

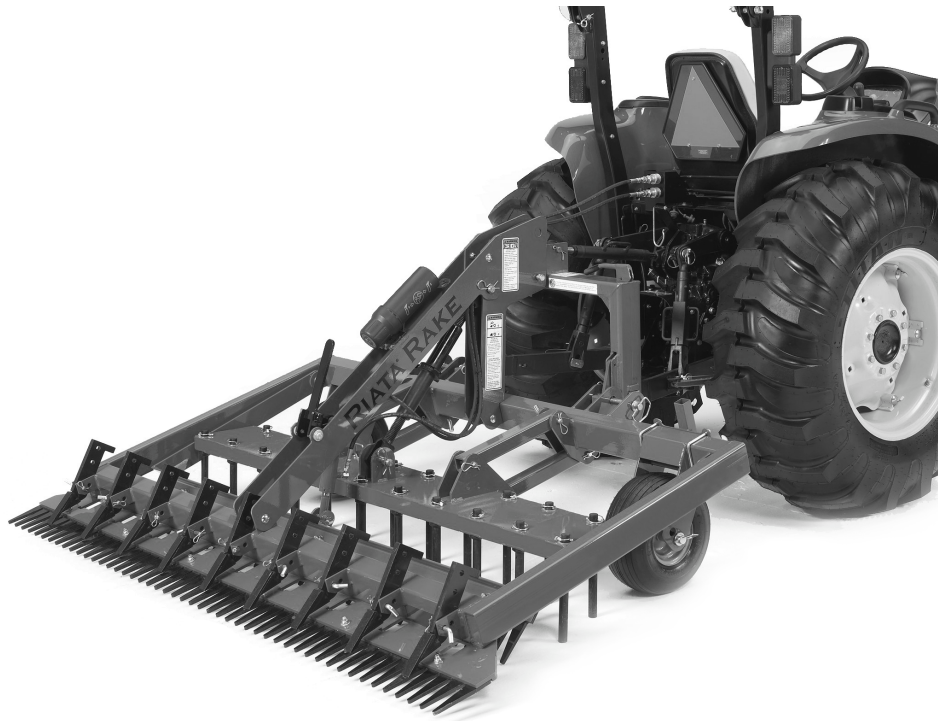
OPERATOR'S MANUAL

Riata® Rake

Precision ARENA DRAG

| RA1108

| RA1110



RIATA®
FOR THE LAND THAT I LOVE™

TO THE PURCHASER:

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

The dealer/customer must complete the Warranty Registration with Riata.

TO THE OWNER:

Read this manual before operating your Riata equipment. The information presented will prepare you to set-up and operate your equipment safely. Keep manual for reference. Require all operators to read this manual carefully and become acquainted with all the adjustment and operating procedures before attempting to operate. Replacement manuals can be obtained direct from Riata at www.riataranch.com.

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 Riata dealer has trained mechanics, genuine Riata Rake service parts, and the necessary tools and equipment to handle all your needs.

Use only genuine Riata Rake 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 Riata or your dealer to obtain correct repair parts.

Throughout this manual, the term **IMPORTANT** 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.



This Safety-Alert Symbol indicates a hazard and means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**



Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.



Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed.



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



Indicates that failure to observe can cause damage to equipment.



Indicates helpful information.

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Purpose

The purpose of this manual is to assist you in operating and maintaining your Riata Rake. Read it carefully. It furnishes information and instructions that will help you achieve years of dependable performance.

These instructions have been compiled from 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. However, due to possible 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.

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



GENERAL INFORMATION SPECIFICATIONS

Product Comparison

Manufacturer: Riata Ranch Company



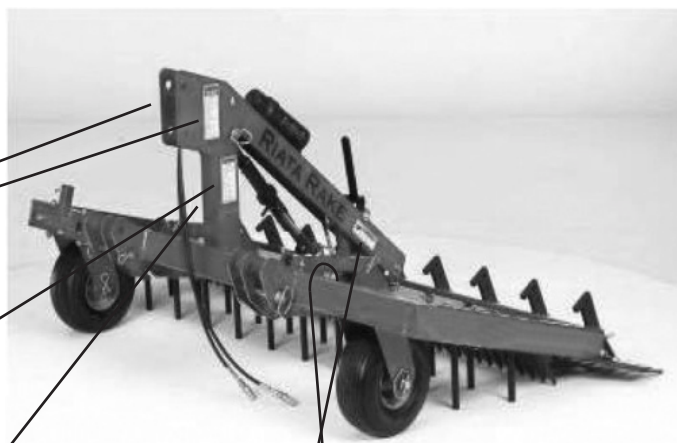
Models	1108	1110
iMatch Compatible	yes	yes
Cat. 2 Quick Couple Compatible	yes	yes
Uses	Arena Conditioning and repair tool	Arena Conditioning and repair tool
Operating Speed	4-6 mph	4-6 mph
Shipping	Single Units	Single Units
Frame Tubing Size	3" x 4" x 3/16"	3" x 4" x 3/16"
Max Depth of Workable Footing	6"	6"
Tine Diameter	1"	1"
Tine Length	12"	12"
Tine Composition	High Carbon Steel Heat treated	High Carbon Steel Heat treated
Number of Tines	21	27
Tines Spacing	2.75" center to center	2.75" center to center
Tine Beam Dimensions	101.5"	77.5"
*Scarifier Dimensions	12" Shank, fully disposable	12" Shank, fully disposable
*Scarifier Composition	4130 alloy steel	4130 alloy steel
*Number of Scarifiers	9	11
*Replaceable Scarifier tips	No	No
*Scarifier Spacing	10"	10"
*Hydraulic Cylinder Size	11" retracted	11" retracted
*Hydraulic Cylinder Rod & Stroke	1" x 4"	1" x 4"
Gauge Wheels	15" x 6"-6"	15 "x 6"-6"
Working Width (Tines)	76"	98.5"
Working Width (Leveling Comb)	79"	103"
Working Width (Rear Finishing Comb)	94"	117.5"
Machine Width (Transport)	94"	117.5"
Machine Length	55"	55"
Max Working Height	43"	43"
Max Shipping Height	36" w/ pallet	36" w/ pallet
Tractor HP (Min)	30 HP	40 HP
Tractor Width (Max)	76"	98"
Assembly/Set-Up Time	0.7 hr	0.7 hr
3-Point Hitch	Cat. I & II	Cat. I & II
iMatch Bushing Provided	no	no
Operating Weight (lbs)	760	950
Shipping Weight (lbs)	800	1000
Warranty	12 Month limited warranty	12 Month limited warranty

SAFETY & INSTRUCTIONAL DECALS

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!
FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN SERIOUS INJURY OR DEATH

Replace Decals Immediately If Damaged!

Check that all safety decals are installed and in good condition. Replace if decals are worn or damaged. Replacement Part numbers are listed here.



1 5RR100DC04A

WARNING




To avoid serious injury or death from crushing and pinching hazards:

- Be extremely careful handling various parts of the machine. They are heavy and hands, fingers, feet, and other body parts could be crushed or pinched between tractor and implement.
- Operate tractor controls from tractor seat only.
- Do not stand between tractor and implement when tractor is in gear.
- Make sure parking brake is engaged before going between tractor and implement.
- Stand clear of machine while in operation or when it is being raised or lowered.

5RR100DC04A

2 5RR100DC07A

CAUTION




To avoid serious injury:

- Read Operator's Manual before operating, servicing, or repairing equipment. Follow all safety rules and instructions. Manuals are available from your selling dealer.
- Never allow riders.
- Keep bystanders away from equipment during operation.
- 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.
- Do not transport or operate towed or semi-mounted units over 20 MPH.

5RR100DC07A

3 5RR100DC05A

WARNING



Falling off tractor can result in serious injury or death.

- 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.

To avoid serious injury or death, do not go underneath implement.


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

5RR100DC05A



4 5RR100DC03A

WARNING



HIGH-PRESSURE HYDRAULIC OIL LEAKS CAN PENETRATE SKIN RESULTING IN INJURY, GANGRENE OR DEATH

- Relieve pressure on system before repairing or disconnecting.
- Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
- Consult physician immediately if skin penetration occurs.

5RR100DC03A



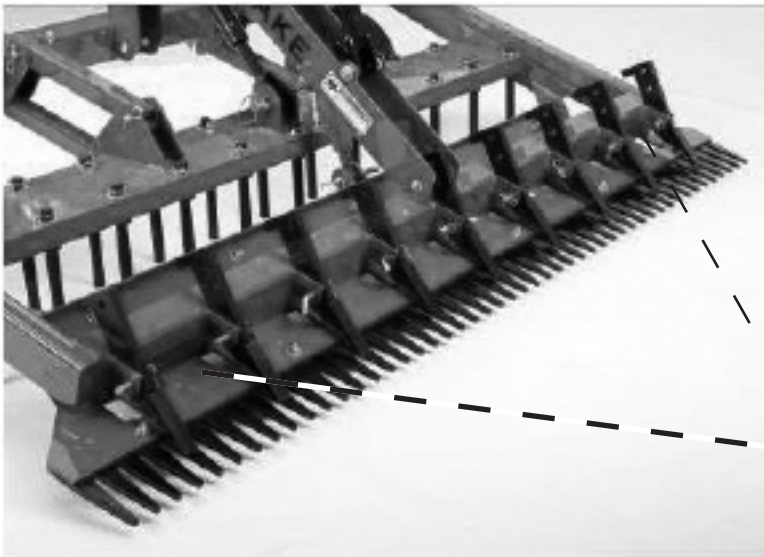
RIATA® FOR THE LAND THAT I LOVE™ RA1108X00001

Serial Number Plate located opposite the 3 Point connection plates on the inside frame.

SAFETY REFLECTOR DECALS

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!
FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN SERIOUS INJURY
OR DEATH

Replace Decals Immediately If Damaged!



8" RED REFLECTORS

5RR1000DC08A

Check that all reflector decals are installed and in good condition. Replace if decals are worn or damaged.

⚠ Safety Rules ⚠

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 are available at www.riataranch.com.) 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, contact Riata or dealer.
- 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.
- Train all new personnel and review instruction's frequently with existing workers. A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.

PREPARATION

- 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, when applicable, 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.
- 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.

TRANSPORTATION

- Always comply with all state and local laws governing highway safety and lighting and marking requirements.
- Never allow riders on power unit or attachment.
- Do not operate or transport on steep slopes.
- Use extreme care and reduce ground speed on slopes and rough terrain.
- Do not operate or transport equipment while under the influence of alcohol or drugs. Consult your doctor about operating this machine while taking prescription medications.

Safety Rules continues on the next page

⚠ Safety Rules ⚠

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

OPERATION

- Never go underneath equipment (lowered to the ground or raised) unless it is properly blocked and secured. 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.
- Always comply with all state and local laws governing highway safety and lighting and marking requirements.
- Operate only in daylight or good artificial light.
- Keep bystanders away from equipment.
- Keep hands, feet, hair, and clothing away from equipment while engine is running. Stay clear of all moving parts.
- Power unit, when applicable, 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 riders on power unit or attachment.
- 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. It is

never advisable to use powered equipment in areas with livestock. Never operate Riata Rake in an arena while livestock is present.

- Do not operate or transport on steep slopes.
- Do not stop, start, or change directions suddenly on slopes. Always operate down slopes; never across the face.
- Use extreme care and reduce ground speed on slopes and rough terrain.
- Keep alert and watch the front as well as the rear when operating.
- Stop power unit and equipment immediately upon striking an obstruction. Turn off engine, remove key, inspect, and repair any damage before resuming operation.
- Before leaving operator’s seat, put attachment on the ground. Engage brake, stop engine, remove key, and remove seat belt.

MAINTENANCE

- 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.
- Never go underneath equipment (lowered to the ground or raised) unless it is properly blocked and secured. 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.

Safety Rules continues on the next page

⚠ Safety Rules ⚠

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

Safety Rules continued from the previous page

MAINTENANCE (cont'd)

- When performing maintenance or repairs make sure the equipment is in the lowered position. Failure to do so can cause serious injury or death.
- Make sure attachment is properly secured, adjusted, and in good operating condition.
- Before leaving operator's seat put attachment on the ground. Engage brake, stop engine, remove key, and remove seat belt.
- Never perform service or maintenance with engine running.

- 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.

STORAGE

- Block equipment securely for storage.
- Keep children and bystanders away from storage area.

Dealer/Customer Assembly

Assembly Instruction

(Purchaser's Responsibility)

Inspect the equipment thoroughly before assembly to be certain it is complete and undamaged. This pictorial purchaser assembly guide should be followed sequentially during setup.



TIME REQUIRED: 30 Minutes

Riata Rake has arrived bolted to a heavy duty pallet. Assemble on level ground with room to move around the implement.

Read and follow all instruction.



REMOVE OWNERS MANUAL

The owners manual is located in the manual tube. Remove the manual and follow

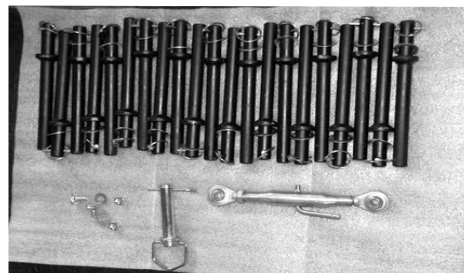


REMOVE BOX CONTENTS

Open Box and remove all contents as shown below.

CONTENTS OF BOX

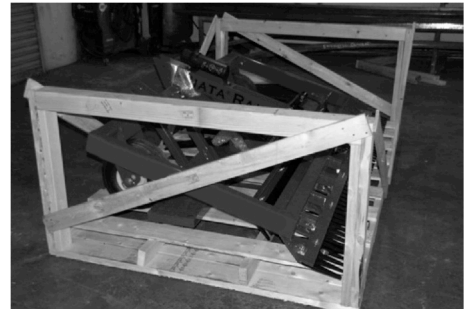
QTY	
21 or 27	High Carbon Tines w/washers and spring clips
1	1" Hitch Pin for the spine mast connection
2	1/2" Carriage Bolts and nylon lock nuts for spine assembly
1	Turnbuckle w/handle for inside leveling comb



1

REMOVE PALLET SIDE/CROSS BRACING

Removing the side bracing and cross bracing will provide access to assemble Riata Rake.



2

DISCARD PALLET BRACING

Removing the side bracing and cross bracing will provide access to assemble Riata Rake.



3

EXTEND RATCHET JACK

Ratchet Jack is attached to tine bar of unit. Fully extend the ratchet jack for later assembly.



4a

**POSITION SPINE DIAGONAL MEMBERS
(two person operation)**

1) Lift spine diagonal to a vertical position, then lift the mast to a vertical position. Diagonal fits over the vertical mast.



4b

CONNECT SPINE DIAGONAL MEMBERS

After joining spine mast and diagonal, connect using the 1" pin.



5

ATTACH CARRIAGE BOLTS, WASHERS & NUTS



TIGHTEN BOLTS ON UPPER MAST

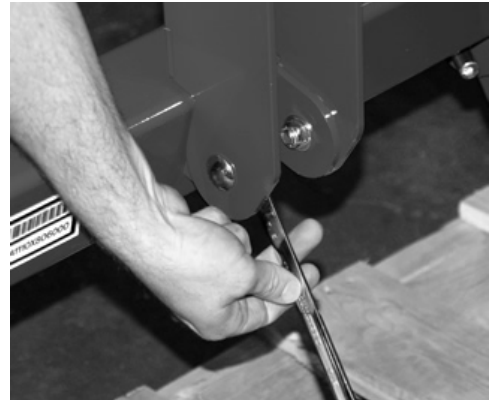
Top of Spine—3/4" box wrench required



6

TIGHTEN BOLTS ON LOWER MAST

Tighten both carriage bolts and lock nuts



7

TIGHTEN BOLTS ON LOWER DIAGONAL

Tighten both carriage bolts and lock nuts



8

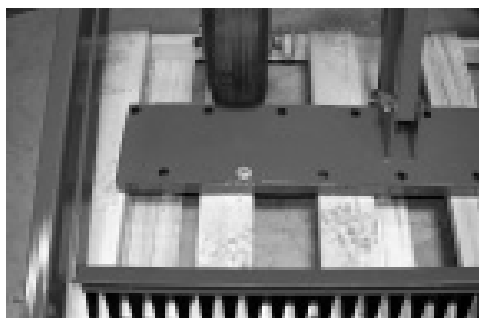
REMOVE LAG BOLTS THAT CONNECT REAR COMB TO PALLET

Remove lag bolts—left and right side on rear comb.



9

LOCATE LAG BOLTS THAT CONNECT TINE BAR TO PALLET



10

REMOVE LAG BOLTS THAT CONNECT TINE BAR TO PALLET

Remove lag bolts—left and right side on tine bar.



11

ATTACH RATCHET JACK TO THE MAST
Attach the top end of the Ratchet Jack using the supplied 1" Pin which was temporarily removed.

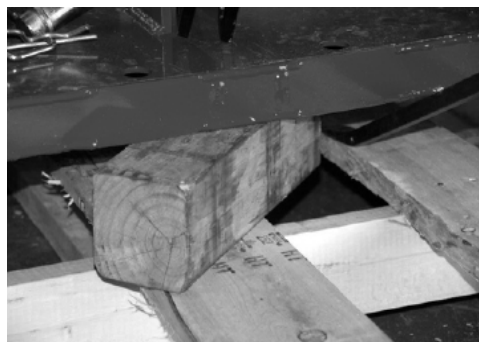


12

ELEVATE THE TINE BAR



13



Elevating the tine bar using a pry bar placing a 4" block between the pallet and the tine bar.

14

ATTACH RATCHET JACK TO THE TINE BAR

Attach the end of the Ratchet Jack to the brackets in the top of the tine bar using the supplied 1" Pin. You may be required to raise or lower the tine bar to attach.



15

ATTACH INSIDE LEVELING COMB

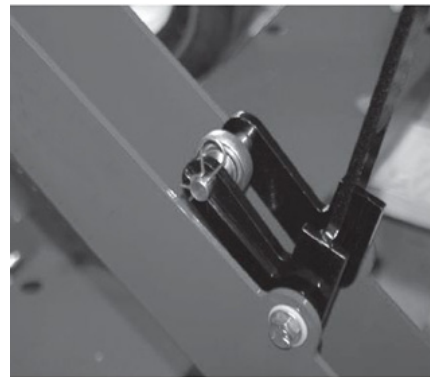
The inside rake has a turnbuckle which attaches between the leveling comb frame and the level control arm. Raise the free end of the top link and insert it into the clevis pin as shown.



16

OPERATIONAL USE OF LEVELING COMB

You can operate the Riata Rake using a floating method or fixed method of leveling. It is recommended that the first use of the implement you use it in a floating position with the handle in the up position (as shown). Once you have made a complete pass over your arena you may wish to lock the inside leveling comb (Down position) at a height that allows a small amount of material to build up in front of the comb but not in excess of a couple of inches. This will allow Riata Rake to distribute the footing consistently as you condition your arena.



17

OPTIONAL-HYDRAULIC KIT (5RR1108A020A)

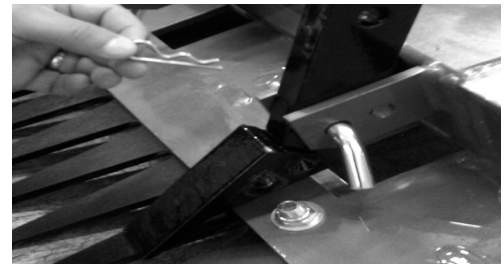
In place of the turnbuckle (as shown in step 15) place the optional hydraulic kit as shown.



18

OPTIONAL-SCARIFIERS

Place in keeper position as shown.



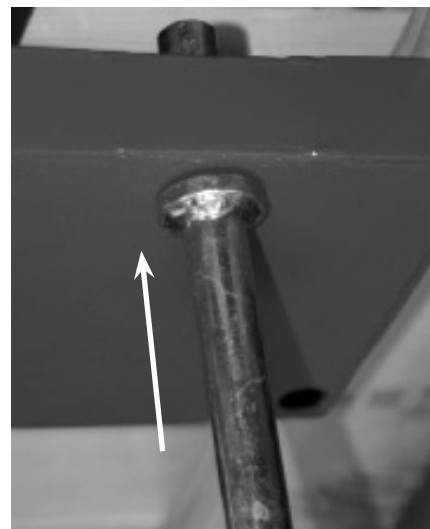
19

ATTACH ALL TINES

While the Rake is still on the pallet, adjust the ratchet jack so that the tine bar is at its highest point so that the tines will be easy to load into the tine bar from the under side.

Warning:
DO NOT LAY UNDER THE RIATA RAKE.

Then install all the tines one at a time attaching the provided brass washer and spring clip to the top of each tine.



CONNECT RIATA RAKE TO YOUR TRACTOR'S 3 POINT HOOKUP

Now you are ready to connect your Riata Rake to the tractor. Lower link pins are provided and are pinned in place on your unit. Top links can vary depending on your tractor model and size—we do not provide a top link pin. Make sure you set the inside leveling comb adjustment handle to the down, or locked position before you lift the rake from the pallet.

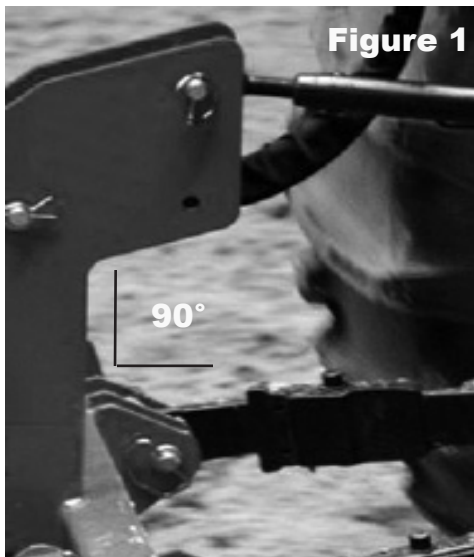
If you are using a fork lift, attach a nylon strap to the spine around the welded plate that connect the two sides of the spine. This position should give a balanced position for lifting the Riata Rake.

Warning: Do not lift Riata Rake with a forklift with the forks under the frame. It is prone to slip off the forks due the slick surfaces and standard length of the forks may make this a drop hazard.



TOP LINK ADJUSTMENT

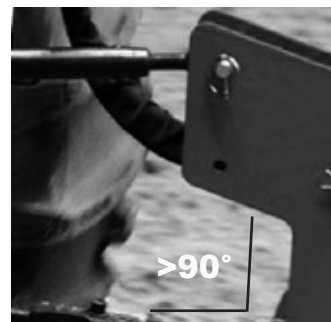
The Top Link Mast should be vertical, 90 degrees to the arena footing. This ensures that the tine bar is level front to back. The correct setup can be seen in figure 1 below.



Correct Working position



Incorrect - lengthen the top link



Incorrect - shorten the top link

DEALER/CUSTOMER INSTRUCTIONS

Pre-Delivery

Dealer Checklist

(Purchaser's Responsibility)

Inspect the equipment thoroughly after assembly to be certain it is set up properly before delivering it to the customer. The following check list is a reminder of points to inspect.

Check off each item if it is found satisfactory or after proper adjustment is made.

____ Check that all safety decals are installed and in good condition. Replace if damaged.

____ Check all bolts to be sure they are tight.

____ Check that all cotter pins and safety pins are properly installed.

____ It is important for the dealer to visually check and make sure all parts are in tact prior to delivery to customer.

____ Check that tires are inflated and wheels are greased.

____ Check to confirm that each of 3 grease zerks are greased prior to delivery. (2) Wheels, (1) Ratchet Jack.

____ Show customer the safe, proper procedures to be used when mounting, dismounting, and storing equipment.

____ For mounted units, add wheel weights, ballast in front tires, and/or front tractor weight to enhance front end stability. A min-

imum 20% of tractor and equipment gross weight must be on front tractor wheels. When adding weight to attain 20% of tractor and equipment weight on front tractor wheels, you must not exceed the ROPS weight certification. Weigh the tractor and equipment. Do not estimate!

____ Show customer how to make adjustments.

____ Present Operator's Manual and request that customer and all operators read it before operating equipment. Point out the manual safety rules, explain their meanings and emphasize the increased safety hazards that exist when safety rules are not followed.

____ Point out the safety decals. Explain their meaning and the need to keep them in place and in good condition. Emphasize the increased safety hazards when instructions are not followed.

____ Explain to customer the potential crushing hazards of going underneath raised equipment. Instruct customer that service work does not require going underneath unit and never to do so.

____ Complete the Warranty Registration located in the back of the owners manual. Make a copy and email to riata at sales@riataranch.com subject "New Warranty Registration".

Operation

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".

The operator is responsible for the safe operation of this equipment. 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 pages 2-6.

Owner should check and tighten all hardware after the first hour of operation. The break in stage of your new Riata Rake can cause minimal loosening of hardware. Please see Bolt Torque Chart (page 25) for proper torque information.

WARNING

- 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 systems in "locked up" position at all times.
- Never allow children or untrained persons to operate equipment.
- Keep bystanders away from equipment.
- **NEVER BACK RIATA RAKE UP WITH IMPLEMENT IN THE GROUND!**
- **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.

CAUTION

- Service work does not require going underneath.
- Read Manual for service instructions or have service performed by a qualified Riata dealer.
- Stop tractor and implement 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 entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head.

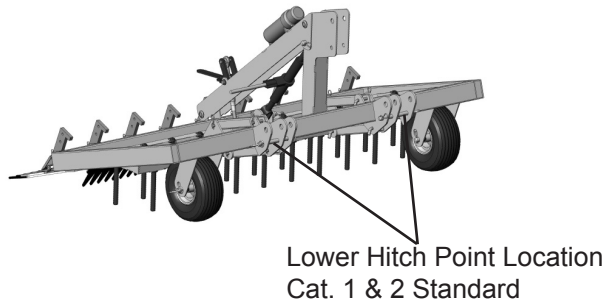
Owner/Operator (Owner's/Operator's Responsibility) Pre-Operation Checklist

- _____ Review and follow all safety rules and safety decal instructions on page 2 through page 6.
- _____ Check that equipment is properly and securely attached to tractor.
- _____ Check that all safety decals are installed and in good condition. Replace if damaged.
- _____ Check that all hardware is properly installed and secured.
- _____ Do not allow riders.
- _____ Make sure tractor ROPS or ROPS CAB and seat belt are in good condition. Keep seat belt securely fastened during operation.
- _____ Check that tires are inflated and wheels are greased.
- _____ Check to confirm that each of 4 grease zerks are inspected and greased prior to operation. (2) Wheels, (1) Ratchet Jack, (1) Turnbuckle.

Connecting Riata Rake to Tractor

The Riata Rake is compatible with tractors equipped with Category 1 or Category 2, 3-point hitch systems that use side-swing type lower lift arms. The Riata Rake will also fit tractors equipped with a Category 1 and 2 Quick Hitch (or I Match) system.

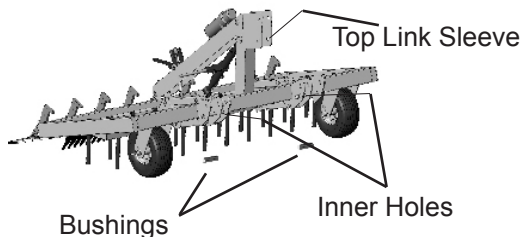
Figure 1. Category 1 and 2 Hitch Set-up



Category 1 & 2 Standard (Figure 1)

1. Attach the tractor's lower link arms to the Riata Rake through the lower, inner set of holes.
2. Use the hitch pin supplied with your Riata Rake and re-install the lynch pins.
3. Attach the tractor's top link to the Riata Rake's mast using a heavy-duty top link pin and lynch pin supplied with your top link. **DO NOT USE DOWN PRESSURE/DRAFT!**
4. Make sure the lower link arms are in float position.
5. Stabilizing bars should be in float position with 3-inches of sway.

Figure 2. Category 1 Quick Hitch Set-up



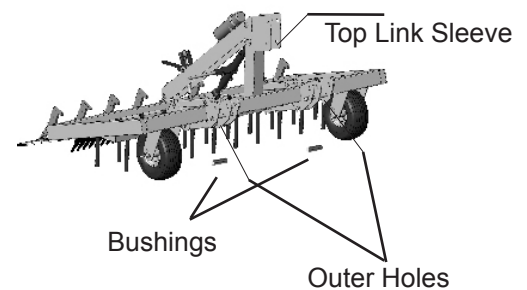
1. Use Category 1 Standard instructions except use lower, outer set of holes (*bushings required).

Category 1 Quick Hitch (Figure 2)

1. Connect the tractor's Quick Hitch to the Riata Rake through the upper, inner set of holes.
2. Slide lower sleeve over the mounting pin (sold

separately). Re-install lynch pins.

Figure 3. Category 2 Quick Hitch Set-up



3. Slide upper sleeve over the heavy-duty top link pin supplied with top link. Reinstall retaining pin.

Category 2 Quick Hitch (Figure 3)

1. Connect the tractor's Quick Hitch to the Riata Rake through the upper, outer set of holes.
2. Slide upper sleeve over the heavy-duty top link pin supplied with top link. Reinstall retaining pin.

Adjusting Top Link

Adjust the three point top link so that the tine bar is level front to rear. This will also be enabled by the mast being in a level vertical position. In most cases this will give the desired results. To adjust the scarifier depth or angle of address, shorten the three point top link. Lengthen the top link to decrease the scarifier depth. Be sure to re level the tine bar/Mast before using tines after ripping.

NOTE: When attaching Riata Rake to any hitch other than a standard Category 1 hitch, bushings and sleeves must be purchased separately.

ADJUSTING TINE DEPTH

Your Riata Rake is equipped with a tine bar array and a single adjustment point (see figure 4 below).

One way of determining the depth that is best suited for your arena is to adjust the tine bar by extending the ratchet jack until the tines are in the footing of your arena. Now continue to adjust the depth until you begin to see the rake frame raise off the ground—this is easy to detect if you watch the rear comb. Now raise the tines until the rear comb is solidly in the footing material.

This position depth is the lowest possible position at that location in your arena that the tine can be pulled. It is up to your particular sport and your footing preferences to determine the depth for your arena footing but as a rule of thumb, 1 1/2" - 2 1/2 " is the typical depth for most equestrian sports. You should not attempt this method of depth setting if your arena is a deep sand

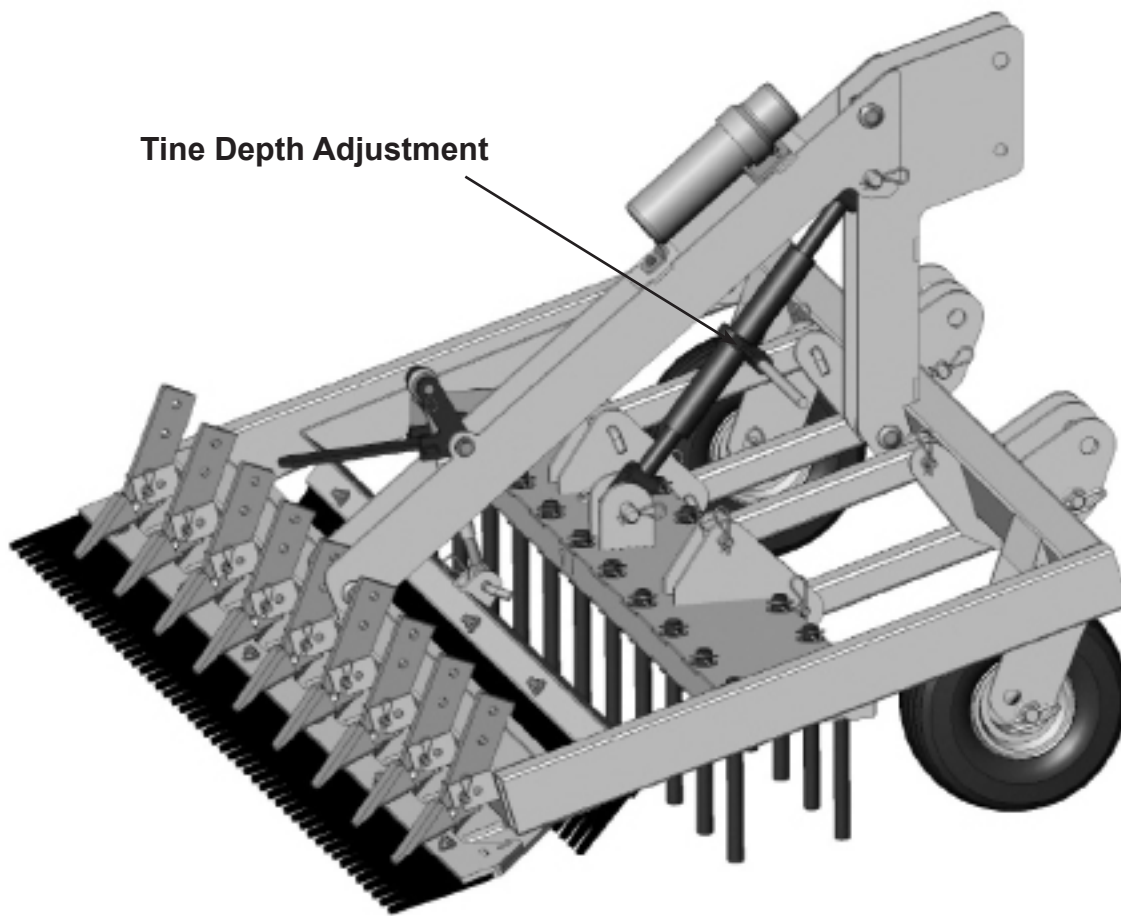


Figure 4, Tine Depth Adjustment

WHEEL HEIGHT OPTION

We have equipped your Riata Rake with two wheel heights positions.

The wheels on your Riata Rake are designed to function as gauge wheels and they work to keep your arena level. The unit ships with the wheels pinned in the lower or 'typical' wheel hole position (see graphic to the right). This location is most often going to be correct for your arena. The wheels do not carry significant load while in operation. You may see daylight under them at times—this is correct. They keep the tines from following any low areas in your base to provide a method for leveling the base as well as the footing.

LEVELING COMB

We have equipped your Riata Rake with an advanced leveling comb. It is one of the essential components on the Riata Rake.

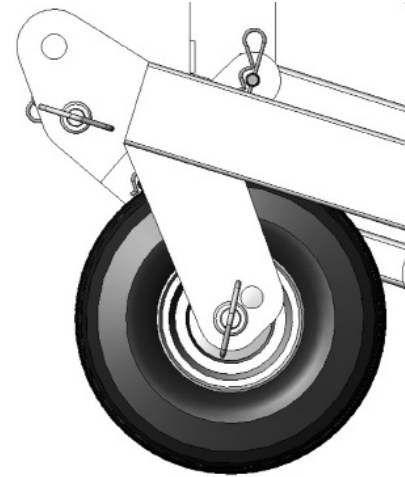
When set correctly, the leveling comb will provide excellent leveling by controlling the release of footing material before it goes to the compaction and top groom phase.

The leveling comb is designed to function as a flow control gauge and is adjustable with either the standard top link that came with your Riata Rake or with our Hydraulic Cylinder option (not included).

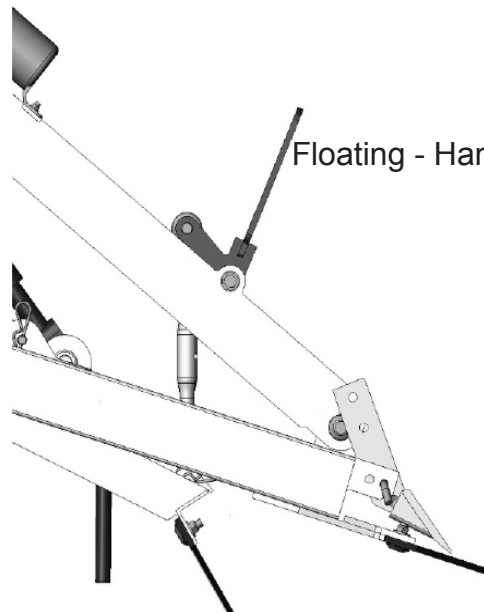
First you will find a fixed or floating control handle directly above the leveling comb. Riata recommends that if your arena is significantly out of level, use the rake in the floating position (see image top right) for the first conditioning (see arena pattern in this manual). In the fixed position, you should set the comb by adjusting the top link so that your comb face accumulates a small amount of material as it works the arena (about 1 1/2 Inches).

Too much material will cause a build up that will pull footing. Every arena is different in footing composition and moisture. Be patient and adjust it to your arenas proper depth. You will enjoy the results.

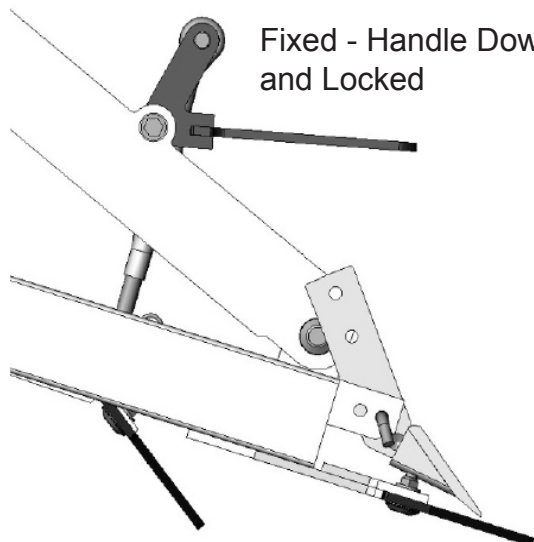
Recommended Use Position



Floating - Handle Up



Fixed - Handle Down and Locked



USING RIATA RAKE SCARIFIERS OPTION:

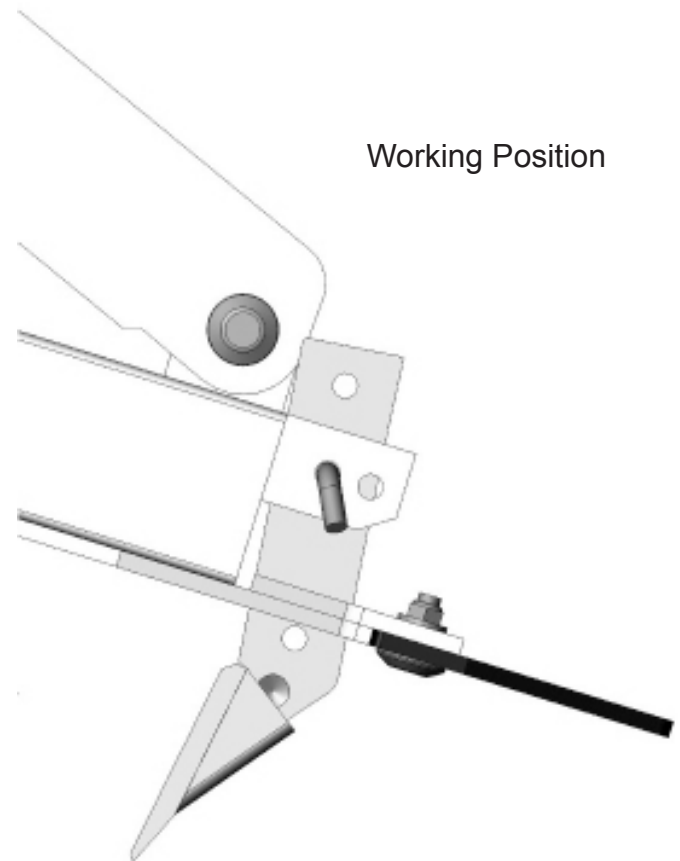
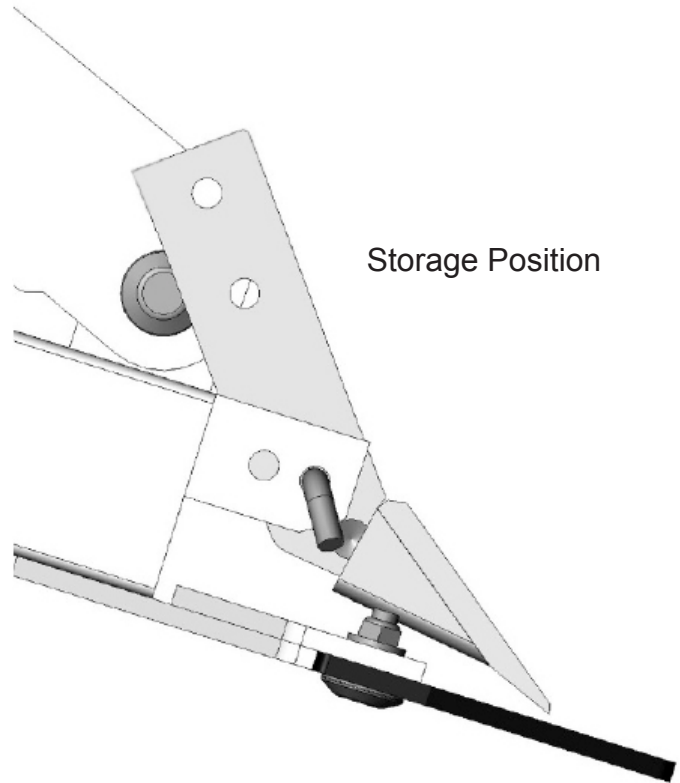
The Riata Rake is optionally equipped with scarifiers. Our 1108 Riata Rake option comes with 9 scarifiers (5RR1108A022A). Our 1110 Riata Rake option comes with 11 scarifiers (5RR1110A022A). These teeth are used for periodical maintenance. They should be used to break up hard compact arena ground *above* your base. You should never rip below your base as you may introduce the native soil to your arena footing.

Always adjust your tines up away from the footing using the ratchet jack before ripping.

Place scarifier teeth in working position at the desired depth. Be sure all teeth are at the same depth. Be sure all pins are in place and secure.

You will notice that the Riata Rake scarifier design uses the rear comb as the gauge for the scarifiers. This ensures uniform ripping across the entire arena. **Before you begin to rip, your arena must be level** as the scarifiers will gauge in the surface. The scarifiers have 3 different adjustment methods for positioning your scarifiers.

1. Raise or lower the scarifiers using the bracket hole closest to the tractor and selecting the set hole in the scarifier shank.
2. Use the bracket hole away from the tractor to achieve more angled setting. This is helpful in some types of arena footing material.
3. Adjust the top link to further adjust the depth of your scarifiers. **NOTE: be sure to re-level the mast before you condition with the tines after ripping.**



USING RIATA RAKE FENCE BLADE OPTION:

Optionally available is our fence blade kit (5RR1108A023A). The fence blade is used for removing footing buildup along the rail of your arena. Periodical maintenance along the rail will ensure that you do not develop a "bowl" in the arena thus eliminating one of the major causes for arena deterioration: standing water.

When using the fence blade attachment, always adjust your tines up away from the footing using the ratchet jack before beginning.

Place the blade in working position (see figure 1a & 1b) at the fixed depth. Be sure all adjustment wing nuts are secure. Attach visibility flag using the 2 washers and coupling nut (comes with kit) to the fence blade wheel bolt to enhance visibility from tractor cab.

Raise or lower the fence blade using the top link to further adjust the depth of your blade. The blade is designed to be level with the footing surface when the Riata Rake mast is vertical. **NOTE: be sure to re-level the mast before you condition with the tines after clearing your rail.**

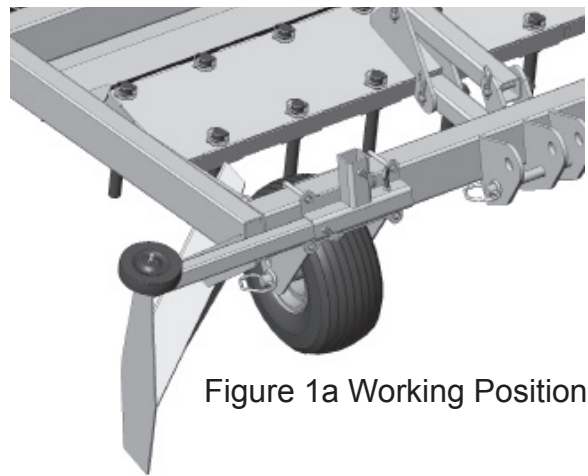


Figure 1a Working Position

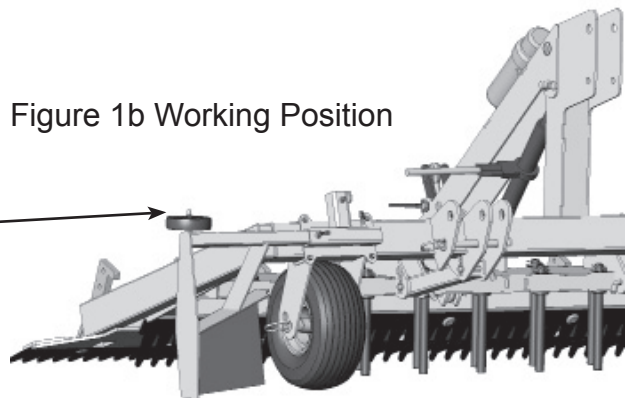
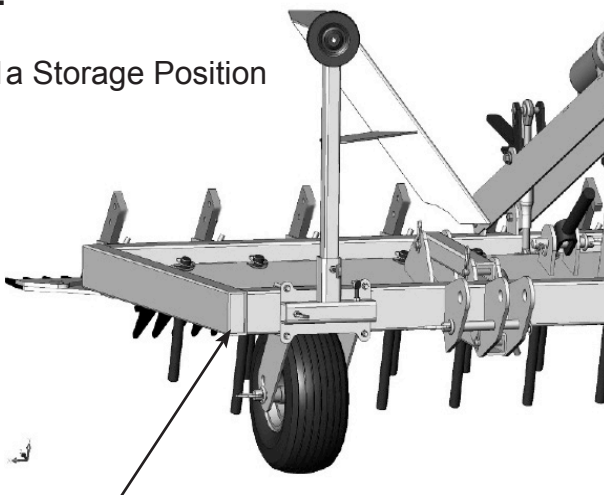


Figure 1b Working Position

Figure 1a Storage Position



Tighten Wing Bolt

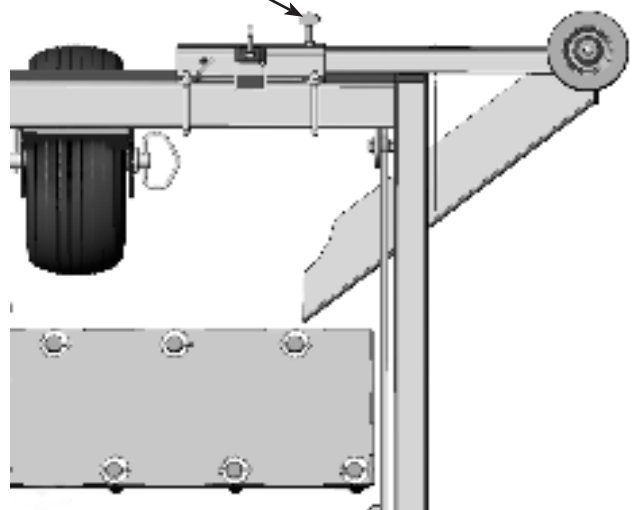


Figure 3 - Model 1110 Bracket Attachment is installed with the U Bolts outside the wheel brackets as shown in the Figure above.

Figure 2 - Model 1108 Bracket Attachment is installed with the U Bolts on either side of the wheel brackets. The 1110 installation location is shown on the opposite Figure.

OPERATION Continued

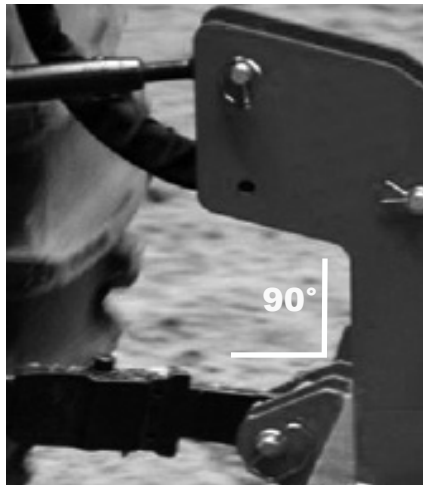
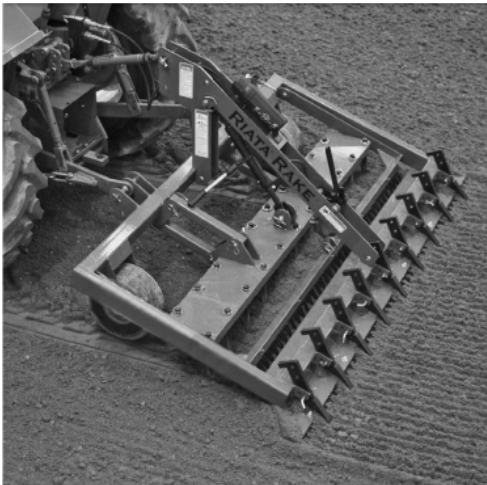
3-POINT HITCH CHECK:

The Riata Rake is equipped for use with Category I and II hitch designs. Be sure the 3-point hitch is at the proper setting and that the Riata Rake is centered and level side to side. Often times the lower link arms can get out of level, check the side to side level before you engage the tool.

SET UP THE RIATA RAKE

Leveling the frame:

Use the top link to set the mast and frame angle. The mast of the Riata Rake should be set at 90 degrees to the earth in a vertical position. This may vary slightly depending upon arena conditions and during the use of scarifiers.



If the mast is vertically level, you can be sure that the tine bar is level. This is key to excellent footing. Be sure that the tines are at the appropriate depth for your arena and equine sport.

3 POINT SETTINGS:

Set 3-point hitch in its “full down” position for normal operating conditions. Riata Rake is designed to float independently from the tractor. Full down or float will always produce the best leveling and conditioning.

IMPORTANT

Never use down draft/down pressure with Riata Rake
Never back your Riata Rake unless the implement is raised completely off the ground by the 3 point hitch.
Never use hydraulic top link with pressure on the Riata Rake.

IMPORTANT

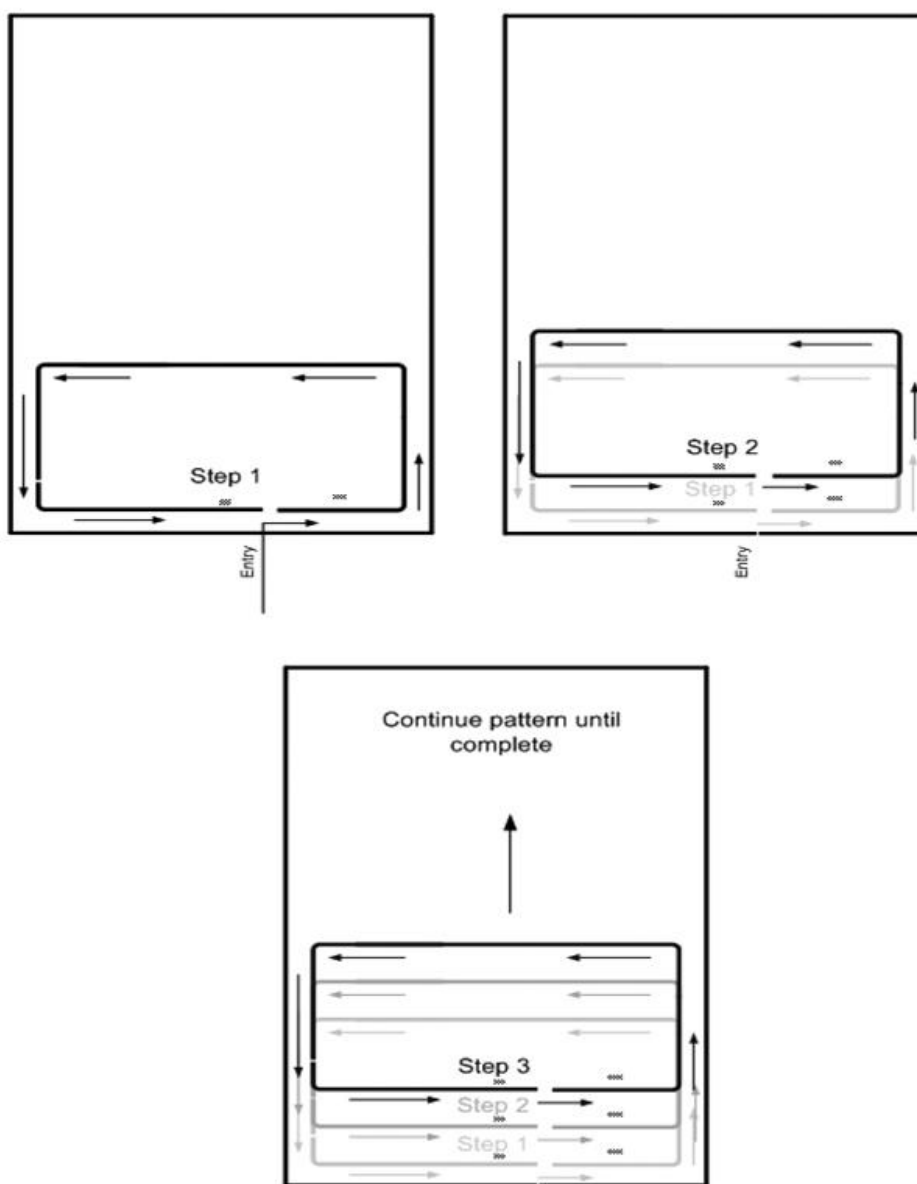
GROUND SPEED:

It is recommended that the machine be operated at 4-6mph. Do not operate at a speed which will cause the rear comb to come off the surface of the arena. If this occurs reduce your speed or check to ensure your mast is vertical.

FIRST USE IN YOUR ARENA

We have developed an excellent arena pattern for you to follow for the first few time you use your Riata or when ever you use the optional scarifiers for maintaining your arena. **Note: Scarifiers should be used without the tines in the ground**—this will reduce the work for your tractor and provide a superior maintenance. If you are using the scarifiers for periodic maintenance it is strongly recommended that you plan to complete this pattern at lease three full patterns. This will provide consistency and remove any grooves or ridges. Always run Riata Rake without the scarifiers following your maintenance.

Riata Arena Pattern #6 1/3 Progression Pattern Periodic Maintenance



Owner Service

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.

WARNING

- Read Manual for service instructions or have service performed by a qualified dealer.

CAUTION

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

- 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.
- Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head.

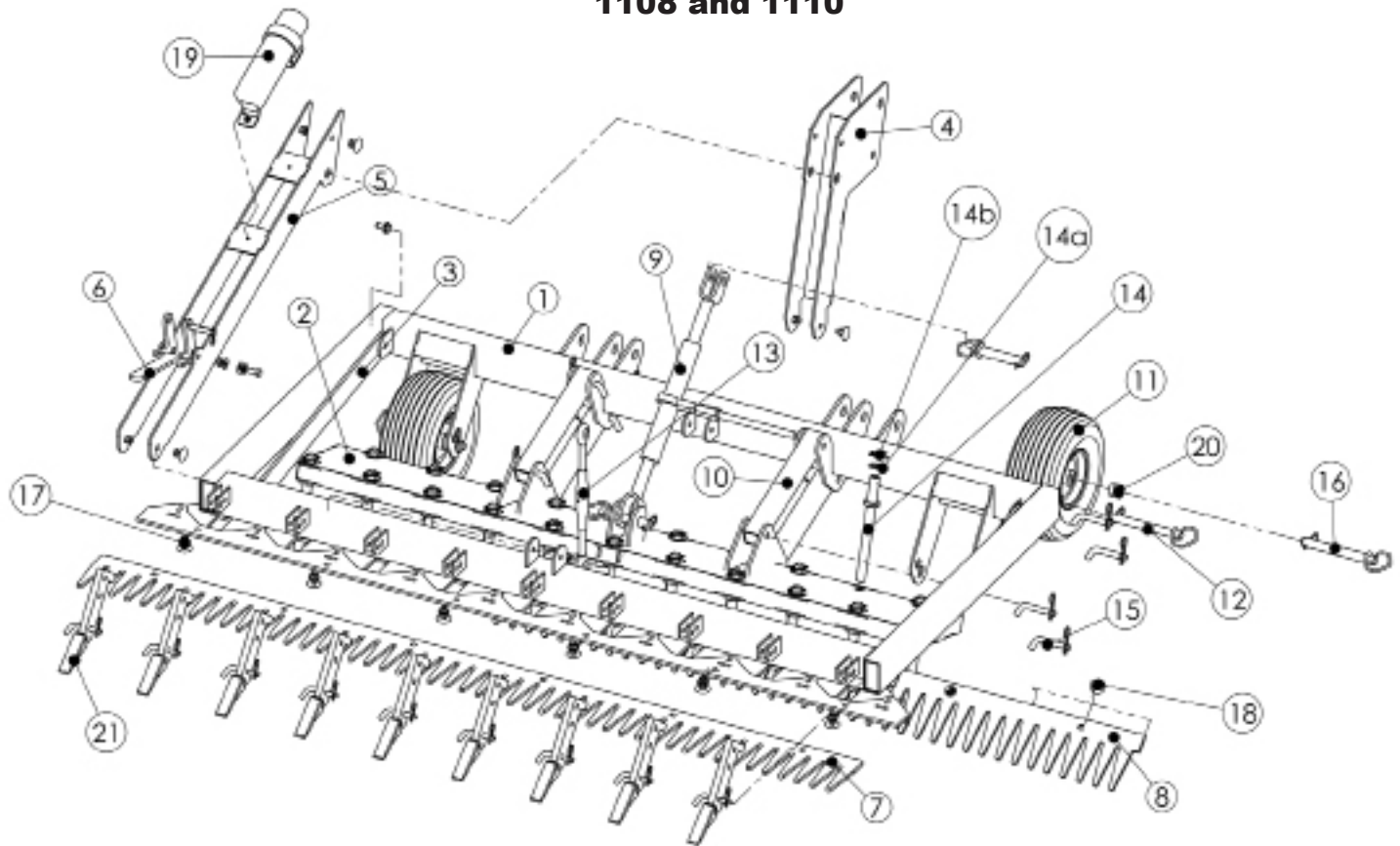
CAUTION

Storage

When storing your Riata Rake make sure the unit is placed on level ground and clear of any obstructions. Use caution when disconnecting the Riata Rake from the tractor.

Periodically check that tires are inflated and wheels are greased.

**Cat. 1 & 2 Hitch
1108 and 1110**



***lower hitch bushings for I-Match compatibility sold separately.**

Additional 11 Series Accessories available for purchase:

- Fence Blade Kit: Order # 5RR1108A023A
- 1108 Ripper/Scarifier Kit (QTY 9): Order # 5RR1108A022A
- 1110 Ripper/Scarifier Kit (QTY 11): Order # 5RR1110A022A
- Hydraulic Cylinder Kit (for inside leveling comb): Order # 5RR1108A020A

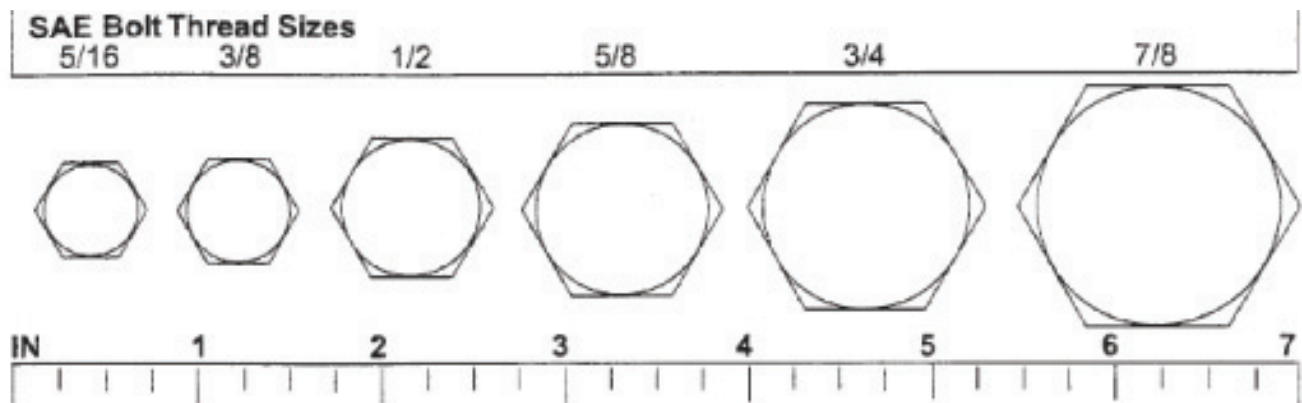
Parts Catalog Continued

1108 Component and Replacement Parts				
Item	Part Number	Name	Qty	Description
1	5RR1108W001A	Main frame assembly	1	Weldment
2	5RR1108W002A	Tine bar assembly	1	Weldment
3	5RR1108W003A	Inside comb frame	1	Weldment w/ 2 bolts & washers
4	5RRCRP0W004A	Spine mast	1	Weldment w/ 2 bolts & nuts
5	5RRCRP0W005A	Spine diagonal	1	Weldment w/ 4 bolts & nuts
6	5RRCRP0W006A	Handle	1	Weldment w/ 2 bolts,nuts,washers & 4 nylon washers, 5/8"clevis pin
7	5RR11081001A	Rear comb	1	Laser Cut 3/8" steel comb 118" w/ Abrasive Resistant Coating
8	5RRCRP00101A	Inside Comb	1	3/8" mild steel comb 103"
9	5RRCRP00102A	Ratchet jack	1	1" hole 21" - 28" ratchet jack w/ (2) 1" pin
10	5RRCRP00103A	4-link tubes	4	16" 4 bar tube
11	5RRCRP00104A	Wheel assembly	2	15 x 6 / 6" wheel & tire
12	5RRCRP00105A	Lower link pins	2	7/8" x 7" hitch pin
13	5RRCRP00106A	Turn Buckle	1	Cat. 0 top link 5/8" hole
14	5RRCRP00107A	Tine	21	1" tine w/ clip & washer
14a	5RRCRP00115A	Tine washer	21	18 ga bushing
14b	5RRCRP00116A	Tine clip	21	spring over clip
15	5RRCRP00108A	Pivot pins	9	"5/8" x 3" bent pin w/ clip
16	5RRCRP00109A	Wheel pins	2	7" wheel pin w/ clip
17	5RRCRP00110A	Comb bolts	6	1/2" x 1.5" carriage bolt w/ nut & washer
18	5RRCRP00110A	Comb bolts	5	1/2" x 1.5" carriage bolt w/ nut & washer
19	5RRCRP00112A	OM (Owners Manual) Tube	1	Tube w/ 2 bolts, 4 washers, 2 nuts
20	5RRCRP00113A	Wheel bushings	4	1" I.D. bushing
21	5RRCRP00120A	Disposable Scarifier	9	Fully Disposable 12" Scarifiers
22	5RR11XXM000A	Operators Manual	1	Operators Manual and Dealer Assembly Guide

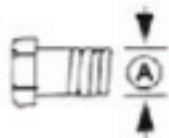
1110 Component and Replacement Part

Item	Part Number	Name	Qty.	Description
1	5RR1110W001A	Main frame assembly	1	Weldment
2	5RR1110W002A	Tine bar assembly	1	Weldment
3	5RR1110W003A	Inside comb frame	1	Weldment w/ 2 bolts & washers
4	5RRCRP0W004A	Spine mast	1	Weldment w/ 2 bolts & nuts
5	5RRCRP0W005A	Spine diagonal	1	Weldment w/ 4 bolts & nuts
6	5RRCRP0W006A	Handle	1	Weldment w/ 2 bolts,nuts,washers & 4 nylon washers, 5/8"clevis pin
7	5RR11101001A	Rear comb	1	Laser Cut 3/8" steel comb 118" w/ Abrasive Resistant Coating
8	5RR11100101A	Inside Comb	1	3/8" mild steel comb 103"
9	5RRCRP00102A	Ratchet jack	1	1" hole 21" - 28" ratchet jack w/ (2) 1" pin
10	5RRCRP00103A	4-link tubes	4	16" 4 bar tube
11	5RRCRP00104A	Wheel assembly	2	15 x 6 / 6" wheel & tire
12	5RRCRP00105A	Lower link pins	2	7/8" x 7" hitch pin
13	5RRCRP00106A	Turn Buckle	1	Cat. 0 top link 5/8" hole
14	5RRCRP00107A	Tine	27	1" tine w/ clip & washer
14a	5RRCRP00115A	Tine washer	27	18 gauge bushing
14b	5RRCRP00116A	Tine clip	27	spring over clip
15	5RRCRP00108A	Pivot pins	9	"5/8" x 3" bent pin w/ clip
16	5RRCRP00109A	Wheel pins	2	7" wheel pin w/ clip
17	5RRCRP00110A	Comb bolts	8	1/2" x 1.5" carriage bolt w/ nut & washer
18	5RRCRP00110A	Comb bolts	7	1/2" x 1.5" carriage bolt w/ nut & washer
19	5RRCRP00112A	OM (Owners Manual) Tube	1	Tube w/ 2 bolts, 4 washers, 2 nuts
20	5RRCRP00113A	Wheel bushings	4	1" I.D. bushing
21	5RRCRP00120A	Disposable Scarifier	11	Fully Disposable 12" Scarifiers
22	5RR11XXM000A	Operators Manual	1	Operators Manual and Dealer Assembly Guide

Bolt Size Chart



SAE Torque Chart




SAE SERIES TORQUE CHART



SAE Bolt Head
Identification



 Diameter (Inches)	Wrench Size	MARKING ON HEAD					
		SAE 2		SAE 5		SAE 8	
		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

WARRANTY

Please enter information below and save for future reference:

Date Purchase: _____ From (Which Dealer, or Direct): _____

Model Number: _____ Serial Number: _____

Riata Ranch Company, Inc. ("Riata") 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. The applicable warranty period for commercial or rental use shall be SIX (6) MONTHS from the date of purchase. This Warranty will apply if notified to RIATA within thirty (30) days after such defect is discovered.

Under no circumstances will this Warranty apply in the event that the product, in the good faith opinion of RIATA, 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 RIATA, a RIATA authorized dealer or distributor, and/or a RIATA authorized service center. This Warranty does not cover normal wear or tear, or normal maintenance items. Such items include, but are not limited to, tires, scarifiers, combs, and tines. This Warranty also does not cover repairs made with parts other than those obtainable through RIATA.

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.

RIATA makes no warranty, express or implied, such as but not limited to: tines, scarifiers, hydraulic components, bearings, tires, and other RIATA accessories not manufactured by RIATA. Warranties for these items, if any, are provided separately by their respective manufacturers in conjunction with RIATA.

RIATA's obligation under this Warranty is limited to, at RIATA's option, the repair or replacement, free of charge, of the product if RIATA, in its sole discretion, deems it to be defective or in noncompliance with this Warranty. Such parts shall be provided by the selling dealer to the user during regular working hours. If requested, the product must be returned to RIATA 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. RIATA shall complete such repair or replacement within a reasonable time after RIATA 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. RIATA MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND RIATA SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY AND/OR ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE (EXCEPT WHERE PROHIBITED BY LAW).

RIATA shall not be liable for any incident or consequential losses, personal injuries or death, private property loss, damages or expenses, arising directly or indirectly from the product, whether such claim is based upon breach of contract, breach of warranty, negligence, misuse, strict liability in tort or any other legal theory. RIATA's obligation under this warranty, to the extent allowed by law, is in lieu of all warranties, implied or expressed for a particular purpose and any liability for incidental and consequential damages with respect to the sale or use of the items warranted. Without limiting the generality of the foregoing, RIATA 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 RIATA's ability to obtain materials or manufacture replacement parts.

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

This Warranty is subject to the warranty registration being submitted. For warranty services, contact your selling dealer.

REPLACEMENT PARTS WARRANTY

RIATA RANCH COMPANY, INC. ("RIATA") warrants its parts to be free from defect in material and workmanship for a period of ninety (90) days from the date of delivery of the part(s) to the original purchaser.

Replacement or repair parts installed in the equipment covered by warranty are warranted for ninety (90) days from date of purchase of such part or to the expiration of the applicable new equipment warranty period, whichever occurs later.

Under no circumstances will this Warranty apply in the event that the part(s), in the good faith opinion of RIATA, has (have) been subjected to improper operation, improper maintenance, misuse, or accident. This Warranty does not cover normal wear or tear, or normal maintenance items. Such items include, but are not limited to tires, scarifiers, combs, and tines. This Warranty also does not cover repairs made with parts other than those obtainable through RIATA.

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

RIATA's obligation under this Warranty is limited to, at RIATA's option, the repair or replacement, free of charge, of the replacement part if RIATA, in its sole discretion, deems it to be defective or in noncompliance with this Warranty. The selling dealer shall provide such parts to the user during regular working hours. If requested, the replacement part must be returned to RIATA 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. RIATA shall complete such repair or replacement within a reasonable time after RIATA receives the replacement part. 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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RIATA shall not be liable for any incident or consequential losses, personal injuries or death, private property loss, damages or expenses, arising directly or indirectly from the product, whether such claim is based upon breach of contract, breach of warranty, negligence, misuse, strict liability in tort or any other legal theory. RIATA's obligation under this warranty, to the extent allowed by law, is in lieu of all warranties, implied or expressed for a particular purpose and any liability for incidental and consequential damages with respect to the sale or use of the items warranted. Without limiting the generality of the foregoing, RIATA 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 RIATA's ability to obtain materials or manufacture replacement parts.

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

For warranty services, contact your selling dealer.

**MANUAL PART NO.
5RR11XXM00A**

To see our full line of products visit us on the web at
www.riataranch.com