Qualified Users Only
Before using the implement, be familiar with the tractor's controls. Read and understand this manual and the one provided with your tractor before operating the implement. Do not allow an untrained person to operate the tractor.

Train Unfamiliar Users
It is the tractor owner's responsibility to make sure any person using the tractor with its attached implement has been thoroughly trained on its proper and safe use.

Impaired User Hazard
Do not attempt to operate or maintain the tractor under the influence of drugs or alcohol. Consult your doctor before using the tractor while taking prescription medications.

No Children
Never allow children to operate the tractor.

6.2 Pre-startup

For the Rapid Till to work properly, these three conditions are necessary.

1. The flat coulter must completely cut all crop residue to prevent plugging.
2. The shank must be set deep enough to break ground compaction.
3. The groove left by the shank must be completely closed by the wavy coulters.

6.3 Preparing the Tractor

1. The tractor must have a 3-point hitch in good working order.

Crush Hazard
When connecting the 3-point linkage, do not stand between the tractor and the tool bar when the tractor is moving. To prevent injury, make sure the tractor is stopped and in park before making any connections. Also, follow all the safety instructions in the OEM tractor operator manual.

   a. The majority of these implements use a Category 3 hitch although some are both Category 3 and 4.
   b. A quick coupler is highly recommended. Side-to-side clearance between the quick coupler and Rapid Till 3-point hitch plates should be as small as possible.
   c. For tractors without a quick coupler, 3-point pin spacers are required. The spacers should take up any side-to-side movement of the tractor 3-point arms on the Rapid Till 3-point pins.
   d. Sway blocks should be set with minimum amount of free travel. If more than 3/16" of total side play is present, you may have to shim up the sway blocks or 3-point arms.

2. Duals on the tractor are highly recommended.
3. Tire settings should be as close as possible to two (2) times the row width. For example: for 30" row spacing, you would set the front tires and inside duals at 60" and the outside duals at 120". Tires must be set the same from side to side and centered on the tractor. Make sure to set the toe-in of the front tires to manufacturer's recommended specifications. Tire pressures should be equal for all rear tires.
4. Front weights may be required. The number of front weights will vary with tractor size and type, but usually the maximum number is best.
5. When a 3-point planter is to be used, the tractors sway block side-to-side clearances and 3-point arm to quick coupler side-to-side clearances need to be as tight as possible.

7. Adjusting the Standard Rapid Till Row Units

This section covers the adjustment of the standard Rapid Till row units. For adjustment of the HD Rapid Till row units refer to “8. Adjusting HD Rapid Till Row Units” on page 16.

⚠WARNING

Bodily Injury Hazard

Many of the following adjustments are made with the tool bar and Rapid Till row units raised off the ground. To prevent injury or possibly even death, make sure the tool bar and/or the Rapid Till row units are adequately supported before working near them. Do not work under the Rapid Till row unit.

7.1 Setting the Tool Bar

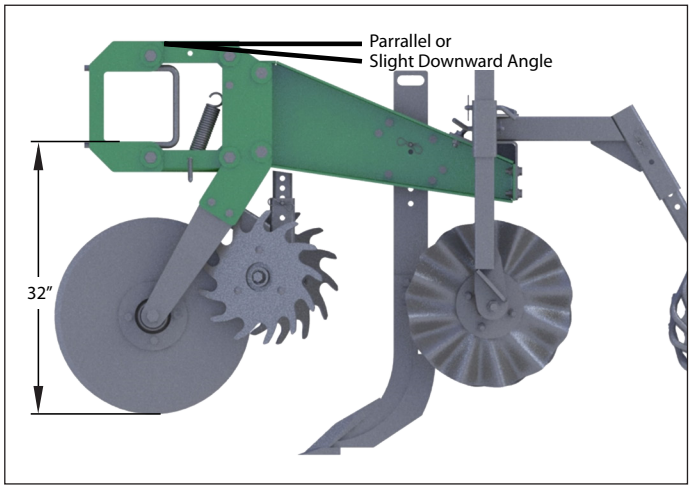
Note: If the Rapid Till row units are mounted to a Planter Caddy please refer to the Planter Caddy Owner’s Manual, which can be found on the Schlagel website, for adjusting the height of the tool bar.

7.1.1 Height Adjustment

The Rapid Till row unit tool bar must be set at the correct height to allow the Rapid Till row unit’s parallel linkage to function properly. The bottom of the bar will be approximately 32” off the ground with the parallel linkage level and the points touching the ground.

⚠CAUTION **Stay clear of moving parts when adjusting the tool bar height.**

Note: To run the Rapid Till row unit at a 10” depth, subtract 10” from 32” and the bottom of the tool bar should be approximately 22” from the ground. These dimensions are not exact and should be used as reference only.



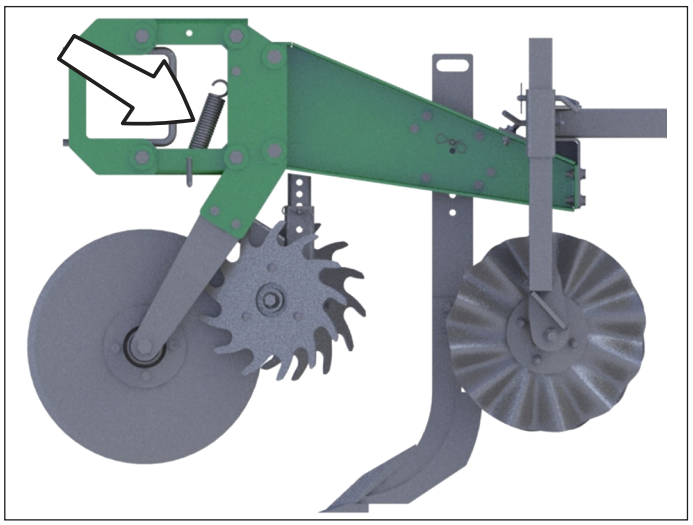
7.1.2 Angle Adjustment

The parallel linkage on the Rapid Till row units should be level or angled slightly lower in the back by adjusting the depth limit on the 3-point hitch.

7.2 Parallel Linkage (Down Pressure) Adjustment

On the parallel linkage assembly there are two springs that connect the arms to the body of the Rapid Till row unit. Additional springs can be added to increase unit’s downward pressure to help push the units into the ground in hard heavy soil. They also help keep all the Rapid Till row units on the tool bar at the same depth.

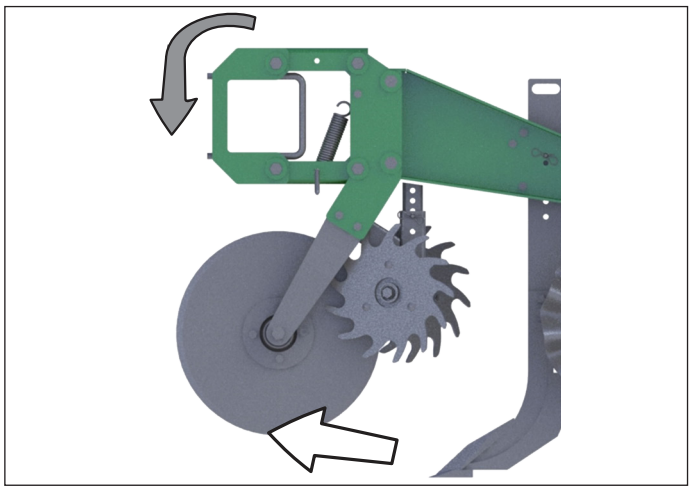
⚠CAUTION **Springs under tension can cause physical damage if unexpectedly released. Make sure the spring is under minimal tension before removing.**



7.2.1 Front Flat Coulter Depth

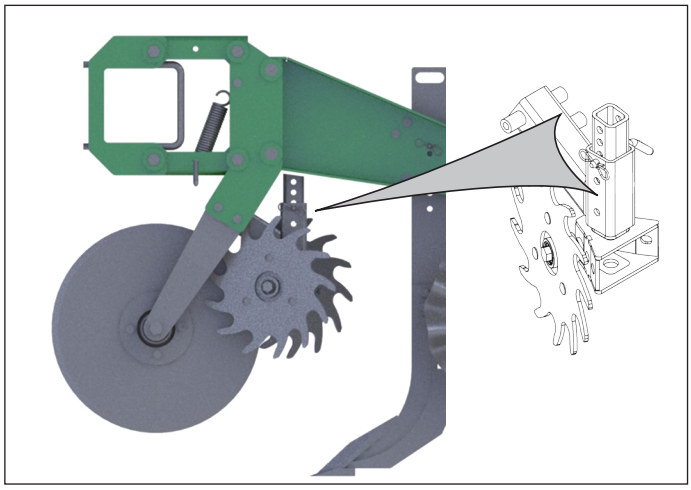
The flat coulter is not individually adjustable. If the flat coulters are not cutting deep enough, shorten the center linkage of the tractor's 3-point hitch to roll the tool bar forward. This will cause all the front flat coulters to cut deeper.

⚠CAUTION Crush or pinch hazard. Stay clear of moving parts when adjusting the center linkage.



7.2.2 Row Cleaner Adjustment

Row cleaners are designed to clean residue from behind the front coulter. Adjust the height and width of the cleaner wheels to set the depth and width of the area being swept clean.



1. Support the row cleaner to prevent it from falling.
2. Remove the bent pins and bowtie clips.

⚠CAUTION Crush or cutting hazard. Keep hands and feet away from the row cleaner as it is adjusted.

3. Make the adjustments and replace the bent pins and bowtie clips. Do not use pins other than an OEM suppled pin.

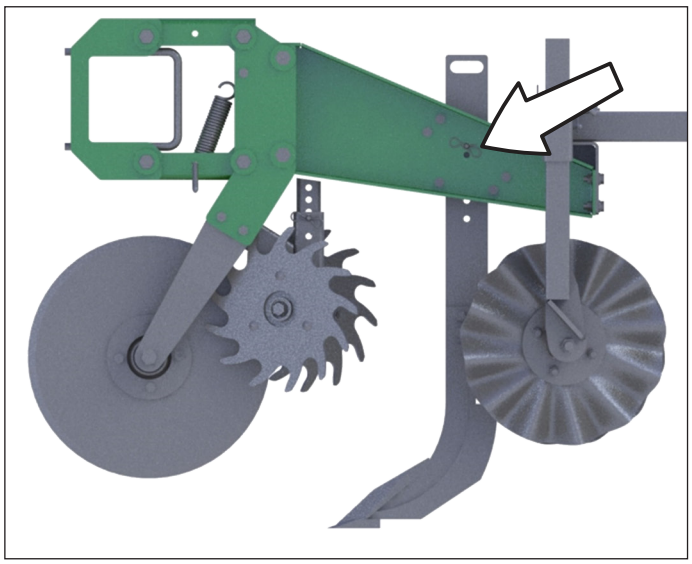
7.2.3 Shank Depth Adjustment

The shank depth is set by raising and lowering the shank using one of the six adjustment holes. Each of the Rapid Till row unit shanks should be set at the same depth.

1. Hold or support the shank to prevent it from falling. The shank weighs approximately 20 pounds.
2. Remove the bent pins and bowtie clips.

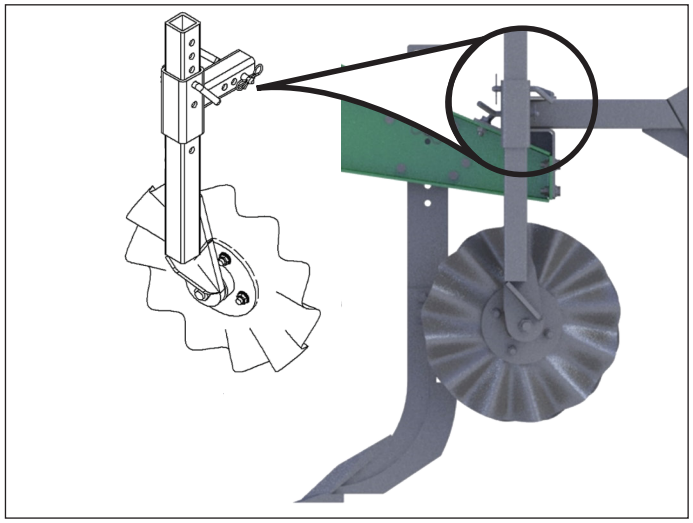
⚠CAUTION Crush or pinch hazard. Keep hands and feet away from the shank when adjusting the depth.

3. Raise or lower the shank to the desired depth and replace the bent pins and bowtie clips. Do not use pins other than an OEM suppled pin.



7.3 Wavy Coulter Adjustment

After the shank goes through the soil it leaves a void or area of loose soil directly behind it. The wavy coulters are designed to pinch the soil back together and remove any air pockets that might have developed as the shank passed through the soil.



The wavy coulters should never be set shallower than 4 inches and under normal conditions work best when running deeper and close together. If the void is not being filled the wavy coulters typically need to be set deeper, closer together, or both.

If tilling first and planting at a later date, a narrower the spacing between the wavy coulters, the better the planter will follow.

1. Hold or support the wavy coulter assembly to prevent it from falling. This assembly weighs approximately 25 pounds.
2. Remove the bent pins and bowtie clips.

⚠CAUTION **Crush or cutting hazard. Keep hands and feet away from the wavy coulter assembly as it is adjusted.**

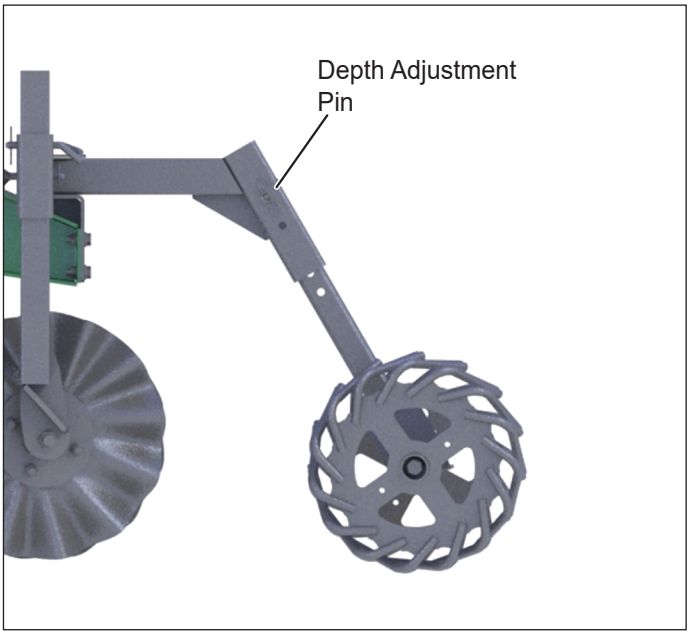
3. Raise or lower the assembly to the desired depth and replace the bent pins and bowtie clips. Do not use pins other than an OEM suppled pin.

Note: The angle of the wavy coulters is fixed and should not be altered.

4. Till the ground to make sure the void from the shank is completely filled. Unfilled voids have the potential to cause serious problems when planting.

7.3.1 Dual Wheel Packer Depth Adjustment

The Rapid Till row unit depth is set by making adjustments to the dual wheel packers on the back of the Rapid Till row unit.



1. Raise the tool bar to release the pressure on the dual wheel packers.
2. Hold or support the assembly to prevent it from falling. This assembly weighs approximately 35 pounds.
3. Remove the bent pins and bowtie clips.

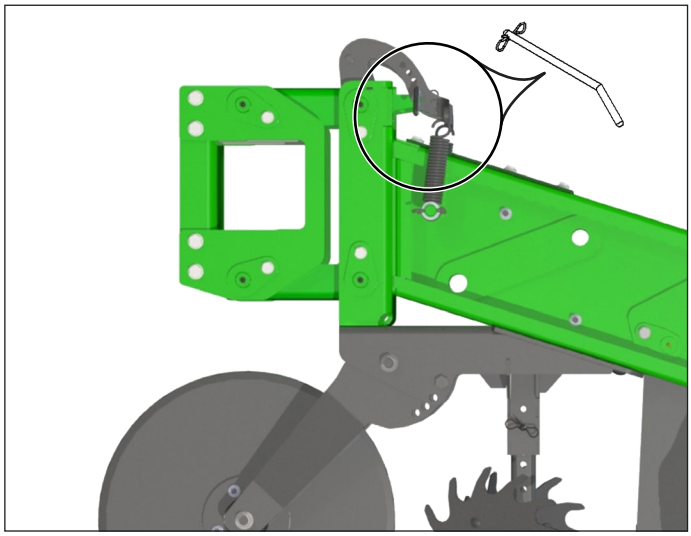
⚠CAUTION **Crush or cutting hazard. Keep hands and feet away from the dual wheel packer assembly as it is adjusted.**

4. Raise or lower the assembly to the desired depth and replace the bent pins and bowtie clips. Do not use pins other than an OEM suppled pin.

8. Adjusting HD Rapid Till Row Units

8.3.1 Parallel Linkage (Down Pressure) Adjustment

On the top, parallel linkage there are two arms that pivot on the rear linkage pin. These arms have a series of holes used to adjust how weight is transferred from the tool bar to the Rapid Till row units. This adjustment helps push the units into the ground in hard heavy soil, and also works to keep all the Rapid Till row units on the bar at the same depth.



From the factory, the adjustment pin is located in the hole which produces the highest down pressure setting. Adjust the parallel linkage if the Rapid Till row unit is going too deep or is constantly pulling the Rapid Till row unit's parallel linkage down to the main tool bar.

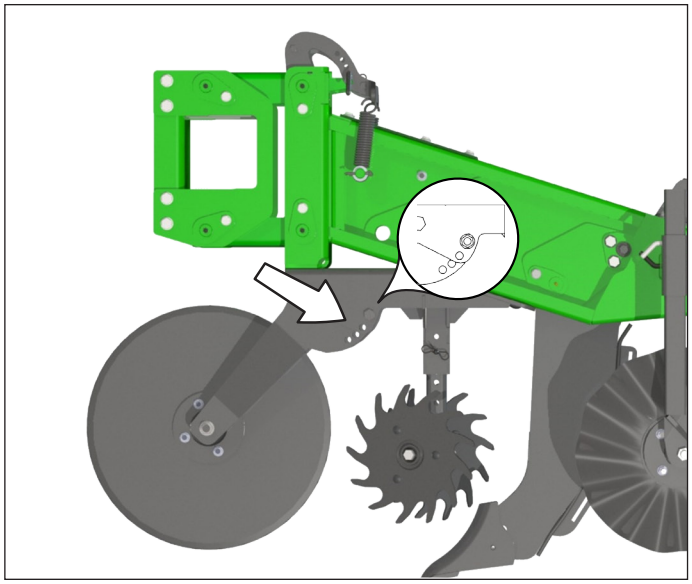
1. Raise the tool bar.
2. Remove the bowtie clip bent pin and position it in the location for the desired downward pressure. Moving the pin upward will decrease the down pressure.

8.3.2 Front Flat Coulter Depth

The recommended running depth for the flat coulter is 4 to 5 inches. To adjust the depth:

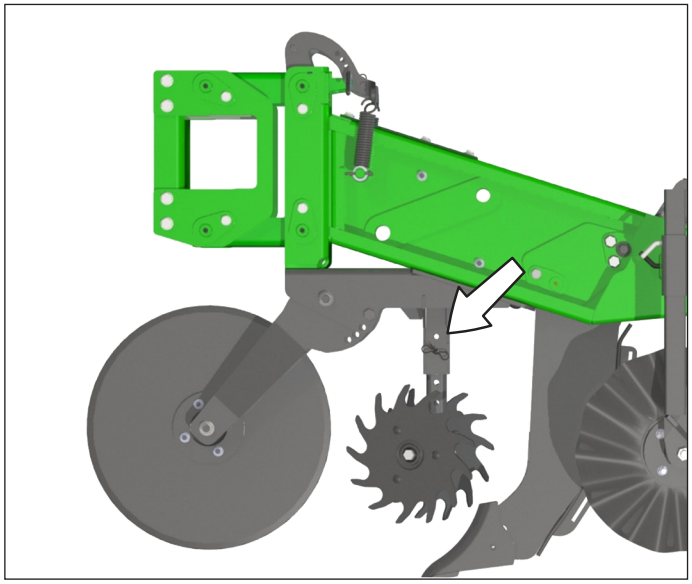
1. The flat coulter is adjusted by removing the bolt and nut from each side of the fork plate.
2. Rotate the fork plate to achieve the desired height.
3. Reinstall the bolts and nuts on both sides.

NOTICE To prevent excessive wear on the flat coulter hub leading to premature failure **do not exceed 8-1/2 inches of depth**.



8.3.3 Row Cleaner Adjustment

Row cleaners are designed to clean residue from behind the front coulter. Adjust the height of the cleaner wheels to set the depth and width of the area being swept clean.



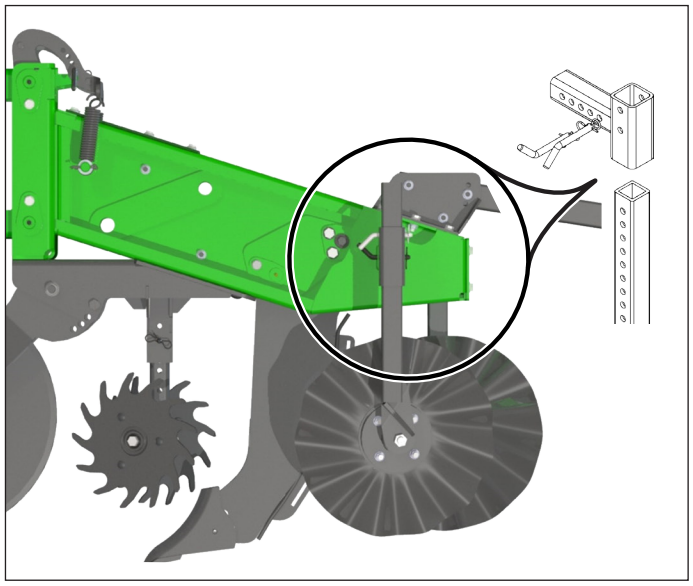
1. Support the row cleaner to prevent it from falling.
2. Remove the bent pin and bowtie clip.

⚠CAUTION **Crush or cutting hazard. Keep hands and feet away from the row cleaner as it is adjusted.**

3. Make the adjustment and replace the bent pin and bowtie clip. Do not use pins other than an OEM suppled pin.

8.1 Wavy Coulter Adjustment

After the shank goes through the soil it leaves a void or area of loose soil directly behind it. The wavy coulters are designed to pinch the soil back together and remove any air pockets that might have developed as the shank passed through the soil.



The wavy coulters should never be set shallower than 4 inches and under normal conditions work best when running deeper and close together. If the void is not being filled the wavy coulters typically need to be set deeper, closer together, or both.

If tilling first and planting at a later date, a narrower the spacing between the wavy coulters, the better the planter will follow.

1. Hold or support the wavy coulter assembly to prevent it from falling. This assembly weighs approximately 25 pounds.

2. Remove the bent pins and bowtie clips.

⚠CAUTION **Crush or cutting hazard. Keep hands and feet away from the wavy coulter assembly as it is adjusted.**

3. Raise or lower the assembly to the desired depth and replace the bent pins and bowtie clips. Do not use pins other than an OEM suppled pin.

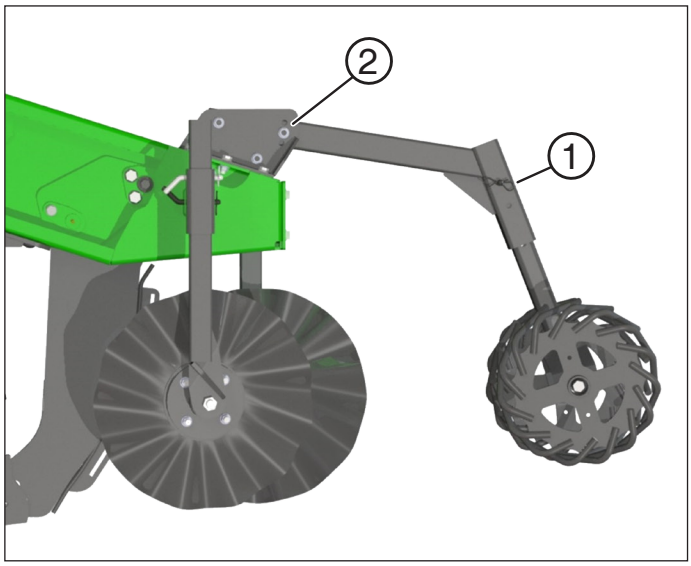
Note: The angle of the wavy coulters is fixed and should not be altered.

4. Till the ground to make sure the void from the shank is completely filled. Unfilled voids have the potential to cause serious problems when planting.

8.1.1 Rapid Till Row Unit Depth Adjustment

The Rapid Till row unit depth is set by making adjustments to the dual wheel packers on the back of the Rapid Till row unit.

1. Set the height of the dual wheel packer using adjustment pin (1).
2. Set the angle of the assembly using secondary adjustment bolt (2).



3. Each Rapid Till row unit should be set to the same height and angle. Use the diagram and chart below.

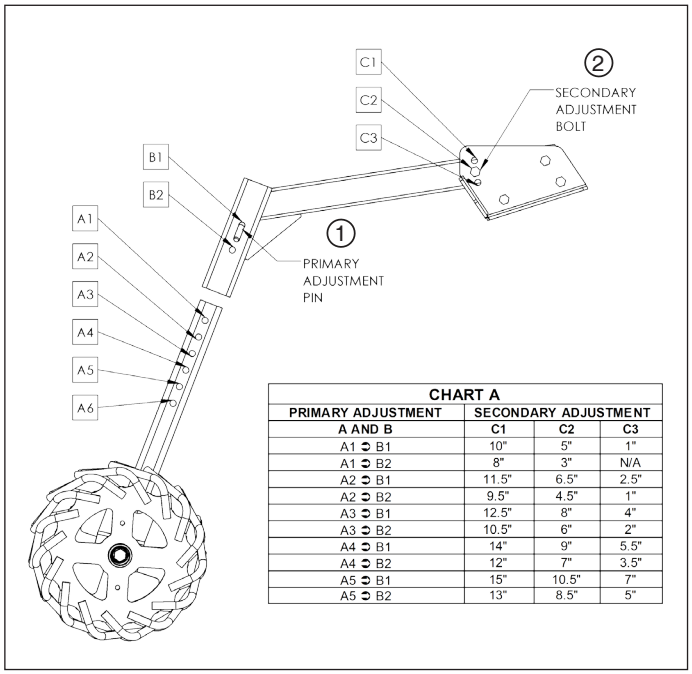


CHART A			
PRIMARY ADJUSTMENT	SECONDARY ADJUSTMENT		
A AND B	C1	C2	C3
A1 ➲ B1	10"	5"	1"
A1 ➲ B2	8"	3"	N/A
A2 ➲ B1	11.5"	6.5"	2.5"
A2 ➲ B2	9.5"	4.5"	1"
A3 ➲ B1	12.5"	8"	4"
A3 ➲ B2	10.5"	6"	2"
A4 ➲ B1	14"	9"	5.5"
A4 ➲ B2	12"	7"	3.5"
A5 ➲ B1	15"	10.5"	7"
A5 ➲ B2	13"	8.5"	5"

9. Maintenance

These units require very little maintenance, however parts wear out due to normal working conditions. Follow the instructions in this section to help prevent possible injury or equipment damage.

Safety First
THINK AHEAD…Before performing any maintenance, review what needs to be done and consider the best and safest way to do the job.

9.1 Safety

⚠WARNING **Failure to comply with the following safety instructions could result in serious injury and possibly even death.**

Personal Protection Equipment
Wear personal protection equipment (PPE), which may include hard hat, safety glasses, safety shoes, gloves, etc. appropriate for the work site and working conditions.

⚠WARNING

Sharp Object Hazard
The flat and wavy coulters on the Rapid Till attachment usually have very sharp edges. Use extreme caution when working around or handling all coulters.

Crush Hazard
Before performing any maintenance or repairs:

a. **Lower the implement to the ground.**
b. **Relieve hydraulic fluid pressure, if necessary.**
c. **Place the tractor in park, shut off the engine, and remove ignition key.**
d. **Set the parking brake.**

Lifting Hazard
When removing and adjusting components, be aware of the weight of the components you will be moving.

⚠WARNING

Zero Pressure

If equipped, make sure all hydraulic pressure is released before inspecting or disconnecting hydraulic hoses. When not completely folded, the tool bar arms can drop unexpectedly if pressure is removed.

Escaping hydraulic fluid under pressure, even a pinhole size leak, can penetrate body tissue, causing serious injury and possible death. If fluid is injected into your skin, it must be treated immediately by a doctor familiar with this type of injury.

Crush Hazard

Before performing any maintenance on the implement, it must be placed on solid ground. Lower the tool bar support stands onto solid, level ground to prevent it from tipping forward and falling.

If maintenance requires the tool bar to be raised, leave the unit attached to the tractor and lower the tool bar stands and/or stand extensions onto solid, level ground before working near the implement.

Always chock the tractor wheels when performing maintenance.

SAFETY INSTRUCTIONS **The following safety instructions are provided to help prevent injury or limit equipment damage.**

Replace parts only with genuine OEM parts. Do not alter equipment or replace parts with other brands which may not fit properly or meet OEM (Original Equipment Manufacturer) specifications. They can weaken the integrity and impair the safety, function, performance, and life of the equipment.

No Unauthorized Modifications

Do not modify the Rapid Till row unit or its components. Do not weld on the unit. Unauthorized modifications may affect the product's function, or create safety hazards.

A fire extinguisher and first aid kit should be readily accessible while performing maintenance on this equipment.

SAFETY INSTRUCTIONS **Do not leave tools lying around the work area.**

Follow good shop practices. Keep the working area clean and dry. Be sure electrical outlets and tools are properly grounded. Use adequate light.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts.

Use the correct tools, jacks, hoists, or other tools that have the capacity for the job.

Test the stability of the support stands before working near the unit.

If the tool bar is attached to the tractor, set the brakes, remove the key, chock the tractor wheels, and block the tool bar before working near the unit.

9.2 Procedures

1. Make sure all moveable parts are free to move.
2. Inspect the bearings in all the rotating assemblies for abnormal wear of damage. Replace parts as needed.
3. If equipped, inspect the cylinders, fittings and hoses for signs of damage or wear.
4. Replace any worn, damaged, or unreadable safety labels by obtaining new labels.

10. Preparation and Storage

At the end of the season, the tool bar and Rapid Till row units should be thoroughly inspected and prepared for storage. Repair or replace any worn or damaged components to prevent any unnecessary downtime at the beginning of the next season.

10.1 Removing From Storage

1. Review the safety information in this manual and other OEM related manuals.
2. Check the tool bar for material defects and cracks, especially near weld joints. If there are any faults, repair or replace parts before operating the implement.
3. Check all bearings and replace any that are not in good operating condition.
4. Check all bolts, nuts, lockwashers, flat washers, roll pins, cotter pins, etc. for wear or damage. Replace any damaged parts, as needed.
5. If the unit is stored outdoors, cover the exposed cylinder rods with grease.

10.2 Placing In Storage

1. Remove any entangled vegetation, trash or other debris from the unit.
2. Thoroughly wash all soil and excess grease that has accumulated on the unit with pressurized water if available.
3. Remove all rust and repaint areas where paint has been removed.
4. Loosen tension on row unit springs.
5. Lubricate the machine and apply grease to all adjustment bolt threads.
6. Inspect the unit for damaged parts and order replacements.
7. Make any needed repairs and replace any damaged or worn parts.
8. Store the Rapid Till row unit in an area that is dry, level, and free of debris (inside a building is ideal).

   SAFETY INSTRUCTIONS **Store the unit in an area away from human activity. Do not permit children to play on or around the implement.**

11. Parts Replacement

Replacement parts can be found in the separate RT Series Parts Book or the HD Series Parts Book.

SAFETY INSTRUCTIONS **Replacement parts must be genuine factory replacement parts to restore the unit to its original specifications. The manufacturer will not accept responsibility for damages as a result of using unapproved parts.**

If equipped with a hydraulic system, replace any worn, cut, abraded, flattened, or crimped hoses.

For any additional information concerning replacement of parts, consult the factory service department.

⚠ WARNING **OEM** **Replace parts only with genuine OEM parts. Do not alter equipment or replace parts with other brands which may not fit properly or meet OEM (Original Equipment Manufacturer) specifications. They can weaken the integrity and impair the safety, function, performance, and life of the equipment.**

Do not use worn, defective, or broken parts.

Do not use worn, defective, or under-rated hoses.

12. Troubleshooting

PROBLEM	PROBABLE CAUSE	CORRECTION
Plugging between flat coulter and shank	Flat coulter not deep enough	Set machine to run deeper
	Shank not deep enough	Adjust the dual wheel packers
	Machine tilling depth not consistent Caused by manually raising and lowering machine in tough areas	Gear down tractor and maintain consistent machine tilling depth
	Flat coulter not aligned with shank	Align flat coulter with shank
	Rapid Till row unit not pivoting on parallel linkage	Grease linkage pins as required
	If ridge tilling, Rapid Till row unit is running off to one side of ridge	See: machine not trailing straight
	Residue between rows is wet	Allow to dry
	Residue on surface is wet	Allow to dry
	Residue worked too deep into ground and is wet (possible from disking too deep)	Lower flat coulters
Plugging between shank and wavy coulter	Wavy coulters too deep	Raise wavy coulters
	Wavy coulters too close together	Adjust wavy coulters apart
	Wavy coulter hub bearings seized or Bad	Replace bearings
	If ridge tilling, Rapid Till row unit is running off to one side of ridge	See: machine not trailing straight
	Rapid Till row unit not pivoting on parallel linkage	Grease parallel linkage pins as required
Gauge wheels filling up with soil	Too much spring tension on Rapid Till row unit	Loosen spring tension Remove springs in sandy soil
	Wavy coulters too close together	Adjust wavy coulters apart
	Too wet	Allow to dry
Machine not trailing straight	Rapid Till row units not square to bar	Square up units to bar
	Loose 3-point hitch arms	Remove slack in tractor's 3-point sway blocks
	Excessive space between 3-point quick coupler and machines 3-point plates	Add spacers between 3-point quick coupler and Machines 3-point plates
	Tractor tire pressures not equal or too low	Put adequate and equal pressures in tires
	Tractor tires not set to correct spacing	Adjust tractor tire spacing
	Field not uniform	
	Irrigation furrows not centered	
	Flat coulter not aligned properly	Align flat coulter
	Uneven settings on units	See settings page
	Rapid Till row unit not pivoting on parallel linkage	Grease linkage pins as required
	Width between gauge wheels setting correctly allowing wheel to ride on side of shank groove	Adjust gauge wheels
	Lift arms on tractor not equal lengths	Adjust tractor linkage

PROBLEM	PROBABLE CAUSE	CORRECTION
Machine not penetrating into soil	Flat coulters too deep (holding up unit)	Raise flat coulters
	Shank depth set too shallow	Lower unit
	Insufficient spring tension on Rapid Till row units	Increase spring tension
	Gauge wheels too low	Raise gauge wheels
	Points worn excessively	Replace points
	Light packer set too low	Raise light packer
	Rapid Till row unit not pivoting on parallel arm	Grease linkage pins as required
	Tractor 3-point controls not set to allow linkage to be lowered far enough	Adjust 3-point controls
	Wavy coulters are outside of shank trail holding up machine	Move wavy coulters inward
	Soil too dry	Irrigate
Groove behind shank not closing properly	Wavy coulters not deep enough	Lower wavy coulters
	Wavy coulters set too far away from shank groove	Move wavy coulters closer to shank groove
	Wavy coulters set too close together	Move wavy coulters apart
	Driving too slow	Speed up
	Soil too dry	Irrigate
	Soil structure ruined from compaction (possibly due to previous implement being used under excessively wet soil conditions)	Eliminate tillage with other implements
Planter not following correctly behind Rapid Till unit	Planter bar height set incorrectly.	Adjust planter bar so that parallel linkages on the planter are level or slightly lower in the back.
	Planter drive tires not equal distance from center.	Adjust planter drive tires to equal distance from center.
	Wrong style of tires on front of planter tractor.	Put single rib tires on planter tractor.
	Wrong style of tires on planter.	Put single rib tires on planter .
	Planting in same direction as till-n-plant.	Plant in opposite direction as till-n-plant
	Pull type planters tend to not pull straight.	Adjust tractor drawbar to compensate for side pull.
	Tractor tire pressure set incorrectly.	Adjust tractor tire pressure so it is equal on both sides. Inside and outside duals may require different tire pressures.
Rapid Till row units not floating.	Bar height not set correctly when compared to shank depth.	Grease linkage pins as required
	Bar height not set correctly when compared to shank depth	Set bar height so parallel linkage is angle slightly towards the back when at operating depth.

PROBLEM	PROBABLE CAUSE	CORRECTION
Planter not following correctly behind Rapid Till unit	Planter bar height set incorrectly	Set bar height so parallel linkage is angle slightly towards the back when at operating depth.
	Planter drive tires not equal distance from center	Adjust planter drive tires to equal distance from center.
	Wrong style of tires on front of planter tractor	Put single rib tires on planter tractor.
	Wrong style of tires on planter	Put single rib tires on planter .
	Planting in same direction as till-n-plant	Plant in opposite direction as till-n-plant
	Pull type planters tend to not pull straight	Adjust tractor drawbar to compensate for side pull.
	Tractor tire pressure set incorrectly	Adjust tractor tire pressure so it is equal on both sides. Inside and outside duals may require different tire pressures.
Rapid Till row units not floating	Parallel linkage sticking.	Grease linkage pins as required
	Bar height not set correctly when compared to shank depth	Set bar height so parallel linkage is angle slightly towards the back when at operating depth.

13. Hydraulic Systems

This section is only used for Schlagel models with hydraulically-controlled, foldable tool bars. If the Rapid Till row units are attached to another OEM tool bar, follow the recommendations from that manufacturer.

Also, follow all the instructions from the OEM tractor manufacturer concerning the safety, hookup, operation, and use of the tractor's hydraulic system.

The Hydraulic Systems section contains schematics. If the schematics differ from the actual system, contact Schlagel Mfg at (888) 889-1504 (toll free) before servicing the implement. Under no circumstances attempt to service or make changes to any hydraulic system without knowledge of hydraulic components. Also, never mix different components of a system. Serious damage can occur.

13.1 User Safety

⚠WARNING Failure to follow the following safety instructions could result in serious injury and possibly even death if they are not understood and followed.

⚠WARNING

Escaping hydraulic fluid under pressure, even a pinhole size leak, can penetrate body tissue, causing serious injury or possible death. If fluid is injected into your skin, it must be treated immediately by a doctor familiar with this type of injury.

- **Check or tighten all connections BEFORE applying pressure.**
- **Release all pressure before removing a hose, fitting, or valve by:**
  a. Stopping the engine.
  b. Moving all hydraulic control levers into a float position.
- **DO NOT use your bare hand to check for potential leaks. Always use a board or cardboard when checking for a leak.**

⚠WARNING

Hydraulic Pressure
This unit operates with hydraulic pressures up to 3000 psi.

High-Pressure Hydraulic Oil
1. Check or tighten all connections BEFORE pressurizing system.

2. Release all pressure before removing hoses or couplings by:
a. Stopping engine.
b. Holding hydraulic control levers in float or neutral position.

3. DO NOT use your bare hand to check for potential leaks. Always use a board or cardboard when checking for a leak.

Escaping hydraulic fluid under pressure, even a pinhole size leak, can penetrate body tissue, causing serious injury and possible death. If fluid is injected into your skin, it must be treated immediately by a doctor familiar with this type of injury.

High-Pressure Components
Immediately replace any damaged hydraulic hoses, fittings, or components.

Trapped Air
When installing, replacing, or repairing hydraulic system components, make sure the entire system is free of trapped air before resuming operations. Trapped air in the hydraulic hoses or the cylinder can cause unexpected movement of the implement. Never enter the work area around or under the implement when it is in the raised position.

Zero Pressure
Relieve all pressure from the hydraulic system before servicing or disconnecting any components.

13.2 Foldable Tool Bars

1. Connect the supply and return hoses from the tool bar to the tractor.
   e. The quick disconnect couplers will click together when properly connected.
   f. Pull against the hose to make sure they are securely locked together.
2. To keep contaminants from entering the hydraulic system, wipe off any dirt or dust from the male and female quick disconnect couplers with a clean cloth before attaching hoses.

   NOTICE *Clean hose fittings before connecting.*

3. Start the tractor and energize the auxiliary hydraulics.

   ⚠WARNING **Visually check for possible oil leaks.**

   a. To begin, operate the hydraulic system at low idle.
   b. Make sure all connections are secure and there are no leaks on either the tractor or the Rapid Till row unit.
   c. Increase the idle to normal operating speed and cycle the tool bar arms while again checking for hydraulic fluid leakage.
   d. Check the hydraulic fluid level on the tractor and fill as needed.
4. Operate the hydraulic cylinders through several cycles to purge all the trapped air from the system until the tool bar arms raise and lower smoothly.

⚠CAUTION **Make sure the area around the tool bar is clear of people, animals, or obstructions before lowering the tool bar arms. Trapped air in the hydraulic system and the cylinders can cause the tool bar arms to fall abruptly to the ground.**

Notes

Notes

Schlagel Manufacturing

4154 Buttermilk Road Torrington, WY 82240

Phone: 307-532-4451

Website: www.schlagel.net