

Owner's Manual

RASCAL Series Models

Arena Pro | Gravel Pro



NOTE: This Owner's Manual covers several models. Features may vary by model. Not all features in this manual are applicable to all models and the model depicted may differ from yours.

For Your Records

Located on the left side of the frame above the Scarifier/Profile Blade mounting tubes is an ID plate showing the serial number. Record your machine’s information and serial number in the space provided below. ABI will use this information to give you prompt, efficient service when you order parts or need product support.

Model and Serial Number

Model Number:

Serial Number:

Invoice Number:

Purchaser’s Name:

Contact Information

ABI Attachments, Inc
520 S. Byrkit Ave.
Mishawaka, IN 46544

Customer Support

Email: abicutomerservice@abiattachments.com
Phone: 877-788-7253
Website: www.abisupport.com

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Product Manual Information

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General Information



LIMITED WARRANTY

Arena & Gravel Rascal Pro Models

60 Month Farm & Ranch, 12 Month Commercial, & 3 Month Rental

TERMS & CONDITIONS

“ABI” means ABI Attachments, Inc. 520 S Byrkit Ave, Mishawaka, Indiana 46544, 877.788.7253. The above referenced models are warrantied for 60 months, from the original invoice date, against defects in materials and/or workmanship when put to normal and designed residential, farm, & ranch consumer use; 12 months for commercial use and 3 months for rental use. Options are warranted for 12 months (3 months rental). This limited warranty is only valid on new equipment to the original purchaser with proof of purchase. Non-transferable.

For the purpose of the warranties, “normal & designed use” refers to such uses shown in ABI marketing materials, websites, & videos specific to this product and does not include misuse, abuse, accidents, or damage due to inadequate maintenance, storage, or exposure to corrosive materials including airborne salt. However, a final judgment of “normal & designed use” is the sole opinion of ABI.

The warranty holder is responsible for performing reasonable and proper maintenance. The warranty holder is further responsible for purchasing and performing replacement of normally wearing parts at own expense.

ABI’s obligation and or liability, under this warranty, of any product defect or claim for injury or damages is limited to repair or replacement of the product, or payment of the reasonable cost of repair or replacement of the product, at ABI’s sole discretion and direction. During the warranty period, warranty replacement parts or replacement product will ship by a standard method at no charge to the warranty holder, in the United States & Canada only. Expedited shipping costs or international shipping costs (Outside of US or Canada) of warranty parts or replacement product is the responsibility of the warranty holder.

To secure warranty service, the warranty holder must, (1) report the defect immediately to ABI customer service, in writing, for warranty consideration within the applicable warranty term and discontinue use of the product; (2) present photographic evidence of the warranty claim and valid proof of purchase; (3) return the product or part to ABI or independent service technician within 30 days of defect discovery or failure, for return, inspection, or repair; if required. If ABI is unable to repair the product to conform to the warranty in a reasonable number of attempts, ABI will provide, at its option, one of the following: (a) a replacement for the product or, (b) a full refund of the purchase price. Repair, replacement, or refunds are the warranty holder’s EXCLUSIVE remedies against ABI under this limited warranty.

ABI IS NOT RESPONSIBLE FOR THE FOLLOWING: (1) Equipment purchased used; (2) Any equipment that has been altered or modified in ways not approved by ABI, including, but not limited to, unauthorized repair, and acts of God; (3) Depreciation or damage caused by normal wear, lack of reasonable and proper maintenance, failure to follow operating instructions/recommendations; misuse, lack of proper protection during storage or use, vandalism, the elements, collision or accident; (4) Normal maintenance/wear parts and/or service, including but not limited to, tips, shanks, teeth, scarifiers, top-links, finish rakes, pins, bolts, leveling blades, profile blades, tires, rims, and bearings. Periodic replacement of normally wearing parts is the responsibility of the warranty holder.

To the extent permitted by law, the limited warranty stated above is the exclusive warranty given by ABI to the original purchaser, and ABI disclaims any other warranties. There are no other warranties, either express or implied, including any warranty of merchantability, fitness for a particular purpose, or arising from course of dealing or trade usage. ABI shall not be liable in any event for incidental or consequential or other special damages under any theory of strict liability or negligence, or expenses of any kind, including, but not limited to, personal injury, damage to property, cost of equipment rentals, loss of profit, loss of time, loss of wages, or cost of hiring services to perform tasks normally performed by this product. ABI reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to owners of units previously sold.

Some jurisdictions do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from jurisdiction to jurisdiction

Publish Date: 3/1/2021

Safety



WARNING! The **SAFETY ALERT SYMBOL** indicates there is a potential hazard to personal safety involved and extra safety precaution must be taken. When you see this symbol, be alert and carefully read the message that follows it. In addition to design and configuration of equipment, hazard control, and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of equipment.



CALIFORNIA PROPOSITION 65

WARNING! Cancer and reproductive harm- www.P65Warnings.ca.gov

SAFETY AT ALL TIMES

Careful operation is your best assurance against an accident. All operators, no matter how much experience they may have, should carefully read this manual and other related manuals, or have the manuals read to them, before operating the tow vehicle and this implement.

- Thoroughly read and understand the “Safety Label” section. Read all instructions noted on them.
- Do not operate the equipment while under the influence of drugs or alcohol as they impair the ability to safely and properly operate the equipment.
- The operator should be familiar with all functions of the tow vehicle and attached implement and be able to handle emergencies quickly.
- Make sure all guards and shields appropriate for the operation are in place and secured before operating implement.
- Keep all bystanders away from equipment and work area.
- Start tow vehicle from the driver’s seat with hydraulic controls in neutral.
- Operate tow vehicle and controls from the driver’s seat only.
- Never dismount from a moving tow vehicle or leave tow vehicle unattended with engine running.
- Do not allow anyone to stand between tow vehicle and implement while backing up to implement.
- Keep hands, feet, and clothing away from power-driven parts.
- While transporting and operating equipment, watch out for objects overhead and along side such as fences, trees, buildings, wires, etc.
- Do not turn tow vehicle so tight as to cause hitched implement to ride up on the tow vehicle’s rear wheel.
- Store implement in an area where children normally do not play. When needed, secure attachment against falling with support blocks.

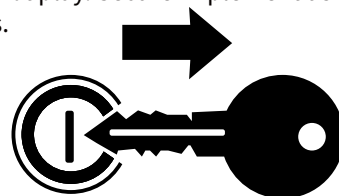
SAFETY PRECAUTIONS FOR CHILDREN

Tragedy can occur if the operator is not alert to the presence of children. Children generally are attracted to implements and their work.

- Never assume children will remain where you last saw them.
- Keep children out of the work area and under the watchful eye of a responsible adult.
- Be alert and shut the implement and tractor down if children enter the work area.
- Never carry children on the tractor or implement. There is not a safe place for them to ride. They may fall off and be run over or interfere with the control of the tow vehicle.
- Never allow children to operate the tow vehicle or implement, even under adult supervision.
- Never allow children to play on the tow vehicle or implement.
- Use extra caution when backing up. Before the tractor starts to move, look down and behind to make sure the area is clear.

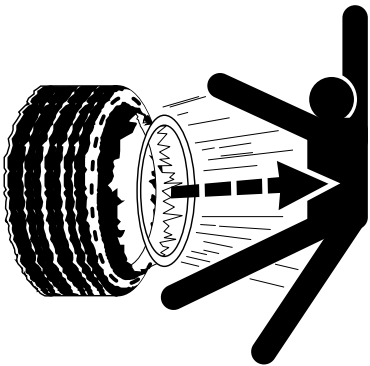
SHUTDOWN & STORAGE

- If engaged, disengage power take-off.
- Park on solid, level ground and lower implement to ground or onto support blocks.
- Put tractor in park or set park brake, turn off engine, and remove switch key to prevent unauthorized starting.
- Relieve all hydraulic pressure to auxiliary hydraulic lines
- Wait for all components to stop before leaving operator’s seat.
- Use steps, grab-handles and anti-slip surfaces when stepping on and off the tractor.
- Detach and store implement in an area where children normally do not play. Secure implement using blocks and supports.



TIRE SAFETY

- Tire changing can be dangerous and must be performed by trained personnel using the correct tools and equipment.
- Always maintain correct tire pressure. Do not inflate tires above recommended pressures shown in the Operator's Manual.
- When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.
- Securely support the implement when changing a wheel.
- When removing and installing wheels, use wheel handling equipment adequate for the weight involved.
- Make sure wheel bolts have been tightened to the specified torque.
- Some attachments may have foam or sealant inside them and must be disposed of properly.

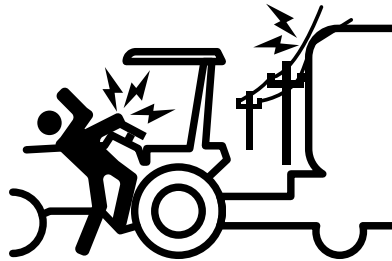


OPERATION SAFETY

- Stay alert for holes, rocks, and roots in the terrain and other hidden hazards. Keep away from drop-offs.
- Stop implement immediately upon striking an obstruction. Turn engine off, remove key, inspect and repair any damage before resuming operation.
- Never operate tractor and implement under trees with low hanging limbs. Operators can be knocked off the tractor and then run over by implement.

TRANSPORT SAFELY

- Comply with federal, state, and local laws.
- Use towing vehicle and trailer of adequate size and capacity. Secure equipment towed on a trailer with tie downs and chains.
- Sudden braking can cause a towed trailer to swerve and upset. Reduce speed if towed trailer is not equipped with brakes.
- Avoid contact with any overhead utility lines or electrically charged conductors.
- Always drive with load on end of loader arms low to the ground.
- Always drive straight up and down steep inclines with heavy end of a tow vehicle with loader attachment on the "uphill" side.
- Engage park brake when stopped on an incline.
- Maximum transport speed for an attached equipment is 20 mph. DO NOT EXCEED. Never travel at a speed which does not allow adequate control of steering and stopping. Some rough terrains require a slower speed.
- As a guideline, use the following maximum speed weight ratios for attached equipment:
 - **20 mph** when weight of attached equipment is less than or equal to the weight of machine towing the equipment.
 - **10 mph** when weight of attached equipment exceeds weight of machine towing equipment but not more than double the weight.
- **IMPORTANT:** Do not tow a load that is more than double the weight of the vehicle towing the load.



PRACTICE SAFE MAINTENANCE

- Understand procedure before doing work. Refer to the Operator's Manual for additional information.
- Work on a level surface in a clean dry area that is well-lit.
- Lower implement to the ground and follow all shutdown procedures before leaving the operator's seat to perform maintenance.
- Do not work under any hydraulic supported equipment. It can settle, suddenly leak down, or be lowered accidentally. If it is necessary to work under the equipment, securely support it with stands or suitable blocking beforehand.
- Use properly grounded electrical outlets and tools.
- Use correct tools and equipment for the job that are in good condition.
- Allow equipment to cool before working on it.
- Disconnect battery ground cable (-) before servicing or adjusting electrical systems or before welding on implement.
- Inspect all parts. Make certain parts are in good condition & installed properly.
- Replace parts on this implement with genuine ABI Attachments parts only.
- Do not alter this implement in a way which will adversely affect its performance.
- Do not grease or oil implement while it is in operation.
- Remove buildup of grease, oil, or debris.
- Always make sure any material and waste products from the repair and maintenance of the implement are properly collected and disposed.
- Remove all tools and unused parts before operation.



PREPARE FOR EMERGENCIES

- Be prepared if a fire starts.
- Keep a first aid kit and fire extinguisher handy.
- Keep emergency numbers for doctor, ambulance, hospital, and fire department near phone.



USE SAFETY LIGHTS AND DEVICES

- Slow moving tractors, skid steers, self-propelled machines, and towed equipment can create a hazard when driven on public roads. They are difficult to see, especially at night. Use the Slow Moving Vehicle sign (SMV) when on public roads.
- Flashing warning lights and turn signals are recommended whenever driving on public roads.



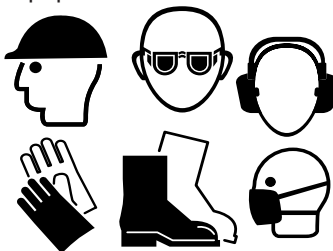
AVOID UNDERGROUND UTILITIES

- **Dig Safe, Call 811 (USA)** Always contact your local utility companies (electrical, telephone, gas, water, sewer, and others) before digging so that they may mark the location of any underground services in the area.
- Be sure to ask how close you can work to the marks they positioned.



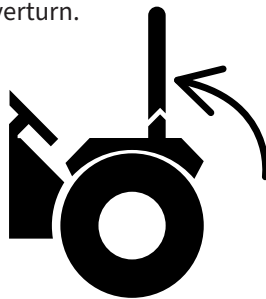
WEAR PERSONAL PROTECTION EQUIPMENT (PPE)

- Wear protective clothing and equipment appropriate for the job such as safety shoes, safety glasses, hard hat, and ear plugs.
- Clothing should fit snug without fringes and pull strings to avoid entanglement with moving parts.
- Prolonged exposure to loud noise can cause hearing impairment or hearing loss. Wear suitable hearing protection such as earmuffs or earplugs.
- Operating equipment safely requires the operator's full attention. Avoid wearing headphones while operating equipment.



USE SEAT BELT AND ROPS

- ABI Attachments recommends the use of a CAB or roll-over protective structures (ROPS) and seat belt in almost all tow vehicles. Combination of a CAB or ROPS and seat belt will reduce the risk of serious injury or death if the tow vehicle should be upset.
- If ROPS is in the locked-up position, fasten seat belt snugly and securely to help protect against serious injury or death from falling and machine overturn.



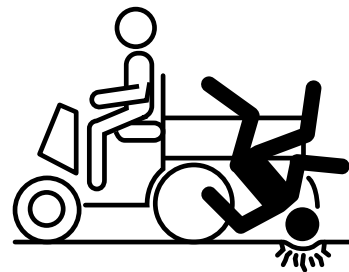
AVOID HIGH PRESSURE FLUIDS HAZARD

- Escaping fluid under pressure can penetrate the skin causing serious injury.
- Before disconnecting hydraulic lines or performing work on the hydraulic system, be sure to release all residual pressure.
- Make sure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before applying pressure to the system.
- Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks.
- Wear protective gloves and safety glasses or goggles when working with hydraulic systems.
- **DO NOT DELAY.** If an accident occurs, see a doctor familiar with this type of injury immediately. Any fluid injected into the skin or eyes must be treated within a few hours or gangrene may result.



KEEP RIDERS OFF MACHINERY

- Never carry riders on tractor or implement.
- Riders obstruct operator's view and interfere with the control of the tow vehicle.
- Riders can be struck by objects or thrown from the equipment. Never use tractor or implement to lift or transport riders.



Safety Labels

		⚠ WARNING 10-10976
<p style="text-align: center;">CRUSHING AND PINCHING HAZARD</p> <ul style="list-style-type: none"> • Be extremely careful handling various parts of the machine. They are extremely heavy and hands, fingers, feet and other body parts could be crushed or pinched between tow vehicle and implement. • Adjust controls from tow vehicle seat only. • Do not stand between tow vehicle and implement when tow vehicle is in gear. • Make sure parking brake is engaged before going between tow vehicle and implement. • Stand clear of machine when in operation or being raised or lowered. 		

		⚠ WARNING 10-10977
<p style="text-align: center;">FALLING BLADE HAZARD</p> <ul style="list-style-type: none"> • Can cause serious injury or death • Keep hands and feet from under raised blades/rakes/teeth unless it is properly blocked and secured. • Always put implement in lowest possible position when adjusting or repairing • Always store implement in lowered position 		

	⚠ WARNING 10-10978
<p style="text-align: center;">TO PREVENT SERIOUS INJURY OR DEATH:</p> <ul style="list-style-type: none"> • Avoid unsafe operation and maintenance. Do not operate or work on this machine without reading and understanding the operator's manual. • If manual is lost, call 877-788-7253 • Do not allow riders and keep others away during operation. • Lower implement, stop tow vehicle engine, set park brake and remove ignition key before servicing, adjusting, repairing or unplugging. • Safely support and secure implement before adjustments or repairs are made. • Park or block implement so it will not roll when disconnecting from tow vehicle. • Never place any part of the body underneath implement or between movable parts even when the engine has been turned off. • DO NOT operate or transport at high speeds. • DO NOT operate or transport on steep slopes. 	

Unpacking Instruction

Tools Needed:

- Gloves
- Safety Glasses
- Safety Shoes
- (2) 3/4" Socket or wrench
- Razor Blade or knife
- Tin Snips / wire cutters
- Punch or 6" long (or longer) 3/8" ratchet extension

If unit is shipped wrapped in plastic, remove the plastic wrap from your Rascal. The best way to do this is by using a utility knife and cut around the base of the skid. Use caution to not cut the banding and be sure to stand off to the side in case any items have come loose during shipping (**Fig 1**).

Make sure the delivery driver stays while you remove the plastic so you can verify all parts are present and there is no damage. If there is any damage make sure to mark it on the bill of lading (**Fig 2**).

Verify that all parts are there such as profile blade(s) and the hitch/tongue. These components will be strapped to the frame of the tool (**Fig 3**).

Please also verify that all optional equipment is present. Optional rail blade(s) come mounted to the Rascal. After verifying that all parts are accounted for, let the delivery person go on their way.

Next, cut the banding securing the Rascal to the pallet. **Please be cautious when cutting the banding.** Cut the center bands first then work outward, keeping your body out of the way to prevent injury due to shifted components falling during shipping (**Fig 4**).



Fig 1.



Fig 2.



Fig 3.



Fig 4.

Setup

1. Locate the hitch bar sent with the Rascal (**Fig 5**). The hitch bar will go into the slotted end of the tongue assembly on the frame (**Fig 6**). Remove the two bolts and nuts already installed on the tongue assembly (**Fig 6**). Slide the hitch bar into the slotted portion of the tongue assembly until the holes in the hitch bar line up with the holes in the tongue assembly (**Fig 7**). If the holes in the hitch bar do not line up properly with the holes in the tongue assembly, insert a punch or 6" long 3/8" ratchet extension into the holes and tap the end of the hitch bar while pushing the punch thru the holes of the hitch bar and tongue assembly until all the holes line up (**Fig 8**). Re-insert bolt (with washer) into one hole before removing punch (or ratchet extension) (**Fig 9**). Remove punch and re-insert second bolt (with washer). Slide remaining washers back onto each bolt then thread nuts and tighten using (2) 3/4" wrenches (or socket). Label on the Hitch bar should be facing the same direction as the labels on the Rascal when installed (**Fig 10**).

Note: For safety reasons, it is recommended to complete this step with two people.

2. To hook up the Toplink controlling the Finish rake, locate the pin securing the gold top link to the tower on the rear of the Rascal (**Fig 11**). Remove the gold pin that is holding the top link in place to keep the tool in the upright position during shipping.

The Toplink may be shipped with the threads on both ends of the toplinek not showing the same amount of threads (**Fig 12**). If both ends are not showing equal amounts of thread, spin the free end of the toplinek in or out until both ends have equal amounts of thread showing (**Fig 13**).

Attach the toplinek (with the pin removed in the previous step) by one person carefully pushing down on the hitch bar and lining up the end of the toplinek with the center holes in the rear tower while the other person slides the toplinek pin into the center hole of the rear tower and thru the end of the toplinek then locking the pin clip (**Fig 14 and 15**).

3. To remove the unit from the skid, crank the front jack to lower the wheels as far as they will go. This may cause the unit to start to roll off the skid (**Fig 16 and 17**). Next, crank the rear jack to adjust the finish rake to be vertical (**Fig 18**). Cranking the rear jack to make the Finish rake vertical will lower the hitch down to help match the height of the Rascal hitch with the tow vehicle hitch.

Using the combination of cranking the rear finish rake jack and the front wheel jack, line up the Rascal hitch to the height of the tow vehicle hitch. Attach the Rascal to the tow vehicle with the hitch pin provided. After attaching it to the tow vehicle lower the wheels as far as possible to lift the frame and turn the back jack counter clockwise to raise the finish rake off of the pallet. The Rascal is now free of the skid.



Fig 5.

Remove hardware from tongue assembly to install Hitch Bar.

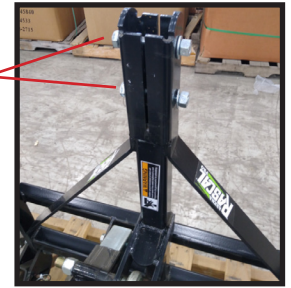


Fig 6.

Tongue assembly.

Hitch Bar.

Punch or 3/8" ratchet extension.

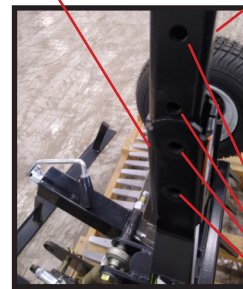


Fig 7.



Fig 8.

Slide Hitch Bar into tongue assembly until holes line up.

Punch or 6" long 3/8" ratchet extension.



Fig 9.

Make sure labels are facing the same direction when hitch bar is installed.



Fig 10.

Setup (cont'd)



Fig 11.

Locking Toplink
Pin.

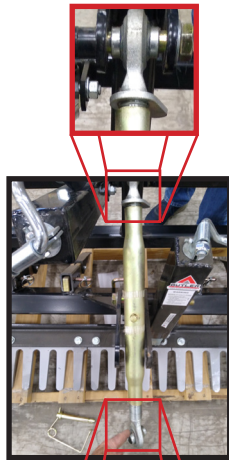


Fig 12.



Fig 13.



Fig 14.

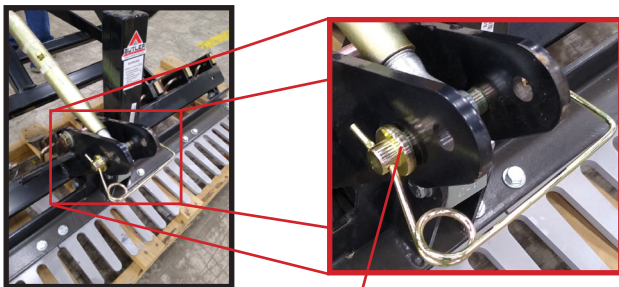


Fig 15.

Slide the topline pin into the center
hole of the rear tower and thru the end
of the topline then lock the pin clip.



Fig 16.



Fig 17.



Fig 18.

4. If the optional rail blade(s) was ordered, it/they will be mounted upside down to the Rascal frame (for shipping purposes) (**Fig 19**). Remove the Lynch pin from the bent pin and pull the bent pin out (**Fig 20**). Slide the rail blade off the frame (**Fig 21**). Slide the rail blade back into the end of the Rascal frame with the tire on the rail blade facing upwards. Re-insert the bent pin and reattach the Lynch pin (**Fig 22**).



Fig 19.



Fig 20.



Fig 21.



Fig 22.

Operation Guide

Attaching the Rascal to a tow vehicle

1. Back up the tow vehicle within close range of the Rascal tongue. Put the tow vehicle in park, block the wheels and turn off the tow vehicle.
2. Move the Rascal as needed to allow the tongue of the Rascal to sit closer to the pin hitch receiver on the tow vehicle.
3. Raise or lower the wheels of the Rascal, using the square hand jack located on the front of the Rascal until the tongue of the Rascal is sitting level to the pin hitch receiver. The tongue may need to be pushed down slightly to fully line up.
4. Slide the Rascal tongue over the pin hitch receiver until the holes on the tongue and the pin hitch receiver line up.
5. Insert a 1/2" hitch pin in the hole and secure using a lynch pin.
6. Once the tongue is fully secured to the pin hitch receiver, confirm the hitch pin is secured using a lynch pin. Lower the wheels to raise ground engaging components. The Rascal is ready for transport and use.

Disconnecting the Rascal from a tow vehicle

Use caution when disconnecting the Rascal from a tow vehicle.
Below is the recommended disconnect procedure for the Rascal.

1. Using the square hand jack on the back of the Rascal, lower the finish rake down until it is in a grading position. The finish rake does not need to be at a perfect 90 degree angle, just in a downward position (**Fig 23**).
2. Raise the wheels on the Rascal until the weight of the Rascal is sitting on the finish rake. The scarifiers/profile blades may also rest on the ground at this time as well.
3. Continue to raise the wheels on the Rascal until the square hand jack can slide from side to side without binding up. This will indicate that the weight of the Rascal is resting on the finish rake. The weight may also be resting on the scarifiers/profile blades at this time as well.
4. Once the weight of the Rascal is sitting on the finish rake and the scarifiers/profile blades, the hitch pin connecting the Rascal to the tow vehicle can be removed. The Rascal is now free from the tow vehicle.



Fig 23.

Approximate grading position for the Finish Rake.

Setting up for use with Scarifiers

The scarifiers may be mounted to the Rascal when shipped. If not, crank the front wheel jack to lower the tires and raise the frame high enough to insert each scarifier into the frame pockets. Pin each scarifier into the 3rd hole from the top on the frame pockets. The flat side of the scarifier tips should be facing forwards on the Rascal (**Fig 25**). Adjust the toplinek to set the cutting angle. For the best ripping angle, the toplinek should have about 2" of thread on both ends of the toplinek (**Fig 24**). This will give the scarifiers the proper angle for ripping (**Fig 25**). The scarifier angle can be adjusted later if a different angle works for your usage. If the toplinek is showing more thread on one end than the other, disconnect one end from the Rascal and rotate the end of the toplinek so each side is showing the same amount of thread.

Note: Use caution when disconnecting top link this as the Rascal may shift in the process.

Rotate toplinek body until there is approximately 2" of thread showing on both ends of the toplinek for proper scarifier angle.

Flat side of scarifiers facing forward.

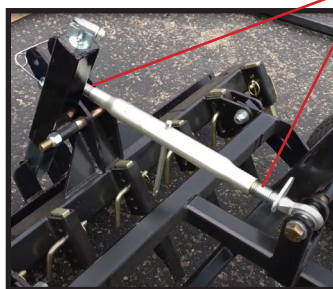


Fig 24.



Fig 25.

To set the scarifier depth, have both the scarifier tips and tires touching the ground, then crank the front wheel jack to raise the tires to the desired depth (if the desired depth of the scarifiers are 2", raise the tires up 2"). If the footing of the area your ripping is soft, the tires may sink into the footing up to 1/2" so minor height adjustments may be necessary to get the desired depth.

Operation Guide (cont'd)

Setting up for use with Profile Blades

On a flat surface, raise the Rascal high enough to remove the scarifiers (if attached) and insert the profile blades into position. The outside profile blade mounting bar must be in the mounting pocket that is farthest out on both sides of the unit (**Fig 26**). Pin the profile blades thru the 3rd hole from the top in the mounting pocket. Crank the front wheel jack so that both the wheels and profile blades resting on the ground. The bottom surface of the profile blades must be parallel to the ground (**Fig 27**). If the blades are tilted upwards, this will cause the Rascal to “ski” upward, causing waves in the footing. If the blades are tilted downwards, this will cause the Rascal to dig in more, endangering the base. Use the topline to adjust the pitch of the blades by rotating it clockwise or counterclockwise as needed to make the bottom surface of the blades parallel to the footing.

The wheels maintain the depth of the profile blades. Crank the front jack wheel up so the wheels rise off the ground to the desired depth the profile blades are to go. If the blades are 2” below the bottom of the wheels, that is how deep the blades will run in the footing. **HINT:** If some blocks are available that are the same height as the depth the profile blades are to dig into the footing, the blocks can be put under each tire then crank the front wheel jack as need until the profile blades are resting on the ground then remove the blocks (**Fig 28**).

If the footing of the area your ripping is soft, the tires may sink into the footing up to 1/2” so minor height adjustments may be necessary to get the desired depth.

Once the Rascal has been setup for a particular depth and ready for transportation to a worksite for use, use a marker to mark that depth on the non-painted portion of the wheel jack (**Fig 29**). After using the Rascal for other jobs at different depths and it's time to set the height again for a previous setting, just crank the wheel jack until the bottom of the black portion of the wheel jack lines up with the mark to avoid the time it takes to go thru the setup procedure.

Adjusting the Finish Rake

The finish rake will be adjusted with the Rascal in use. Take the Rascal to the area where it will be used. Raise the wheels to allow the scarifiers/profile blades to enter the surface at the desired depth. Pull the Rascal forward several feet and come to a slow stop. Adjust the finish rake to rest firmly on the surface of the material by cranking the rear jack up or down as needed to get about 1/2” of penetration into the material (**Fig 30**).



Fig 26.

Outside profile blade mounting bar must be in the mounting pocket that is farthest out on both sides of the unit.



Fig 27.

Bottom surface of Finish Blades parallel to footing.



Fig 28.

Blocks under the wheels can help the depth setup and help visually see if the bottom surface of the profile blades are parallel to the footing.



Fig 29.

Use a marker to mark that depth on the non-painted portion of the wheel jack.

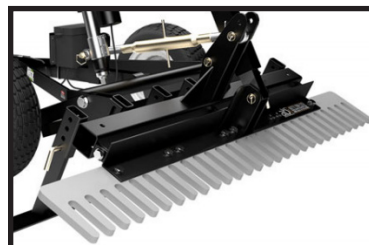


Fig 30.

Setup and Guide for Grooming Driveways

One of the many uses for a Rascal is for driveway repair, or maintenance. The setup and maintenance is covered in the setup guide. This section will cover how to manage problems that may come up in the driveway. One of the most frequent issues with the Gravel Rascal happens when the operator uses an inconsistent speed, i.e. stopping and starting, speeding up and slowing down.

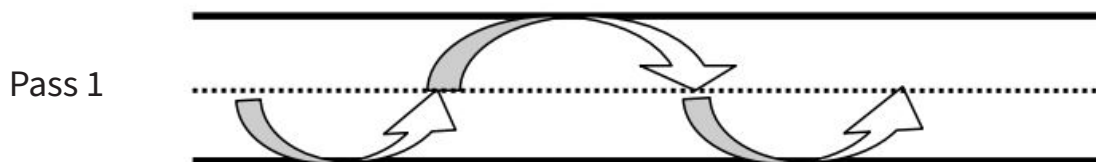
Removing Pot holes and Washouts – These are the easiest to handle. Lower the scarifiers down to the desired ripping depth. Start the first pass with the wheels down, to help stabilize for the initial loosening. Travel at a slow consistent speed, allowing the Rascal to dig in while traveling down the driveway. With each pass raise the wheels more and drag the driveway till the washouts or potholes are gone. To give the driveway a finished look, go back over for a last pass, setting the Profile Blades (as mentioned on the previous page **"Setting up for use with Profile Blades"**) about 1/2" below the surface and the finish rake digging into the surface about 1" to pack the driveway and give it a clean finish. If more weight is required for deeper ripping, the weight rack and weights for the Rascals are available (see "Options" section below). The weight rack holds suitcase weights, giving more weight for deeper dragging/ripping.

Dragging with a Crown – To keep the crown, drag only the outside of the crown at a slow steady pace. Avoid the crown and allow the Rascal to rip the soil on the sides only.

Putting in a Crown – To use the Gravel Rascal to put a crown into a driveway, drag the driveway as normal so the scarifiers loosen the gravel as well as the edge of each side of the driveway, then put the Rascal into a grading position. To setup the Rascal in grading position, adjust the scarifiers out of play by flipping each scarifier up so the tips are on top (the scarifiers will be upside down). Pin the right wheel into either the middle hole or top hole (depending on the desired amount of angle of the crown) as shown on page 16 (**Fig 31**). Adjust the finish rake down to a 90 degree angle. Lower the wheels so the right side of the finish rake tips are down into the gravel about 1/2". Pull material to the center of the driveway, raise the Rascal and leave the material behind in the center of the driveway. This will need to be repeated down both sides of the driveway. Lowering the wheels slightly after each pass down the driveway may be necessary until the desired crown height is achieved. This is much easier with the Electric Actuator attached, but may result in battery drainage. Using the box blade option helps prevent some gravel from rolling off the end of the Finish rake back out into the yard by capturing it within the box and moving it to the center of the driveway.

Common things that cause Wash boarding - One of the most common causes of wash boarding is inconsistent speed. Using an inconsistent speed can cause a "bump" in the gravel. When multiple bumps occur, it becomes what is classified as a washboard effect. Dragging at a higher speed may cause the Rascal to bounce or give it a hopping motion, leaving behind bumps as it goes. Washboarding can also be caused by sudden acceleration, or by starting and stopping. Once there is a bump that is not immediately cared for, it will continue to cause more bumps as the Rascal travels over it. Eventually this will give the driveway a washboard effect.

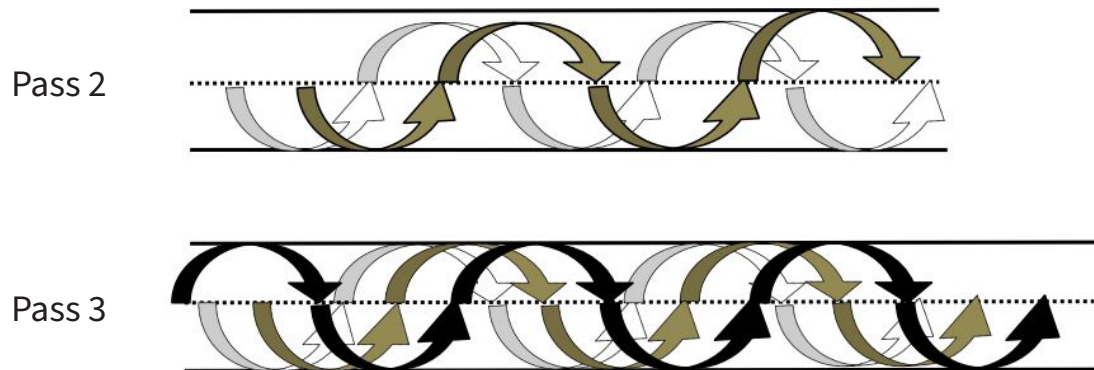
Removing Washboard effect from a driveway – When finished dragging the driveway and notice a washboard effect, it will take more time to fix now but easier to fix while the groomed driveway is fresh rather than after it has been driven on and repacked. If it has been driven on, or repacked, the driveway may need to be ripped again. Once the material is loose, set up the Rascal in a grading position with the wheels down, and the scarifiers out of play. This is done by moving the finish rake down more at a 90 degree angle. Going at a very slow speed, perform a serpentine pattern to remove the waves. The illustrations below show one of ABI's serpentine patterns that can remove the washboard effect:



The dotted line indicates the center or "crown" of the driveway.

Operation Guide (cont'd)

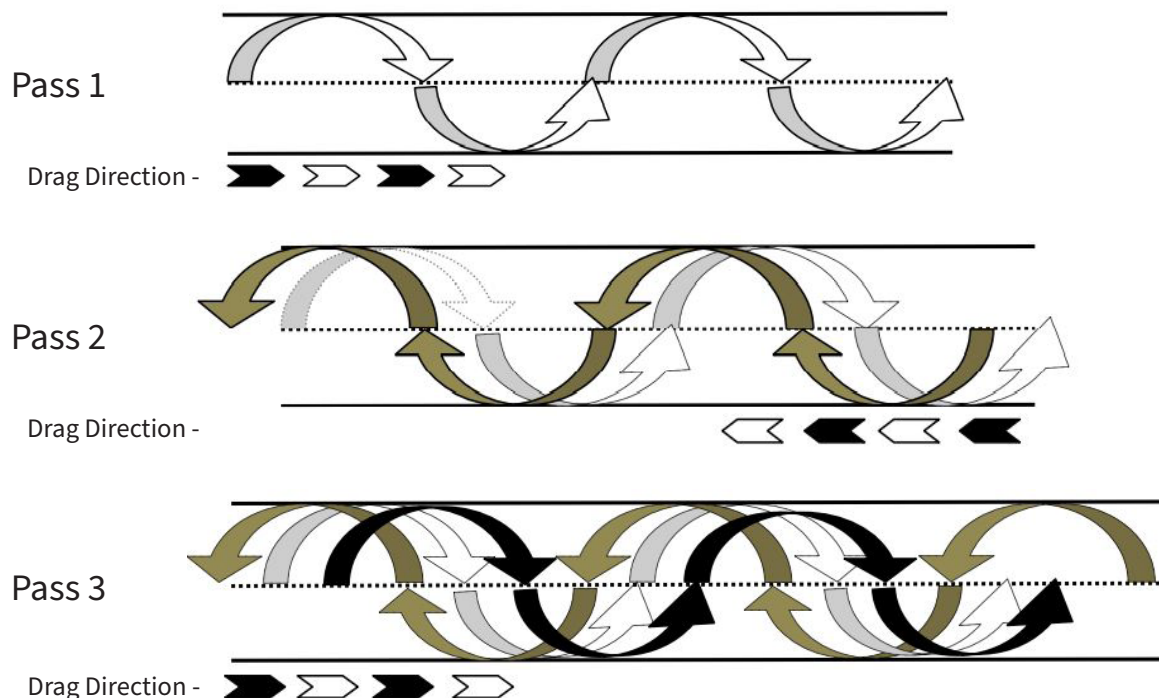
Setup and Guide for Grooming Driveways (cont'd)



The dotted line indicates the center or "crown" of the driveway.

This pattern will need to be run a few times at a very slow steady speed. While going down the driveway, make sure to overlap the pattern. Overlap should be about 6" or enough to remove the ribbon from the previous pass. When finished running the pattern, go back over it again using the finish rake at a slow and steady speed to give a finished look.

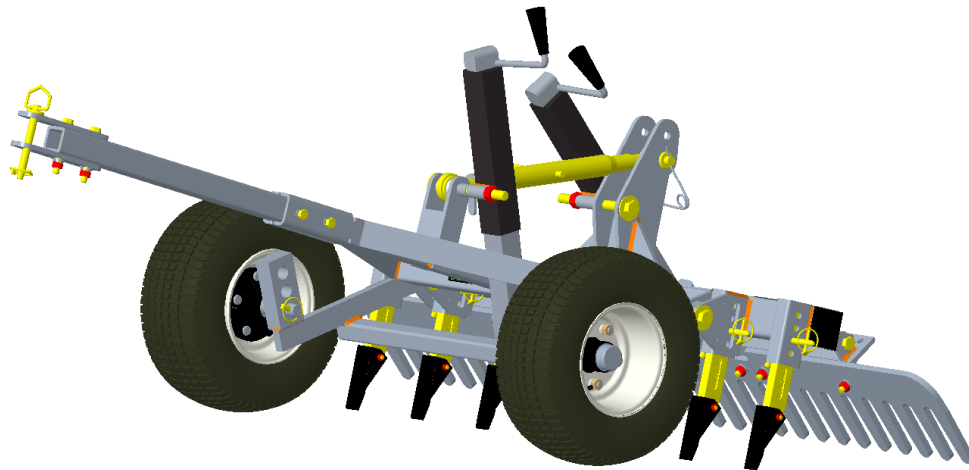
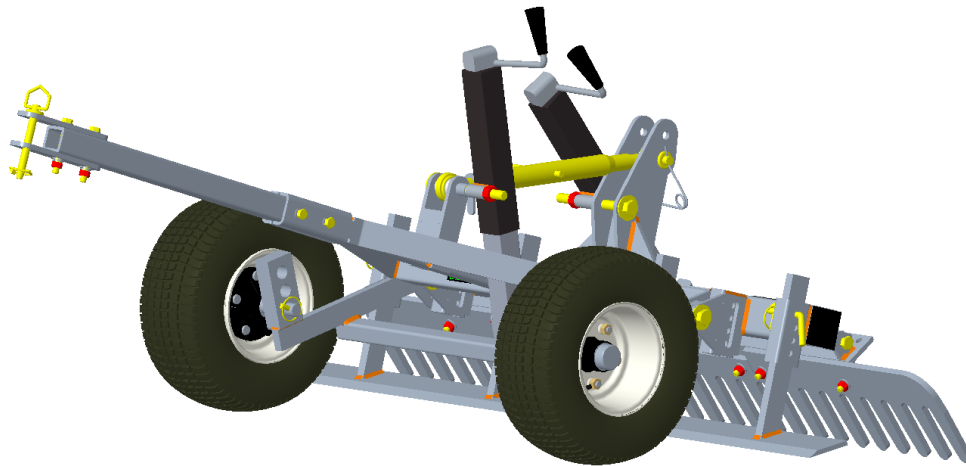
Another pattern to use is the Crossover Serpentine Pattern. This is the same as the pattern above, but now work the driveway from each side. This is a down and back pattern. The pattern is illustrated below:



The white arrows indicate the first pass. The gold arrows are the second, and the black arrows the third. Go down the driveway in the same slow serpentine pattern, then starting at the bottom, repeat the pattern continuing up and down the driveway until the waves are fully removed.

Components

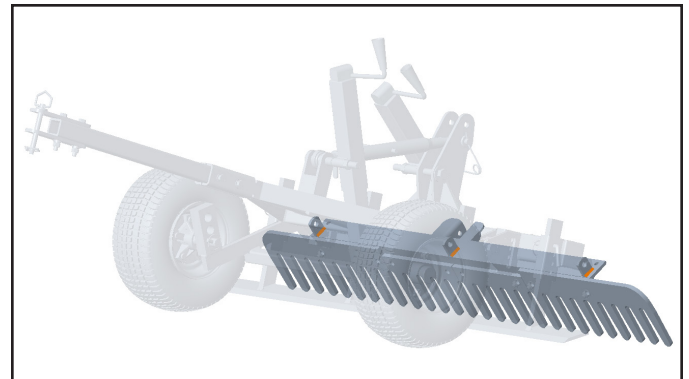
Rascal Arena Pro/Gravel Pro



Finish Rake/Comb

Breaks up clumps of material and leaves a beautiful signature finish. By adjusting the rear manual jack, the 1/2" thick hardened-steel-rake, can pivot up to 90° into a variety of finishing and grading positions. This adjustability enables the rake to pulverize clods of material, level and finish no matter the material consistency. Finish Rakes are made up of smaller sections that can be individually ordered to decrease cost when needing to replace a worn/damaged tooth.

FINISH RAKE



Components (cont'd)

Profile Blades

The profile blades can operate at a depth of up to 4" and are adjustable at ½" increments. This attachment cuts parallel to the arena grade, while riding along just above the base, to remove dangerous compaction layers and aerify the footing. This creates a sheet of loose material. The finish rake can then break up the loose material as it flows through the tool. The Profile Blade attachment ensures that what the horse and rider see on the top surface, is also what the horse feels when his hooves penetrate into the footing material. It is important to remember that the profile blades are used for grooming, not the renovation of the arena.

Scarifying Teeth (Ripping Teeth)

The scarifying teeth loosen the ground to eliminate hard spots and easily penetrate compacted arena footing and gravel driveway material or soil. They are primarily used to break up compaction and can be used in conjunction with the finish rake. During daily arena maintenance, the scarifiers can be pinned up and out of play. Excess wear will be created by using them during daily grooming.

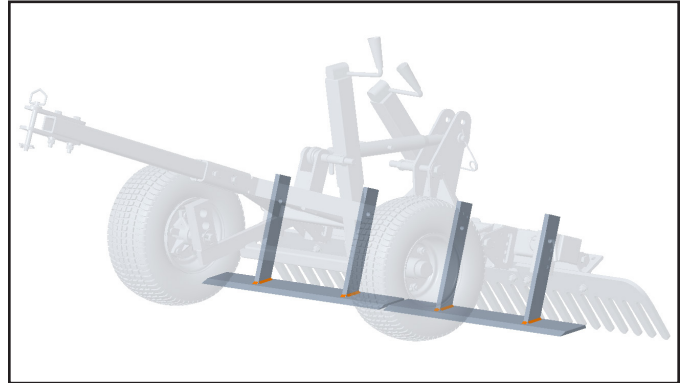
The scarifying teeth have replaceable bolt on tips. This feature not only ensures affordable and easy maintenance of this wear part, but also ensures peak ground penetration no matter the ground condition. If the tips wear to the point that performance is diminished, simply replace them, restoring optimal performance.

Wheels

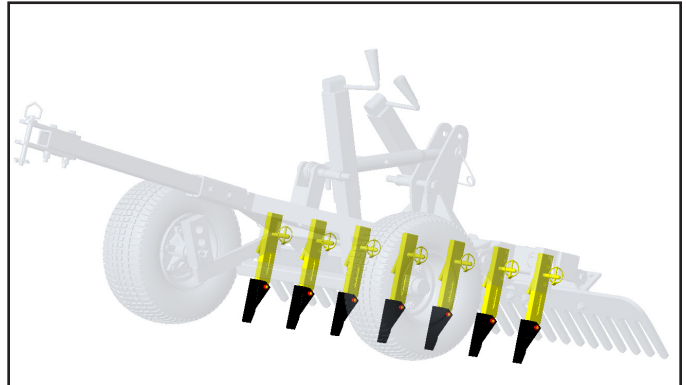
The large tires serve four important functions. First, they allow for quick and easy transport. Second, they stabilize the Arena Rascal Pro from pitching side-to-side ensuring consistency of grooming depth, the width of the unit, especially when maneuvering tight turns. Third, they enable the Arena Rascal Pro to "float" on loosened or wet material to minimize "sinking" into these soft material situations, which otherwise would alter grooming depth. This is a common problem for most competitive groomers. Forth, they gauge or control how deep the ground contact components go into the ground and hold a consistent grooming depth.

NOTE: The operating positions of the right wheel can be pinned higher for crowning driveways or creating drainage swales to remove water (**Fig 31**).

PROFILE BLADE



SCARIFIER



WHEELS

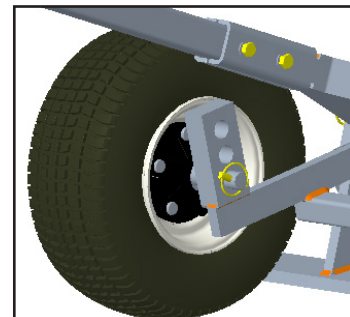
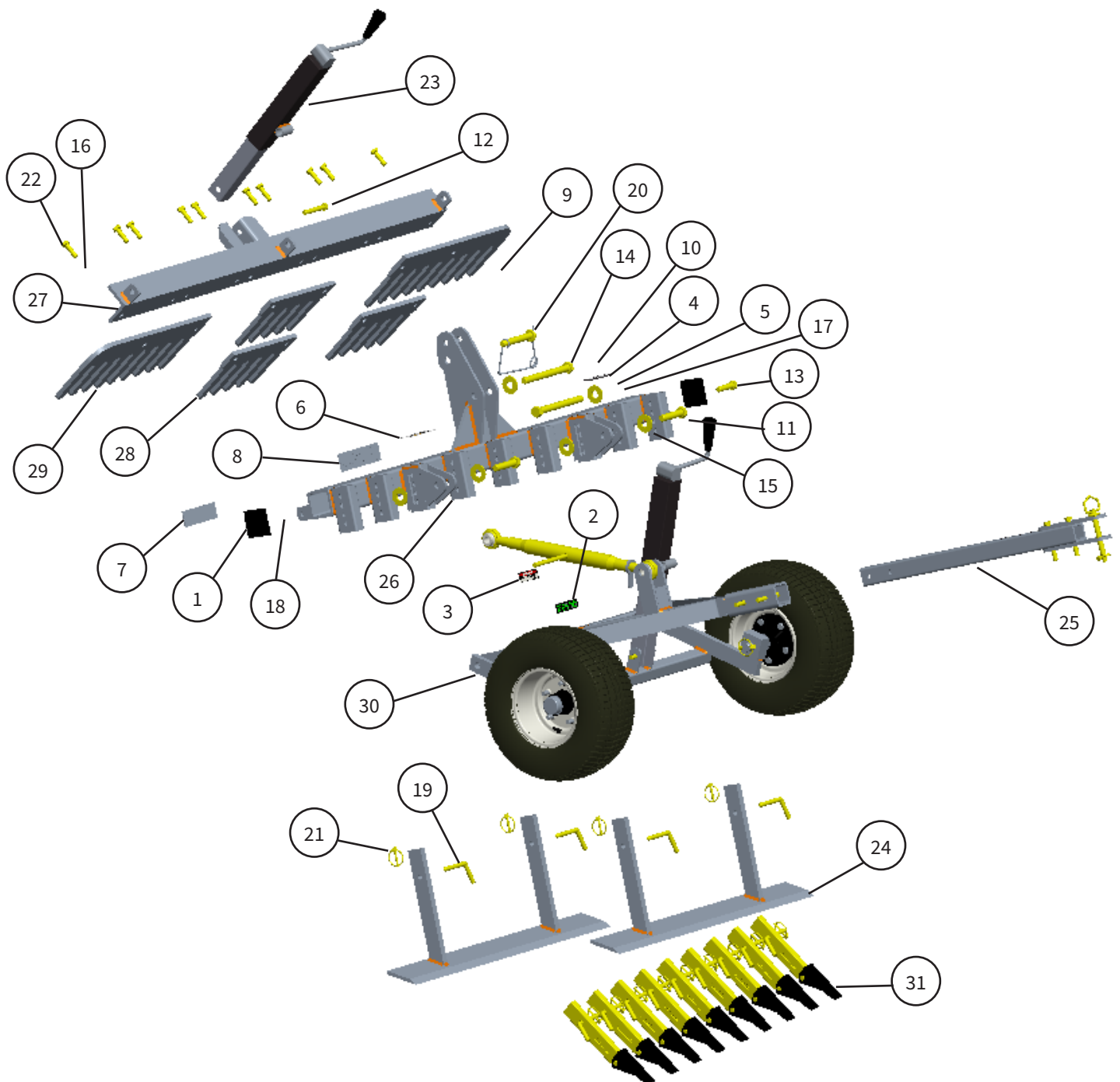


Fig 31.

Parts Description

Rascal Arena Pro/Gravel Pro



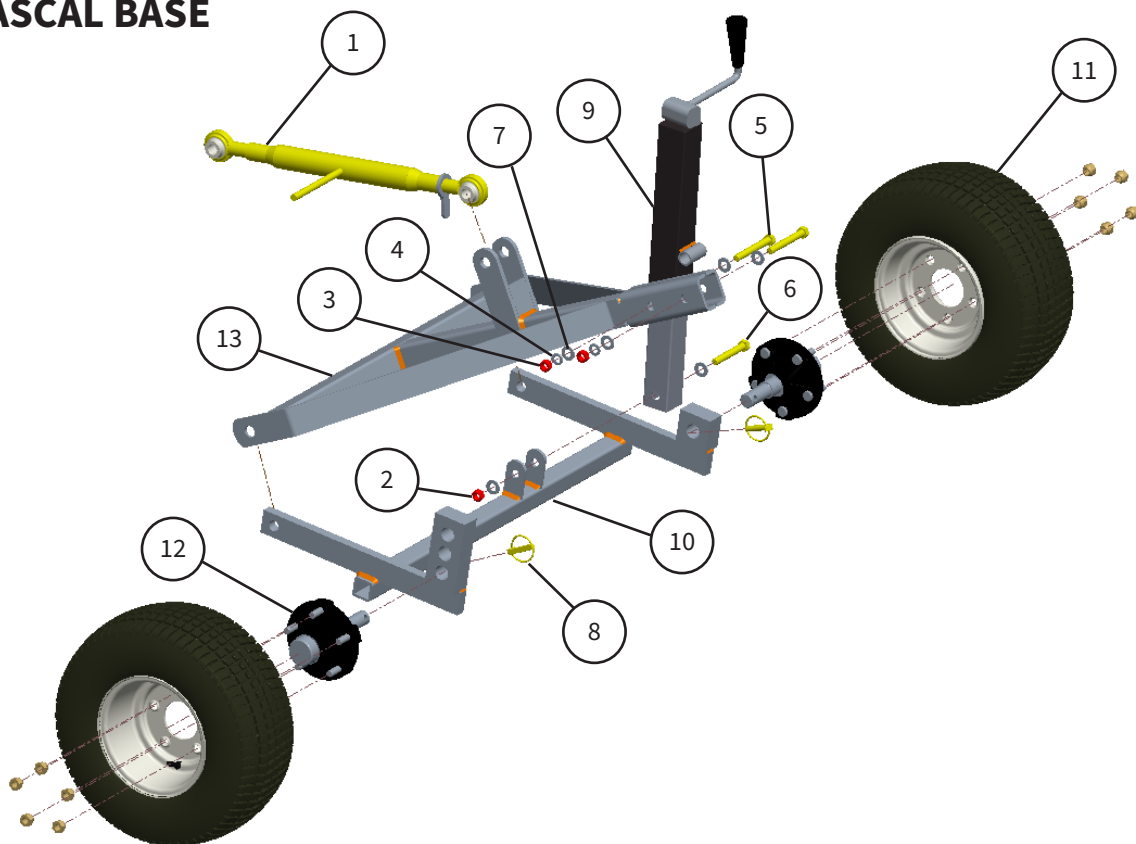
Parts Description (cont'd)

ITEM	PART #	DESCRIPTION
1	10-10018	SQR 3" BLK PLUG FOR MVP Frame (400 Min)
2	10-10095	LBL:NO PUSH BACK: 1" X 4"
3	10-10096	LBL:PINCH POINT A 1" X 2"
4	10-10161	ABI SERIES SERIAL NUMBER PLATE
5	10-10343	BUSHING:3/4" ID X 1/2":ZINC
6	10-10345	LABEL:FOOT CRUSH:CAUTION
7	10-10517	LBL: COMMAND YOUR LAND: GDG
8	10-10861	LBL: CONTACT INFO: ABI: FOR GLOSS TOOLS
9	10-20050	1/2-13 TOP LKGRC
10	10-20104	RIVET: .5-.625 GRIP: SHOP SUPPLY
11	10-20167	HX HD BOLT:3/4-10 X 3.5":ZINC YEL GR8
12	10-20172	HX HD BOLT:1/2-13 3.5":ZINC GR5
13	10-20178	HX HD BOLT:5/8-11 2.5":ZINC GR5
14	10-20186	HX HD BOLT:3/4-10 8":ZINC GR8
15	10-20192	FLT WSHR:3/4 USS GR8: YEL ZINC
16	10-20194	FLT WSHR:1/2 SAE: CL ZINC
17	10-20206	NYLOCK NUT:3/4-10:ZINC YEL GR 8
18	10-20209	NYLOCK NUT:5/8-11:ZINC CL
19	10-20221	BENT PIN:1/2"X3.5":ZINC

ITEM	PART #	DESCRIPTION
20	10-20229	HITCH PIN:3/4" X 4" SAFETY LOCK:ZINC
21	10-20232	LYNCH PIN:1/4"X1.25":ZINC
22	10-20359	HX HD BOLT:1/2-13 1.75":ZINC GR5
23	10-40043	RASCAL MANUAL JACK
24	10-40242	WLDMT:PROFILE BLADE:4.5 RASCAL
24	10-40000	WLDMT:PROFILE BLADE:5.5 RASCAL
24	10-40243	WLDMT:PROFILE BLADE:6.5 RASCAL
25	10-40494	ASM: PIN ONLY HITCH TUBE: RASCAL
26	10-40502	WLDMT:RASCAL SCAR TUBE 4.5'
26	10-40030	WLDMT:RASCAL SCAR TUBE 5.5'
26	10-40505	WLDMT:RASCAL SCAR TUBE 6.5'
27	10-40503	WLDMT: RASCAL FINISH RAKE BRKT 4.5
27	10-40031	WLDMT: RASCAL FINISH RAKE BRKT 5.5
27	10-40506	WLDMT: RASCAL FINISH RAKE BRKT 6.5
28	10-50001	12" COMB .5" THICK
29	10-50002	21" COMB .5" THICK
30	10-90225	ASM: RASCAL BASE
31	10-99189	ASM: SET OF 5 SCARIFIERS: BOXED 4.5
31	10-99131	ASM: SET OF 7 SCARIFIERS: BOXED 5.5
31	10-99190	ASM: SET OF 9 SCARIFIERS: BOXED 6.5

* For 7.5' Rascal pro/Gravel Pro part numbers, please contact Customer Support at 877-788-7253.

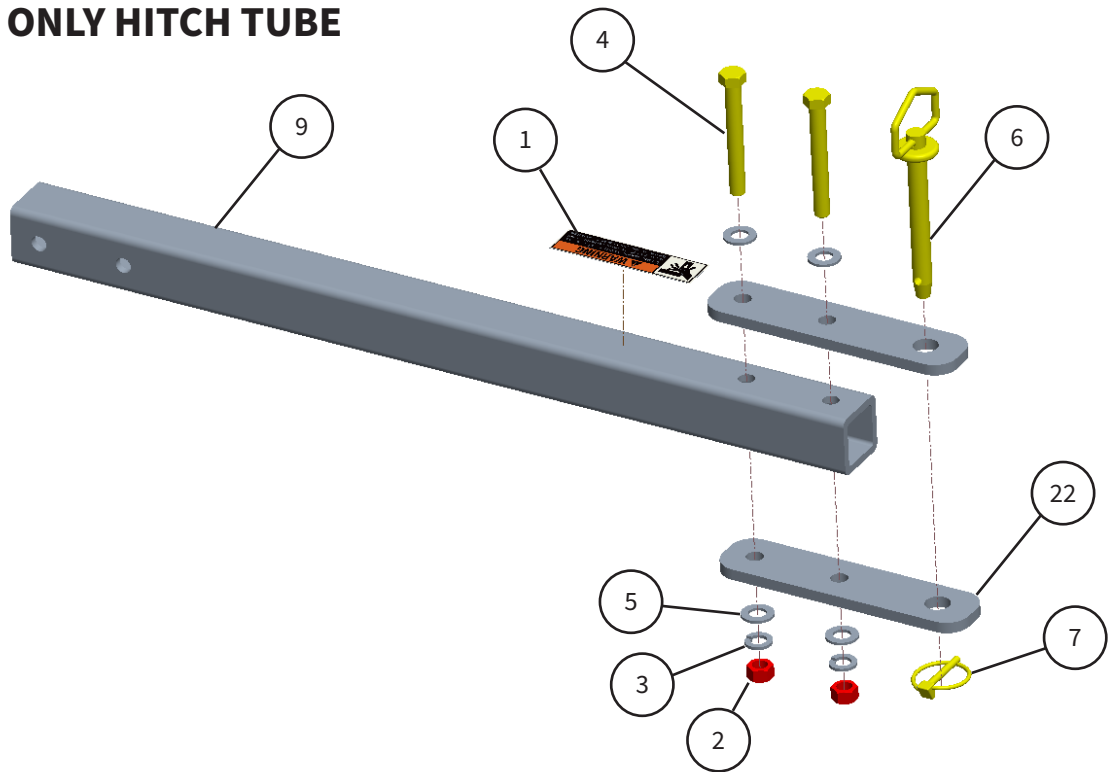
ASM: RASCAL BASE



ITEM	PART #	DESCRIPTION
1	10-10078	LBL: HAND CRUSH: DECAL
2	10-20050	NUT: 1/2-13 HEX FIN: GR 5 ZINC
3	10-20138	1/2" SPLIT LOCKWASHER: ZINC
4	10-20139	HX HD BOLT: 1/2-13 X 4": ZINC GR5
5	10-20141	FLT WSHR: 1/2 SAE: CL ZINC
6	10-20172	HITCH PIN: 5/8" X 5": ZINC
7	10-20194	LYNCH PIN: 1/4" X 1.25": ZINC
8	10-20233	PLATE: RASCAL PIN HITCH
9	10-40043	TUBE: 2" SQ X .25" WALL: RASCAL TONGUE 30" L
10	10-40293	PLATE: RASCAL PIN HITCH
11	10-60006	PLATE: RASCAL PIN HITCH
12	10-60058	PLATE: RASCAL PIN HITCH
13	16-50000	PLATE: RASCAL PIN HITCH

Parts Description (cont'd)

ASM: PIN ONLY HITCH TUBE



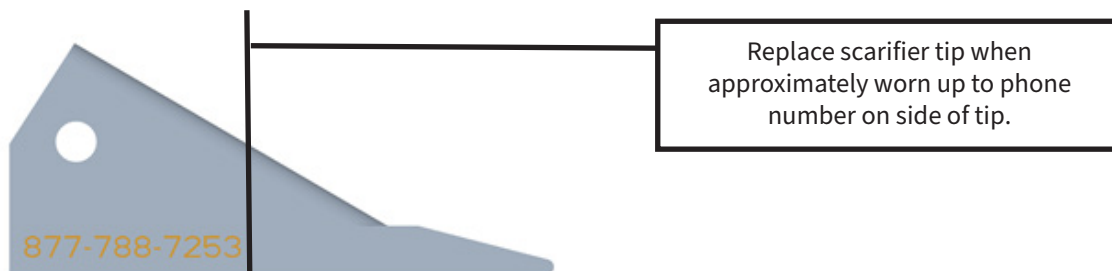
ITEM	PART #	DESCRIPTION
1	10-10090	LBL: HAND CRUSH: DECAL
2	10-20138	NUT: 1/2-13 HEX FIN: GR 5 ZINC
3	10-20139	1/2" SPLIT LOCKWASHER: ZINC
4	10-20141	HX HD BOLT: 1/2-13 X 4": ZINC GR5
5	10-20194	FLT WSHR: 1/2 SAE: CL ZINC
6	10-20224	HITCH PIN: 5/8" X 5": ZINC
7	10-20232	LYNCH PIN: 1/4" X 1.25": ZINC
8	10-30048	PLATE: RASCAL PIN HITCH
9	10-50002	TUBE: 2" SQ X .25" WALL: RASCAL TONGUE 30" L

Replacement Parts

All of the ground engaging components are considered wear parts and will need to be replaced as they wear out from use. To reorder, please contact the ABI Support department at 877-788-7253.

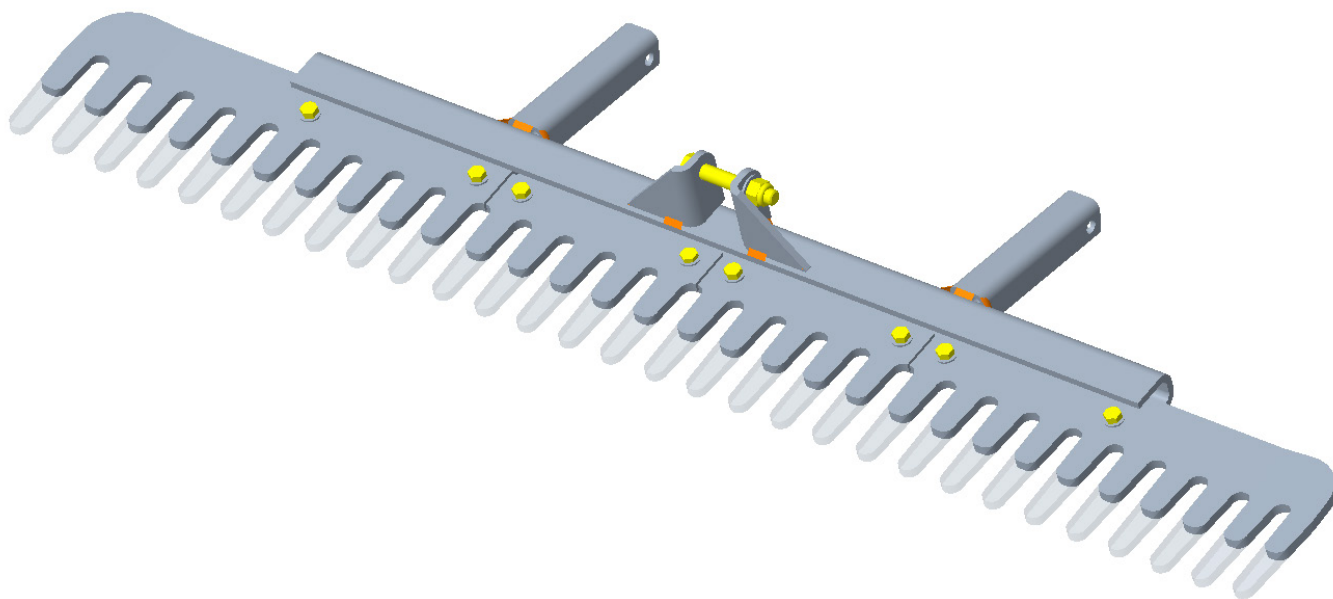
Scarifier Tips

Scarifier Tips should be replaced when the tip is worn up to where the phone number is on the side of the Scarifier Tip. Requires (2) ½" wrenches to remove.



Finish Rake

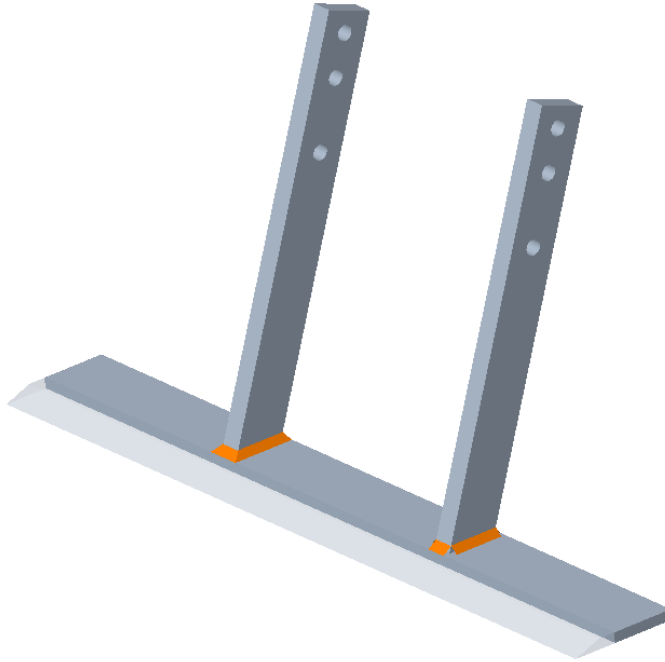
As the teeth of the finish rake wear, angle adjustment of the rake is required to maintain a nice finish of the material. If the angle of the finish rake no longer provides the required finish due to excessive rake wear, replacement is required.



Replacement Parts (cont'd)

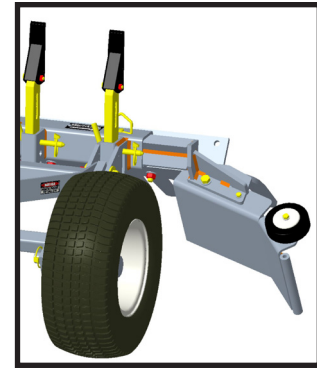
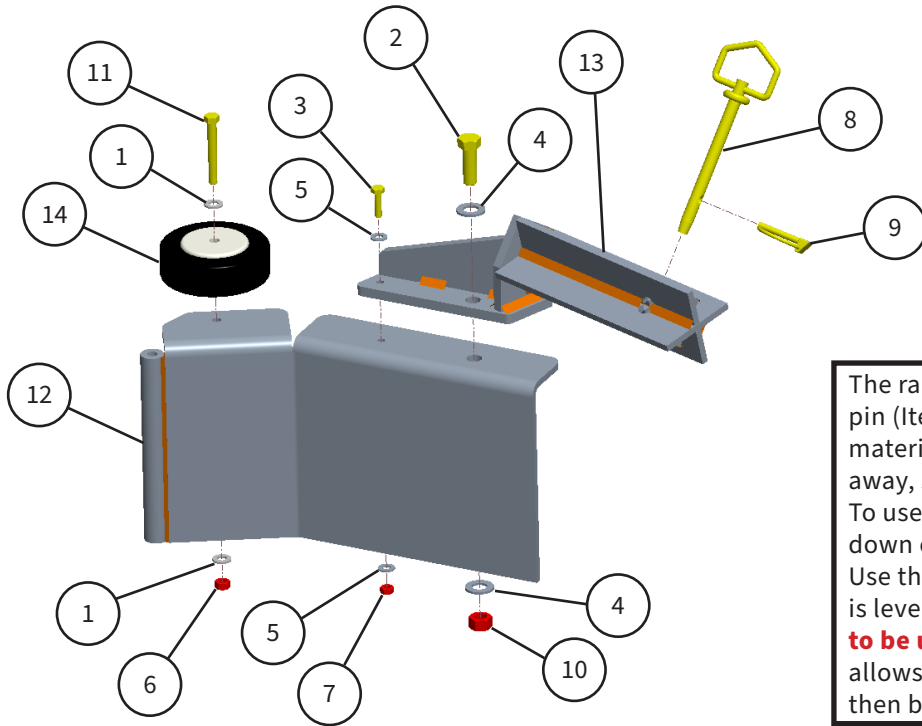
Profile Blade

Profile Blades should be replaced when the edge of the blade has worn down to the weld on the angled shanks.



Options

10-90261 KIT: RAIL BLADE RIGHT

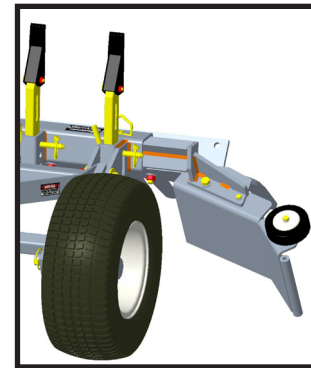
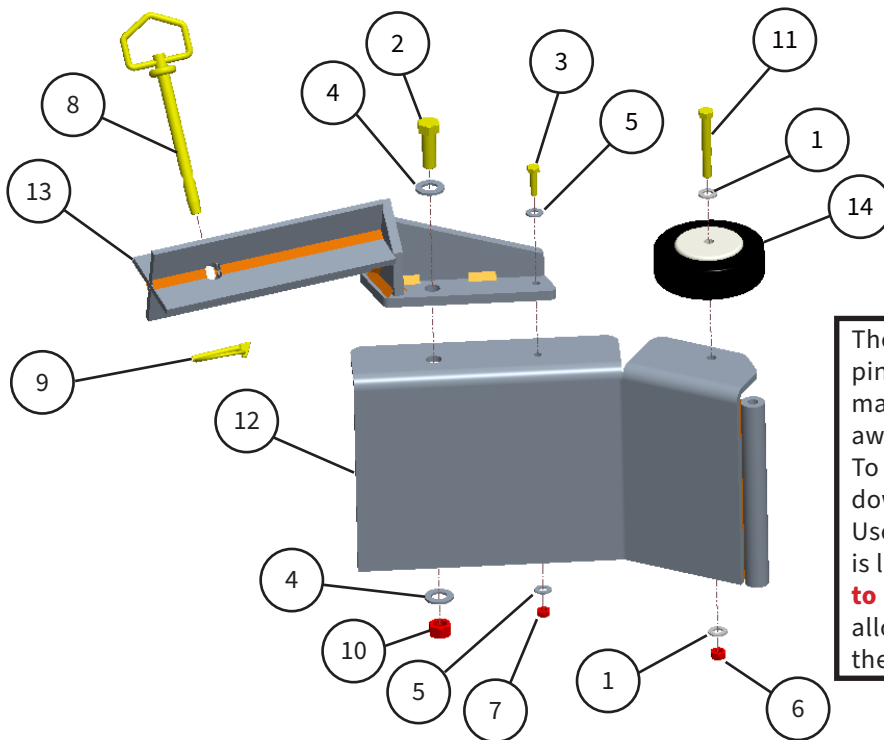


The rail blade attaches to the frame with a large pin (Item 8). The shovel cuts into the built up material along arena walls and rails and pulls it away, saving the user time and effort. To use the rail blade, pin the scarifiers upside down out of play or remove the profile blades. Use the topline to adjust the rail blade angle so it is level with the footing. **The rail blade is meant to be used with only the finish rake in play.** This allows it to pull material in from the edge and then be spread out by the rake.

ITEM	PART #	DESCRIPTION
1	10-20128	5/16 SAE WASHER ZNC
2	10-20164	HX HD BOLT:1/2-13 1.5":ZINC GR5
3	10-20175	HX HD BOLT:1/4-20 1":ZINC GR5
4	10-20194	FLT WSHR:1/2 SAE: CL ZINC
5	10-20196	FLT WSHR:1/4 SAE:CL ZINC
6	10-20202	NYLOCK NUT:5/16-18:ZINC GR 5
7	10-20208	NYLOCK NUT:1/4-20:ZINC GR 5
8	10-20230	HITCH PIN:1/2" X 5":ZINC
9	10-20232	LYNCH PIN:1/4"X1.25":ZINC
10	10-20325	ASLN NUT:1/2-13:ZINC GR 5
11	10-20368	HX HD BOLT:5/16-18 2.50":ZINC GR5
12	10-40300	WLDMT: RAIL BLADE RIGHT: RASCAL
13	10-40304	WLDMT: RAIL BLADE ARM X BRACE RIGHT: RASCAL
14	10-60069	WHEEL: RAIL BLADE: TR3E RASCAL

Options (cont'd)

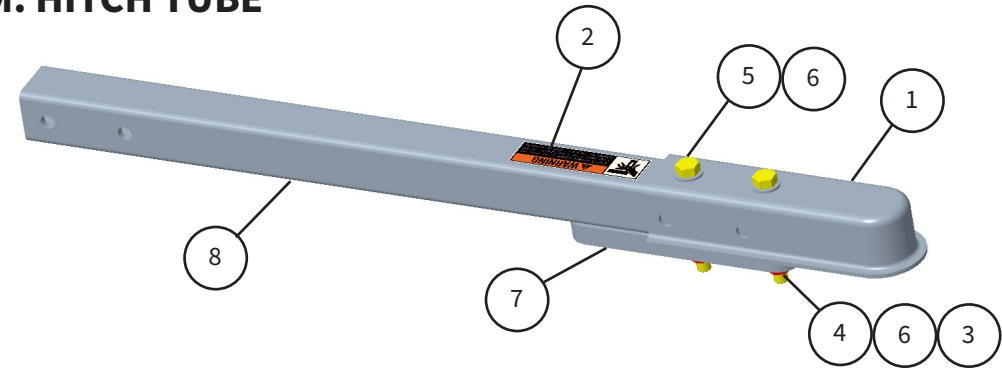
10-90262 KIT: RAIL BLADE LEFT



The rail blade attaches to the frame with a large pin (Item 8). The shovel cuts into the built up material along arena walls and rails and pulls it away, saving the user time and effort. To use the rail blade, pin the scarifiers upside down out of play or remove the profile blades. Use the topline to adjust the rail blade angle so it is level with the footing. **The rail blade is meant to be used with only the finish rake in play.** This allows it to pull material in from the edge and then be spread out by the rake.

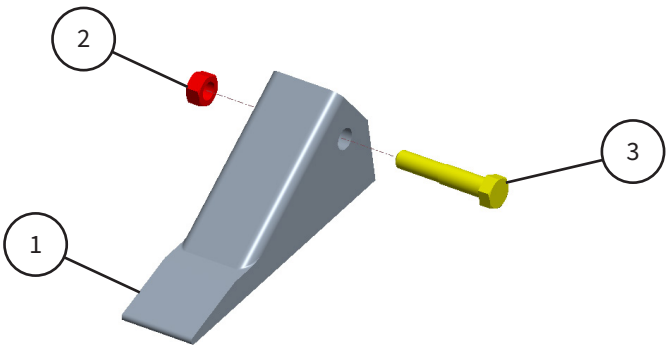
ITEM	PART #	DESCRIPTION
1	10-20128	5/16 SAE WASHER ZNC
2	10-20164	HX HD BOLT:1/2-13 1.5":ZINC GR5
3	10-20175	HX HD BOLT:1/4-20 1":ZINC GR5
4	10-20194	FLT WSHR:1/2 SAE: CL ZINC
5	10-20196	FLT WSHR:1/4 SAE:CL ZINC
6	10-20202	NYLOCK NUT:5/16-18:ZINC GR 5
7	10-20208	NYLOCK NUT:1/4-20:ZINC GR 5
8	10-20230	HITCH PIN:1/2" X 5":ZINC
9	10-20232	LYNCH PIN:1/4"X1.25":ZINC
10	10-20325	ASLN NUT:1/2-13:ZINC GR 5
11	10-20368	HX HD BOLT:5/16-18 2.50":ZINC GR5
12	10-40301	WLDMT: RAIL BLADE RIGHT: RASCAL
13	10-40305	WLDMT: RAIL BLADE ARM X BRACE RIGHT: RASCAL
14	10-60069	WHEEL: RAIL BLADE: TR3E RASCAL

10-40374 ASM: HITCH TUBE



ITEM	PART #	DESCRIPTION
1	10-10072	2' BALL JOINT COUPLER
2	10-10090	LBL: HAND CRUSH: DECAL
3	10-20138	NUT: 1/2-13 HEX FIN GR 5 ZNC
4	10-20139	1/2" SPLIT LOCKWASHER ZNC
5	10-20141	HX HD BOLT: 1/2-13 X 4": ZINC GR5
6	10-20194	FLT WSHR: 1/2 SAE: CL ZINC
7	10-30048	PLATE: RASCAL PIN HITCH
8	10-50002	PLTUBE:2" SQ X .25" WALL: RASCAL TONGUE 30" L

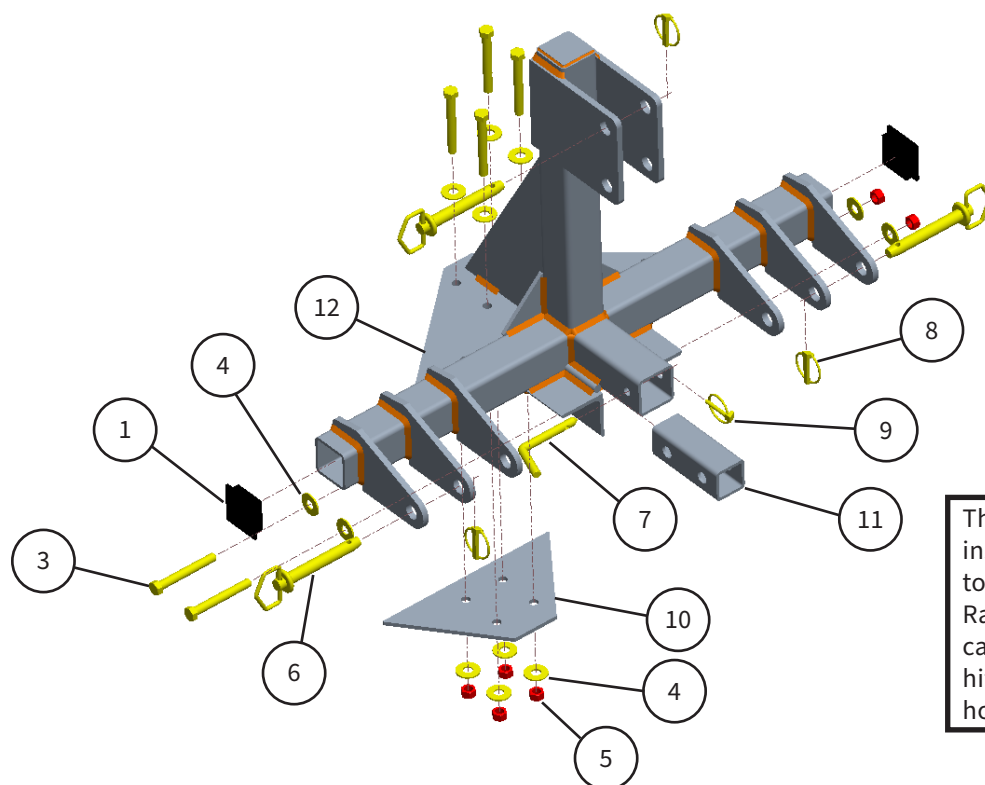
10-40020 KIT: TIP SCARIFIER



ITEM	PART #	DESCRIPTION
1	10-10047	TIP: SCARIFIER: ALL TOOLS
2	10-20096	NUT: 5/16-18 SER FLANGE LOCK, GR8, ZINC
3	10-20121	HX HD BOLT: 5/16-18 X 1 3/4"L, C/S GR8, YELLOW ZINC

Options (cont'd)

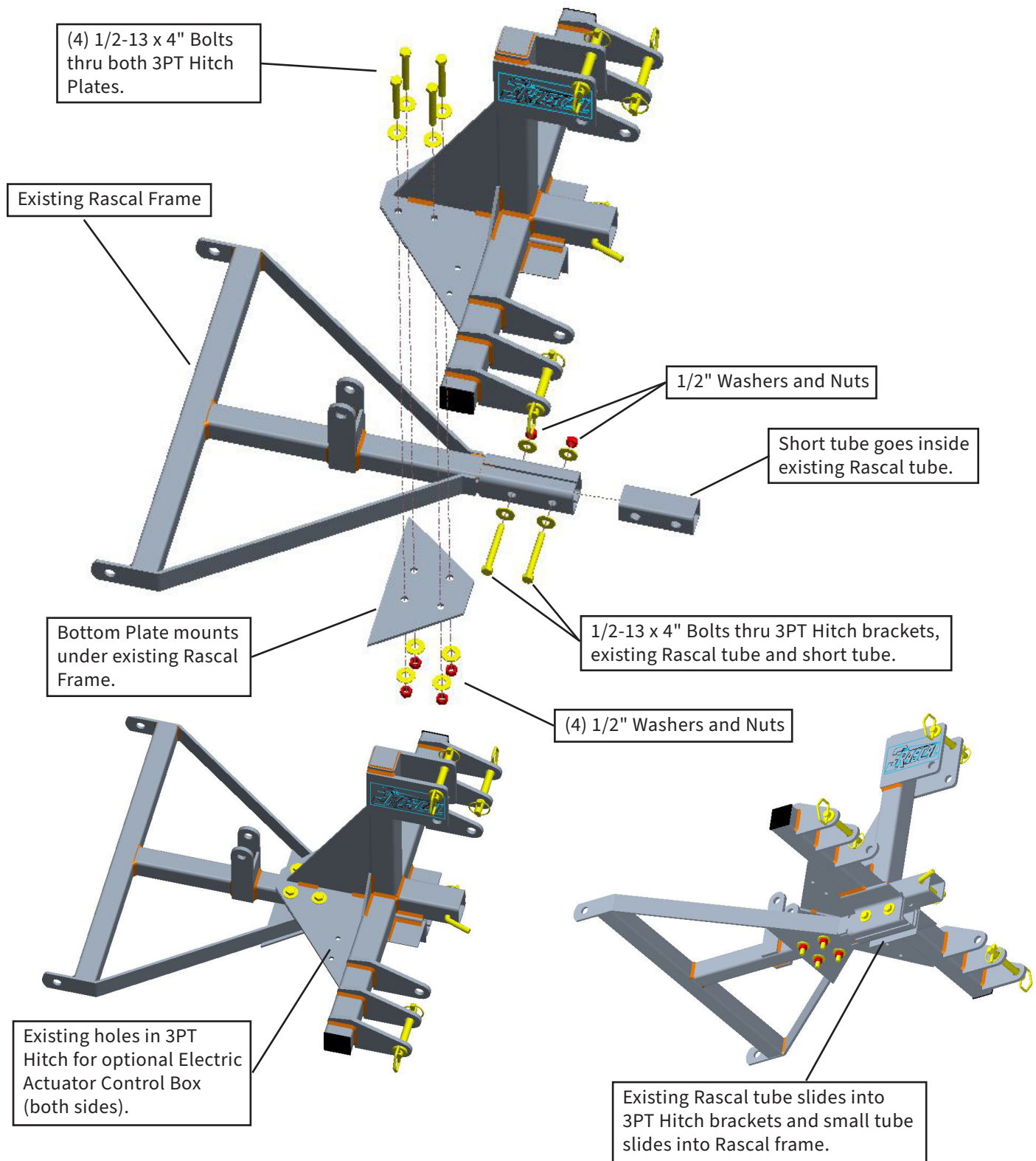
10-99007 KIT: 3PT HITCH



The 3-Point conversion kit can be installed in place of the removable tow bar tongue, allowing the Rascal to be compatible with both category 0 and category 1 3-point hitch types for tractors under 35 horse power.

ITEM	PART #	DESCRIPTION
1	10-10017	CAP: SQR 2.5" TUBE END: BLACK PLASTIC
2	10-10092	LBL:RASCAL 3PT LOGO
3	10-20141	HX HD BOLT: 1/2-13 X 4":ZINC GR5
4	10-20191	1/2 USS FLAT WASHER GR 8 Z/YEL
5	10-20201	NYLOCK NUT: 1/2-13: ZINC GR 5
6	10-20220	HITCH PIN: 3/4" X 4.25": ZINC
7	10-20221	BENT PIN: 1/2" X 3.5": ZINC
8	10-20231	LYNCH PIN: 3/8" X 1.5": ZINC
9	10-20232	LYNCH PIN:1/4" X 1.25": ZINC
10	10-30041	PLATE: BOTTOM: RASCAL3PT
11	10-30127	TUBE: 2" SQ X .2" WALL: FILLER
12	10-40010	WLDMT: 3PT ADAPTER: RASCAL

ASSEMBLING 3PT HITCH TO EXISTING RASCAL FRAME

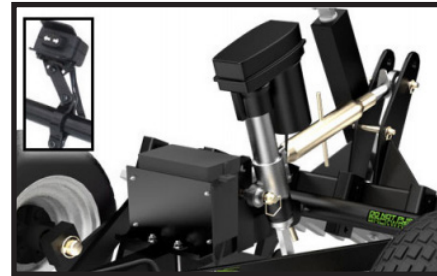


Options (cont'd)

10-90282 KIT: ELECTRIC ACTUATOR



The optional electric actuator kit replaces the manual square hand jack to raise and lower the wheel system on the Rascal. This allows the ability to raise and the unit from the seat of the tow vehicle using a switch secured to the handlebars.



An installation video and set up guide as well as troubleshooting videos can be found on the support page at abisupport.com:
<https://www.abiattachments.com/wp-content/uploads/2019/06/Actuator-Setup-Guide2-2013.pdf>
<https://www.abiattachments.com/guides/rascal-product-manual/#section-3>
<https://www.youtube.com/watch?v=SEhCApqXQIY>
https://www.youtube.com/watch?v=j2K_guT1zo8

NOTE: TO AVOID ELECTRICAL DAMAGE TO THE UNIT BY SPLICING THE RASCAL WIRE HARNESS INTO THE TOW VEHICLE WIRING SYSTEM AND POSSIBLY REVERSING THE WIRES, OR THE TOW VEHICLE HAVING A POSITIVE GROUND RELAY SYSTEM, CONNECT THE WIRING HARNESS DIRECTLY TO THE TOW VEHICLE BATTERY (BLACK TO GROUND AND RED TO POSITIVE).

ABI-WCK2 WIRELESS REMOTE W/2 KEY FOBS



If 10-90282 Electric Actuator Kit is ordered, the wireless remote can also be ordered to run the actuator remotely. Open the Black Box from 10-90282 kit. (**Fig 32**). **NOTE:** Black box does NOT need to be removed from Rascal to install the wireless system - black box in views is only removed for installation demonstration.

Locate the preinstalled 4 pole connector inside the Black Box, which has yellow, green, black, and white wires connected to it (**Fig 33**).

Connect the Wireless Receiver plug to the 4 pole connector in the Black Box. Plug will only fit one way. Push the connectors together until it clicks (**Fig 34**).

Carefully place the new Wireless Receiver in the black plastic box. Close black box (**Fig 35**).

Press the buttons on the key fob to raise and lower the Rascal wheels.

Preinstalled 4 pole connector inside the Black Box.



Fig 32.

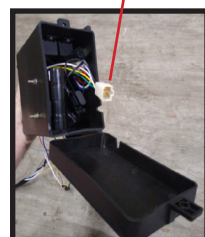


Fig 33.

Gently place the new Wireless Receiver in the black plastic box.

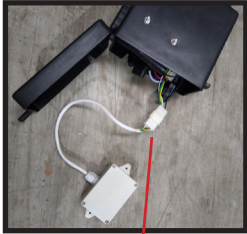


Fig 34.

Plug the connectors together until it clicks.



Fig 35.

KIT: MINI BOX BLADE W/SERRATED BLADE

The Mini Box Blade w/Serrated Blade kit attaches to the Finish Rake and is used to brake up and move material as well as loosen rocks. It helps level out high and low spots.

To attach the Mini Box Blade assembly to the Rascal, Unscrew and remove the two wing nuts and remove the two T-clamp plates (Fig 36).

Slide the Mini Box Blade assembly under the Finish rake so that the bolts the wing nut threads onto is in the second comb slot from the end of the comb (Fig 37 and 38).

Lower the unit onto the Mini Box Blade assembly by cranking the front wheel jack counterclockwise (Fig 39).

Replace T-Clamp plates and tighten wing nuts back onto both bolts (Fig 40).

Use the closed end of a box wrench large enough to fit over one wing of the wing nut to use as leverage to tighten the wing nut tighter (Fig 41).

The unit is now ready to use as a mini box blade. The End plates (Fig 42) will keep the material within the blade area to help move the material from high spots and fill in low spots.

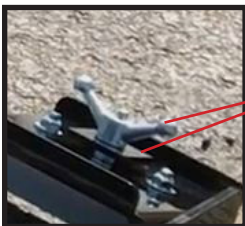


Fig 36.

Remove wing nut and T-Clamp plate from both ends.



Fig 37.



Fig 38.

Slide Mini Box Blade assembly under Finish Rake so that the bolts that T-Clamp plate and wing nut go onto slides in second slot from comb end on both ends.



Fig 39.

Crank wheel jack counterclockwise to lower finish rake onto Mini Box Blade assembly.



Fig 40.

Replace T-Clamp plates and tighten wing nuts back onto both bolts.



Fig 41.

Use the closed end of a box wrench large enough to fit over one wing of the wing nut to use as leverage to tighten the wing nut tighter.



Fig 42.

The End plates keep the material within the blade area to help move the material from high spots and fill in low spots.

Options (cont'd)

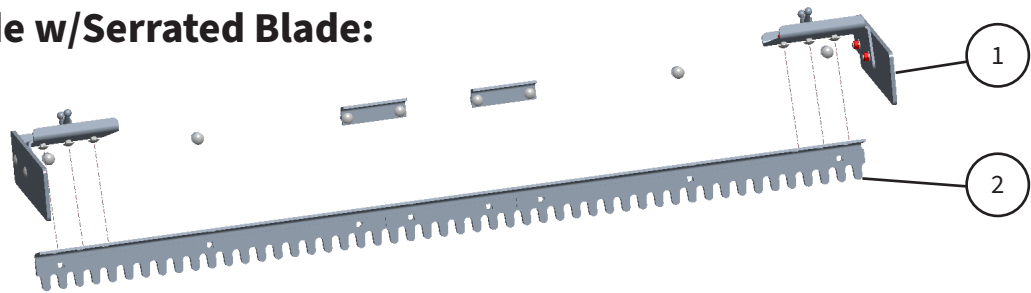
KIT: Mini Box Blade w/Serrated Blade:

4.5 - 10-99028

5.5 - 10-99032

6.5 - 10-99034

7.5 - 10-99036



ITEM	PART #	DESCRIPTION
1	10-90132	ASM: HARDWARE KIT AND ENDS: 4.5
1	10-90343	ASM: HARDWARE KIT AND ENDS: 5.5
1	10-90134	ASM: HARDWARE KIT AND ENDS: 6.5
1	10-90135	ASM: HARDWARE KIT AND ENDS: 7.5
2	10-90136	KIT: TOOTHED BLADE: 4.5
2	10-90137	KIT: TOOTHED BLADE: 5.5
2	10-90138	KIT: TOOTHED BLADE: 6.5
2	10-90139	KIT: TOOTHED BLADE: 7.5

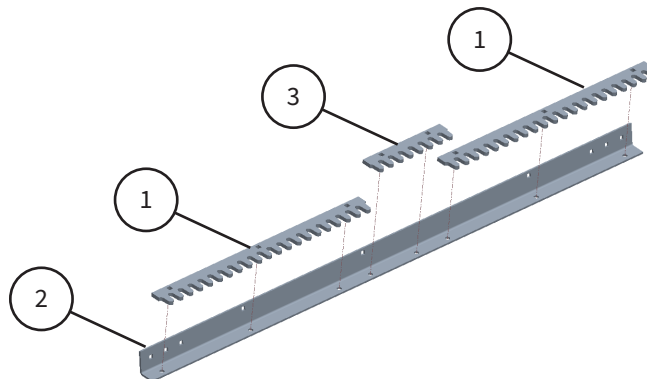
KIT: TOOTHED BLADE:

4.5 - 10-90136

5.5 - 10-90137

6.5 - 10-90138

7.5 - 10-90139



ITEM	PART #	DESCRIPTION
1	10-31179	PLATE: 26" SIFTING BLADE:FINISH BLADE: 4.5
1	10-30871	PLATE: 32" SIFTING BLADE:FINISH BLADE: 5.5/6.5/7.5
2	10-30906	ANGLE: GRADE BLADE FRM: 4.5 RASCAL
2	10-30907	ANGLE: GRADE BLADE FRM: 5.5 RASCAL
2	10-30908	ANGLE: GRADE BLADE FRM: 6.5 RASCAL
3	10-30914	PLATE: 12" SIFTING BLADE:FINISH BLADE: 6.5/7.5

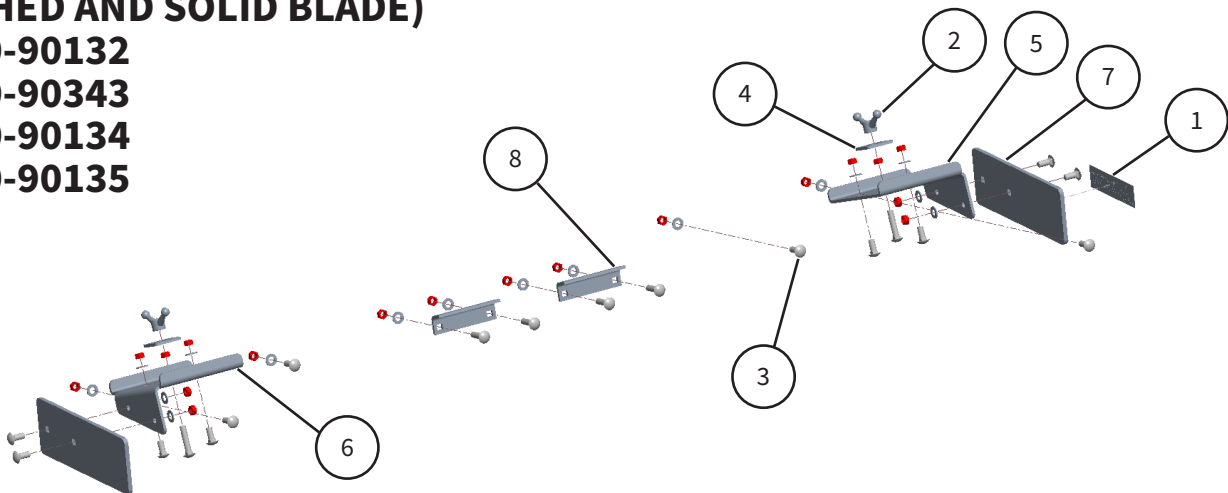
ASM: HARDWARE KIT AND ENDS: (TOOTHED AND SOLID BLADE)

4.5 - 10-90132

5.5 - 10-90343

6.5 - 10-90134

7.5 - 10-90135



ITEM	PART #	DESCRIPTION
1	10-10657	LBL: ABI: CONTACT INFO: TEXTURED TOOLS: 4.5/5.5/6.5/7.5
2	10-20212	WING NUT: 1/2"-13: ZINC: 4.5/5.5/6.5/7.5
3	10-20340	RASCAL MINI BOX BLADE HARDWARE PACKET: 4.5
3	10-20338	RASCAL MINI BOX BLADE HARDWARE PACKET: 5.5
3	10-20341	RASCAL MINI BOX BLADE HARDWARE PACKET: 6.5
3	10-20434	RASCAL MINI BOX BLADE HARDWARE PACKET: 7.5
4	10-30843	PLATE:T-CLAMP:FORCE: 4.5/5.5/6.5/7.5
5	10-30904	BRKT:LH FRM END:GRADING BOX: 4.5/5.5/6.5/7.5
6	10-30905	BRKT:RH FRM END:GRADING BLADE: 4.5/5.5/6.5/7.5
7	10-30910	PLATE:CONTAINMENT:RASCAL FORCE: 4.5/5.5/6.5/7.5
8	10-30911	PLATE:BLADE SUPPT:RASCAL FORCE: 4.5/5.5/6.5/7.5

Options (cont'd)

KIT: MINI BOX BLADE W/SOLID BLADE

The Mini Box Blade w/Solid Blade kit attaches to the Finish Rake and is used to move material from high spots and fill in low spots.

To attach the Mini Box Blade to the Rascal, Unscrew and remove the two wing nuts and remove the two T-clamp plates (**Fig 43**).

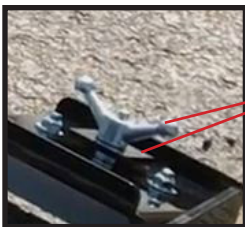
Slide the Mini Box Blade assembly under the Finish rake so that the bolts the wing nut threads onto is in the second comb slot from the end of the comb (**Fig 44 and 45**).

Lower the unit onto the Mini Box Blade assembly by cranking the front wheel jack counterclockwise (**Fig 46**).

Replace T-Clamp plates and tighten wing nuts back onto both bolts (**Fig 47**).

Use the closed end of a box wrench large enough to fit over one wing of the wing nut to use as leverage to tighten the wing nut tighter (**Fig 48**).

The unit is now ready to use as a mini box blade. The End plates (**Fig 49**) keep the material within the blade area to help move the material from high spots and fill in low spots.



Remove wing nut and T-Clamp plate from both ends.

Fig 43.



Fig 44.



Fig 45.

Slide Mini Box Blade assembly under Finish Rake so that the bolts that T-Clamp plate and wing nut go onto slides in second slot from comb end on both ends.



Fig 46.

Crank wheel jack counterclockwise to lower finish rake onto Mini Box Blade assembly.



Fig 47.

Replace T-Clamp plates and tighten wing nuts back onto both bolts.



Fig 48.

Use the closed end of a box wrench large enough to fit over one wing of the wing nut to use as leverage to tighten the wing nut tighter.



Fig 49.

The End plates keep the material within the blade area to help move the material from high spots and fill in low spots.

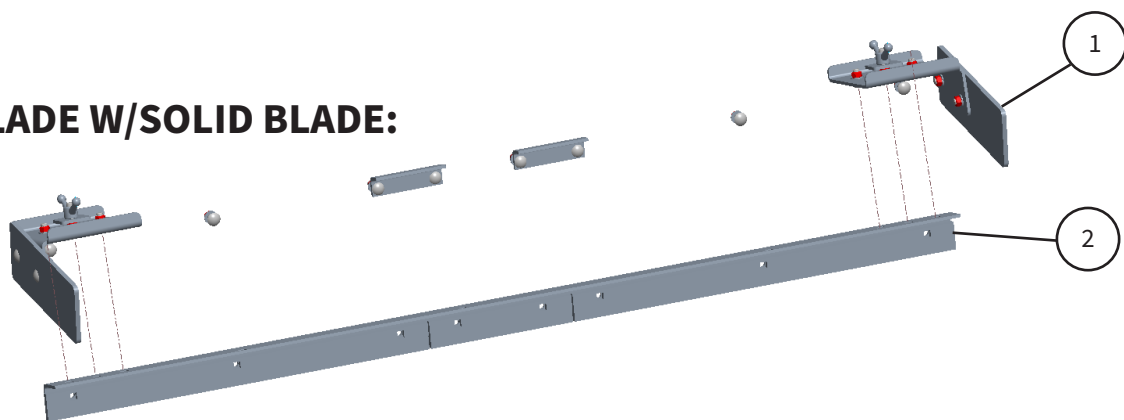
KIT: MINI BOX BLADE W/SOLID BLADE:

4.5 - 10-99027

5.5 - 10-99031

6.5 - 10-99033

7.5 - 10-99035



ITEM	PART #	DESCRIPTION
1	10-90132	ASM: HARDWARE KIT AND ENDS: 4.5
1	10-90343	ASM: HARDWARE KIT AND ENDS: 5.5
1	10-90134	ASM: HARDWARE KIT AND ENDS: 6.5
1	10-90135	ASM: HARDWARE KIT AND ENDS: 7.5
2	10-90140	KIT: STRAIGHT BLADE: 4.5
2	10-90337	KIT: STRAIGHT BLADE: 5.5
2	10-90142	KIT: STRAIGHT BLADE: 6.5
2	10-90143	KIT: STRAIGHT BLADE: 7.5

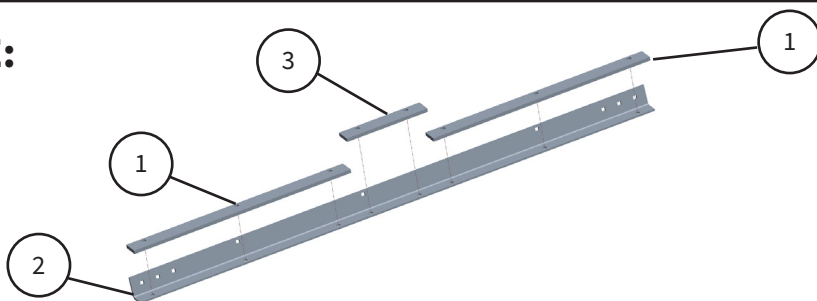
KIT: SOLID STRAIGHT BLADE:

4.5 - 10-90140

5.5 - 10-90337

6.5 - 10-90142

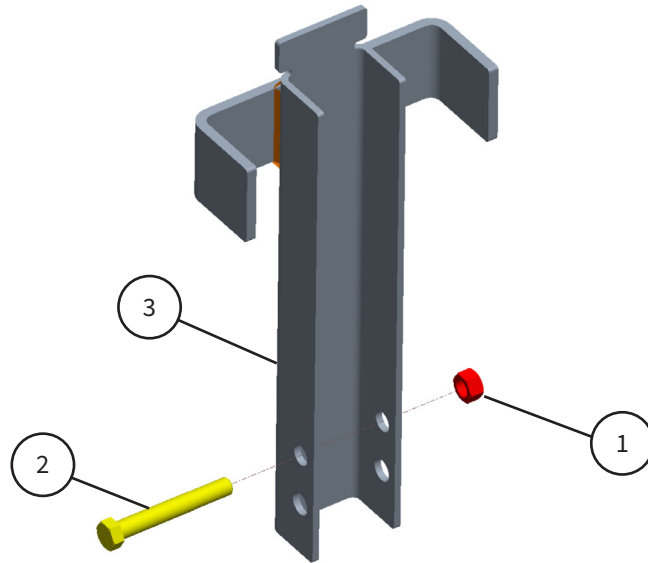
7.5 - 10-90143



ITEM	PART #	DESCRIPTION
1	10-30917	PLATE: 26" SOLID BLADE: FINISH BLADE: 4.5
1	10-30870	PLATE: 32" SOLID BLADE: FINISH BLADE: 5.5/6.5/7.5
2	10-30906	ANGLE: GRADE BLADE FRM: 4.5
2	10-30907	ANGLE: GRADE BLADE FRM: 5.5
2	10-30908	ANGLE: GRADE BLADE FRM: 6.5
2	10-30909	ANGLE: GRADE BLADE FRM: 7.5
3	10-30916	PLATE: 12" SOLID BLADE: FINISH BLADE: 6.5/7.5

Options (cont'd)

10-90580 KIT: WEIGHT SUPPORT BRACKET



ITEM	PART #	DESCRIPTION
1	10-20209	NYLOCK NUT: 5/8-11: ZINC CL
2	10-20306	HX HD BOLT: 5/8-11 X 4.5": ZINC GR8
3	10-40032	BRKT: WEIGHT AND DRAGMAT: RASCAL

If adding weight to the Rascal Unit is desired to sink deeper into the material, 10-90580 KIT: WEIGHT SUPPORT BRACKET is available.

This can be mounted to the Rascal by pulling the pin (or bolt) out of the upright brackets welded to the tube weldment that the topline mounts to above the finish rake. Slide the weight bracket onto the upright brackets with the top holes in the weight bracket in line with the top holes in the upright brackets. The lower holes in the weight bracket will line up with the lower holes in the upright brackets (**Fig 50A and 50B**). Re-insert the pin thru the weight bracket, upright brackets and topline as before. Slide the 5/8-11 Hex bolt supplied with the weight bracket (a 5/8" diameter pin can be used as well) thru the second hole in the weight bracket and upright brackets then thread locknut onto bolt and tighten using 15/16" wrenches or socket set (**Fig 51**).

(2) 40 LB weights (P/N R66949) can be purchased from a local tractor dealership or online and mounted onto the optional weight kit (as shown in **Fig 52**).

P/N R66949 weight



Fig 50A.



Fig 50B.

Upright Brackets that are welded to the tube weldment above the finish rake.



Fig 51.

10-90580 Weight Bracket Kit.



Fig 52.

P/N R66949 weights.

10-90490 KIT: LEFT FOOD PLOT DISC 10-90491 KIT: RIGHT FOOD PLOT DISC

To install Left (10-90490) and Right (10-90491) Discs:

1. Grab tongue of unit and flip unit over backward so it sits on rake with tongue vertically upward (recommend 2 people to lift). Remove pins and Profile Blades or Scarifiers (as shown in **Fig 53**).
2. Slide Left Discs (10-90490) into pockets on left side of unit and Right Discs (10-90491) into pockets on right side of unit (see **Fig 54**).
 - Recommend pinning hole in disc shank closest to disc into lowest hole in pocket (farthest from main frame) (**Fig 54** and **Fig 55**).
 - Disc shanks must be slid into every other pocket with the shanks toward the inside and the discs facing outwards of the unit so the discs will push the soil outward (**Fig 54** and **Fig 55**).
3. Raise Wheels all the way up during disc operation. Lower wheels when transporting unit.

NOTE:

Not compatible with Rascal LGR or Infield Rascal Pro Models.

Number of Disc required:

- 4.5' Rascal uses (1) Left Disc and (1) Right Disc (~3.6' working width)
- 5.5' Rascal uses (2) Left Discs and (2) Right Discs (~4.8' working width)
- 6.5' Rascal uses (2) Left Discs and (2) Right Discs (~4.8' working width)
- 7.5' Rascal uses (2) Left Discs and (2) Right Discs (~4.8' working width)

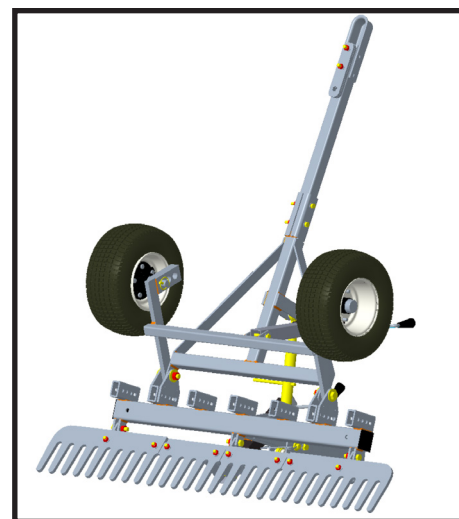
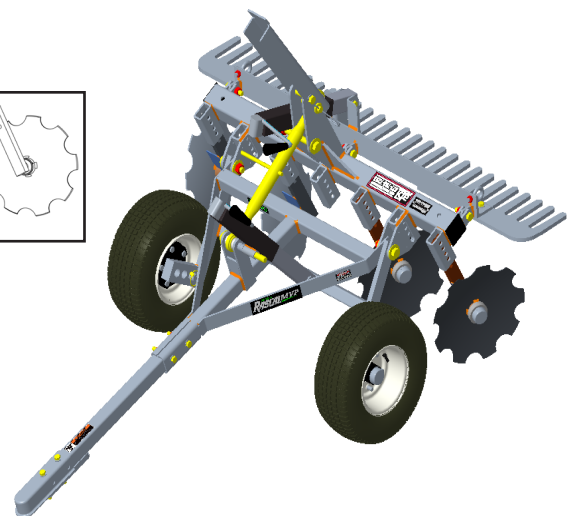
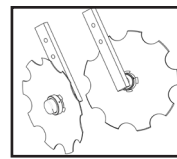


Fig 53

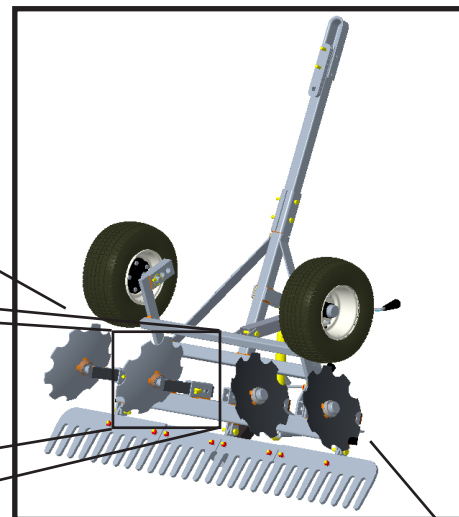


Fig 54

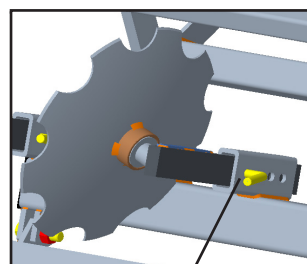


Fig 55

Right side of unit

Left side of unit

Pin disc Shank in lowest pocket hole mounted so that the disc shank is toward the inside of the unit and the disc is facing outward.

Troubleshooting & FAQs

Pinning Scarifiers or Profile Blades to the Rascal

When pinning the scarifiers or profile blades to the Rascal, clip the Lynch pin from the bottom up so rocks and debris don't cause the Lynch pin to be knocked off and lose a Bent pin and scarifier or possibly damage profile blade (**Fig 56**).



Fig 56.

Marking the wheel Jack for a particular depth

Once the Rascal has been setup for a particular depth, use a marker to mark that depth on the non-painted portion of the wheel jack. After using the Rascal for other jobs at different depths and it's time to set the height again for a previous setting, just crank the wheel jack until the bottom of the black portion of the wheel jack lines up with the mark to avoid the time it takes to go thru the setup procedure. (**Fig 57**).



Fig 57.

Troubleshooting electrical and mechanical issues with Electric Actuator.

Refer to the video links below if the Electrical Actuator is not functioning properly.

<https://www.youtube.com/watch?v=SEhCApqXQIY>

https://www.youtube.com/watch?v=j2K_guT1zo8

NOTE: TO AVOID ELECTRICAL DAMAGE TO THE UNIT BY SPLICING THE RASCAL WIRE HARNESS INTO THE TOW VEHICLE WIRING SYSTEM AND POSSIBLY REVERSING THE WIRES, OR THE TOW VEHICLE HAVING A POSITIVE GROUND RELAY SYSTEM, CONNECT THE WIRING HARNESS DIRECTLY TO THE TOW VEHICLE BATTERY (BLACK TO GROUND AND RED TO POSITIVE).

Maintenance

Wheels and Hubs

Make sure to check the pressure in the tires to ensure they are properly inflated. If the tires look to be low on air, fill them until they reach the manufacturer's suggested PSI. The proper PSI for the tire can be located on the side wall of the tire.

General information on the PSI for the Rascal tires:

4-ply Rascal Tire: 45 PSI

2-ply Rascal Tire: 50-60 PSI

Information on the ply of the tire can be found on the side wall of the tire.

Be sure to grease the hubs, either using a grease gun or by manually packing the bearings every 2-3 months, or more frequently for high volume use of the Rascal. The hubs will also need to be greased before any period of storage and prior to use after a period of storage.

Cleaning the Rascal

Clean the Rascal using soap and water as needed. Avoid using any strong chemicals as it may damage the paint on the Rascal. A pressure washer may be used to remove built up material on the Rascal. If using a pressure washer, be sure to stand away from the Rascal as the pressure may remove paint from the Rascal. If cleaning the Rascal with the optional electric actuator attachment, do not spray water directly on the wiring harness or control box. This may damage the electric actuator, control box, or wiring harness.

Removing Rust from the Rascal/Paint Touch Up

Remove rust from the Rascal using a wire brush or piece of fine sand paper. Wash area with soap and water, rinse, and allow area to dry. Spray the area with a rust inhibiting spray paint and allow to dry before use. If desired, a primer can be used before painting the surface with the finished color. Black semi-gloss or gloss spray paint may be used.

Checking Hardware

Before each use, check to make sure none of the attaching hardware on the Rascal is loose or damaged (i.e. nuts, bolts, pins). If any is found to be loose, make sure it is properly secured or tightened prior to using the Rascal. If hardware is damaged, replace it prior to operation. All hardware on the Rascal is standard SAE Grade 5 hardware.

TopLink

Be sure to keep the threaded bolts on your topline greased so they do not seize over time.

Finish Rake

Occasionally over the life of the tool, there may be a bent finger on the finish rake. If this occurs, place a pipe over the bent finger and use the pipe to straighten the finger back out.

Foot Notes

[illegible]

Contact Information

ABI Attachments, Inc
520 S. Byrkit Ave.
Mishawaka, IN 46544

Customer Support

Email: support@abiattachments.com
Phone: 877-788-7253
Website: www.abisupport.com

To order parts or to speak to one of ABI's Customer Service Representatives contact us Monday to Friday 9am to 5pm EST.

The setup video for operation is available at abisupport.com under Rascal Arena Pro and Gravel Pro or by following this link: <https://www.abiattachments.com/guides/rascal-product-manual/>

For additional information on the use or setup of the Rascal Arena Pro and Gravel Pro, please contact the ABI customer support team at 855.211.0598.

Additional support videos are available at the ABI support page (abisupport.com) under each tool.

Warranty Information and Return Policy - Warranty and return policy information can also be found on the ABI support page under each tool. For additional questions regarding warranty or return policy, contact the ABI customer support team at 855.211.0598.

