



TAG - Triton Arena Groomers

Introduction

Triton Arena Groomers provide just the equipment you need to keep riding surfaces in tip-top condition. Whether you are maintaining a show ring for a major horse event or you just want to keep your home exercise area smooth and level, our line of grooming equipment includes a groomer to suit your needs.



TAG 7 3-Point Hitch Arena Groomer in Action

Capabilities

- Leveling and conditioning the riding surface
- Loosening hard or compacted surfaces prior to smoothing out the surface
- Well controlled depth of cut to protect the subsurface or buried drainage pipes as the top or riding surface is reconditioned
- Breaking up lumps and clods
- Filling low spots, moving surface material to fill ruts and riding tracks
- Retrieving surface material from under rails, against arena walls and from the corners of the arena
- Spreading and leveling newly added material
- Work well with all surface types: sand, clay, dirt, gravel, crushed rock or concrete, mulch, peat, and synthetic surfaces
- Watering - keeps the dust down, helps prevent cracks in clay surfaces, controls the texture of the footing

- Dragging - Final step to leave a picture perfect surface

Our smaller groomers can be towed behind almost any lawn or garden tractor, ATV, UTV, or 4-wheeler while our larger units mount on a standard 3-point hitch. Triton equipment is easy to operate and lets you obtain first class results in the least amount of time.

Two features that set all Triton groomers apart from others are:



TAG 4 Tow-Behind Arena Groomer

- The ability to reach into tight spaces such as the sharp corner of a dressage arena or underneath a show jump without dismounting from the tractor, and
- The capability of our blades to move material, level the surface, and smooth out lumps without digging in or creating a washboard surface without any special operator skills.

Features Common to All Groomers



Single Tine

The most critical operations in preparing an arena include breaking up compacted dirt (the primary function of the tine assembly), moving dirt from wherever it has been thrown by horses' hooves to the desired location, and leveling and conditioning the surface (all functions of the blade).

Tine Assembly

Each tine is an Italian spring steel finger with a replaceable steel tip. Each tine can spring back if necessary to avoid damage should a

hidden obstruction such as a tree root, buried rock or drainage pipe be encountered. When the groomer is backed up, the tines will ride up over the surface, ready to cut again when forward motion is resumed.

The tine assembly consists of a row or gang of individual tines mounted on 6" centers to an adjustable frame. A groomer with a nominal 4' width, TAG 4, has a total of 9 tines, and so on for larger groomers. TAG 5 has 11 tines and is 5' wide. TAG 6 has 13 tines and is 6' wide. The nominal blade size is a full 12" wider than the gang of tines.



TAG 4 Tine Frame Assembly

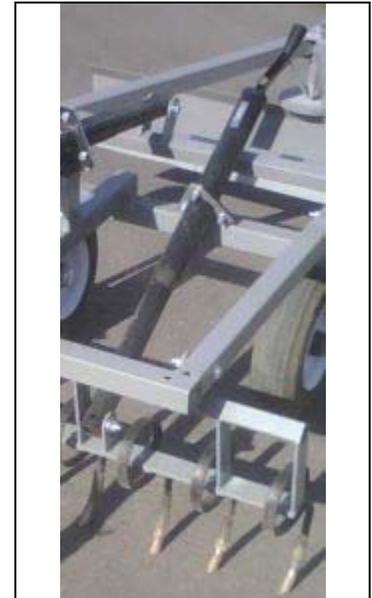
The gang frame complete with tines is connected to the main frame of the groomer at two pivot points. In the vertical position, the tines can penetrate about 6" into the arena surface, which is only practical for soft surfaces. The penetration can be reduced as appropriate when working more heavily compacted materials (1" to 1 1/2" is a practical working depth) or if the tow vehicle does not have sufficient weight

to provide enough traction. The tines can be raised well clear of the surface if no digging is needed and for transport of the groomer.

The tips of the tines are reversible and replaceable. Tips should be reversed or interchanged to keep the wear pattern even. Eventually, the tips should be replaced before the spring steel of the tine contacts the ground and starts to wear. Tines are also individually replaceable should one become damaged or lost.

Tine Adjustment

A screw adjustment is provided for the tine gang frame. The tine jack screw is an industrial quality trailer jack with easy hand crank operation. The flexible nature of the tines allows the user to set the required depth with the groomer stationary. The tines may be lowered until the tips reach ground level. Each additional full turn of the crank corresponds to about 1/4" depth of cut. As soon as the groomer is set into motion, the tines will penetrate to the preset depth.



TAG 4 Tine Jack Screw

Blade



TAG 4 Blade and Pivot Mechanism

The blade is nominally one foot wider than the width of the tines and is the critical component helping to produce a smooth even surface with a minimum of time and effort. Blade width is important both to make sure the full width of the cuts made by the tines is smoothed out and to allow the blade to reach to the extreme edge of the arena and into the corners to retrieve the material that inevitably is kicked there by the horses.

The shape or cross section of the blade is important. The blade is basically a flat surface, formed from cold rolled steel for greater strength, and reinforced with a flange at the top and bottom and a welded triangular box section brace at the bottom. As the blade is dragged across the loose dirt, material is picked up from the high spots and dragged, and material is deposited in the low spots. Excess material moves along, ahead of the blade.

Unlike the scoop on a front end loader or a dozer blade, there is no tendency for the blade to dig in and possibly create a washboard surface. The forward slope of the blade tends to ride up over lumps or clods, crushing them, and leaving behind a nearly level surface with far fewer large clumps.

Rotation of the blade is important in helping move material back into the arena from the edges and in helping redistribute freshly delivered surface material.

For the tow-behind groomers, the blade can be rotated about a vertical axis and locked into position by a captive pin. Five positions are offered: +30, +15, 0, -15 and -30 degrees relative to the center or straight across position, for a total range of adjustment of 60 degrees.

For the larger groomers with a 3-point hitch, the attachment to the tractor allows the whole groomer to be rotated through a similar range of angles.

Features Specific to the Tow-Behind Groomers

Adjustable Hitch

The TAG 4, TAG 5 and TAG 6 tow-behind arena groomers are fitted with an adjustable hitch and a removable tongue. The hitch adjustment is made match the height of the draw bar of a particular tow vehicle, and is used to set the frame of the groomer level with the blade up and the wheels in their lowest position. This adjustment only needs changing when you use a different tow vehicle with a significant difference in draw bar height.

The hitch fits directly over the draw bar or rear frame extension found on lawn and garden tractors, the draw bar of a 3-point hitch, or the bumper hitch formed into some truck rear bumpers. For vehicles with a hitch receiver but no bumper hitch, insert a conventional ball mount (without the ball). Some receiver hitches have holes intended for safety chains that can be used for the groomer hitch without the use of any ball mount. Most Sport Utility Vehicles, All Terrain Vehicles, 4-wheelers and tractors make excellent tow vehicles. Generally smaller size groomers are selected for use with light duty tractors or for smaller arenas while larger size groomers provide faster results and can take advantage of a more powerful tractor.



View of the Adjustable Hitch

Removable Tongue

The tongue (the square tube member connecting the hitch to the main frame of the groomer) is removable. It fits inside a slot in the main groomer frame and is secured with a spring loaded pin (no tools required). The hitch and tongue may be removed for storage or for shipment. This ability to remove the tongue and the edge guide (all tools free), is one of the factors leading to reduced shipping cost.

Road Wheels

The tow-behind arena groomers ride on tubeless tires mounted on steel wheels. The tires and wheels are suitable for highway use, and may be removed if desired for storage or for shipment. Wheel bearings are sealed automotive-style tapered bearings for low maintenance and long life.



Road Wheels

Universal Frame

All the tow-behind arena groomers employ the same universal frame and the same industrial trailer style cranks to operate the tines and the blade. This allows a low cost upgrade from TAG 4 to TAG 5 or TAG 6 simply by replacing the original blade with a larger size and by replacing the frame holding the tines and adding two tines per extra foot of width.

The frame is manufactured from heavy gauge steel tube with solid welded joints. Each welded part is hot dip galvanized inside and out to provide the maximum protection against rust and corrosion with no need for paint and to ensure great appearance over years of hard use.

Secondary Hitch

The frame has a hitch mounted at the rear (above the pivot mechanism for the blade), suitable for pulling another trailer, typically a water trolley such as the TAG 55 or TAG125, to allow moisture control at the same time the blade smooths out the riding surface.

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Secondary Hitch

Blade Adjustment



Blade Depth Adjustment Jack Screw

The blade is lowered on a tow-behind groomer by adjusting the position of the wheels. The blade jack screw is an industrial quality trailer jack with easy hand crank operation.

The picture at left shows the jack screw at top left, mounted to the main frame (the triangular feature near top center). As the screw is adjusted, the sub-frame carrying the wheels is rotated, raising the wheels and lowering the blade. One side of the sub-frame with one pivot point and one wheel is shown at the right of the picture.

Typically, the adjustable hitch allows for various draw bar heights. The wheels are raised to set the blade down to give the blade enough bite (to drag sufficient surface material to obtain the desired degree of leveling action). The gang of tines is lowered to give the desired depth of cut or scarifying action. To move the groomer out of the arena, it is usually sufficient just to lower the wheels, but we recommend raising the gang of tines for highway towing and for storage.

Leveling a newly built arena may require several passes in all directions. Resurfacing or grooming an existing arena is often accomplished with a single pass.

Edge Guide, Guide Wheel

Tow-behind groomers have edge guide options, useful for positioning the blade accurately next to the edge of an arena. The standard guide is a guide bar and the optional guide is a wheel. The guide may be mounted on either side of the groomer.

The picture at right shows a TAG 4 rear view with the optional guide wheel. The guide wheel rotates about a vertical axis and has a rubber tire. When the groomer is towed clockwise around the edge of an arena, the guide wheel can be allowed to contact the arena wall to provide a precise guide for the groomer, following the wall accurately. When the groomer (set up as shown) is towed counter clockwise, the guide wheel has no effect.



Rear View of TAG 4

The arm holding the guide wheel is removable and is secured with a spring loaded pin. It is interchangeable with the standard edge guide. The standard edge guide (not illustrated) is a horizontal square tube, with the end sections gently angled in towards the centerline of the groomer. This guide is better suited to an arena with post and rail fencing, where the standard edge guide can be allowed to contact the posts to guide the groomer.

Features Specific to the 3-Point Hitch Groomers

Our larger groomers, TAG 7 and TAG 9 mount on a standard tractor 3-point hitch. The increased width of the implement and the higher ground speeds possible with full size tractors greatly cut down the time required for a specific task. TAG 7 has 15 tines and an 8' blade while TAG 9 has 19 tines and a nominal 10' blade.



Side View, Set to 0 degrees

Rear View, Set to 30 degrees

TAG 7 3-point Hitch Showing the Angle Adjustment Mechanism

Blade Adjustment

The whole groomer including the tines and blade can be set at an angle of +30, +15, 0, -15 and -30 degrees relative to the center or straight across position by positioning a pin in the sector plate, illustrated at right.

The 3-point hitch mechanism of the tractor can raise the entire groomer, both tines and blade. The groomer has individual depth adjustments for the tines and for the blades.

The blade adjustment is shown at left. The two blade hangers (welded to the blade) pivot at the main groomer frame. Corresponding adjustable links can be positioned to set the blade angle and height as desired.

Typically this will be a one-time setup adjustment to match the groomer blade to the height and hitch dimensions of the tractor. Final adjustments to the height of the blade can be made at the hitch on the tractor, usually by adjusting the top link.



TAG 7 Blade Adjustment

Tines Adjustment

The tines are the same spring steel fingers with a replaceable steel tips used on the tow-behind groomers, individually mounted to a frame (tine gang) that is pivoted just below the main frame of the groomer. In the illustration at right, one of the two pivot points is visible at top right.

The position of the frame and the depth of cut are adjusted using the tine jack screw, an industrial quality trailer jack with easy hand crank operation, just like the smaller groomers. The jack screw is visible at left in the illustration.



TAG 7 Tines Adjustment

Groomers in Use

Here are pictures of a TAG 7 working a recently plowed field. Note that for best results starting from a crop or pasture field, plow and disk the field to break up roots and remove vegetation before using the groomer.



TAG 7 Grooming with the Blade at 30 degrees



TAG 7 Grooming with the Blade at 0 degrees

Water Applicators

With most riding surfaces, moisture level is important. Too much moisture such as from a heavy rainstorm can cause erosion, puddles and a surface too soft to ride on. While good drainage and a roof can help, time for drying may be required. At the other extreme, too little moisture can also result in problems including a surface too hard to ride on, excessive dust, or formation of deep cracks in the ground. Triton offers water applicators to help solve the latter problems.

		
<p>TAG 125 Water Applicator</p>	<p>TAG 55 Water Applicator</p>	<p>125 Gallon Tank Mounted on TAG 7</p>

Optional Mesh Drag

Triton offers a mesh drag you can pull behind our Water Applicators. This will produce a finer surface finish than the basic groomer and has little ability to move any significant amount of surface material. It does a nice job of covering up the tire marks from the Water Applicators.

		
<p>TAG D Mesh Drag</p>	<p>TAG 125 with optional TAG D</p>	<p>TAG 55 with optional TAG D</p>

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