





# Different Mower Options

IMPROVE LOOKS WHILE INCREASING PRODUCTIVITY

by Scott Sweeney

Rolling hills, grand buildings, lush grass and stately trees are what everyone thinks about when the vision of a college campus comes to mind: students studying in a small group on a blanket laid out on the quad or gathered on a hill to watch a baseball game.

The grass is always green and cut smoothly. Everyone thinks about those images, but only a few people think about the work involved in creating these pristine grounds, aside from the team who work to make the grounds look beautiful and keep them that way. When it comes to taking care of turf that is hard to mow or an area that really needs a makeover, there are a couple of interesting pieces of equipment that address those needs.

### Hillsides and Pond Banks

Hillsides are traditionally hard areas to mow if they are too steep for riding or traditional walk-behind mowers. Sacrificing safety to try and mow slopes with a ride-on can lead to damaged machines and injured workers. The traditional remedy is sending out a group of workers with a fleet of string trimmers and living with the patchwork look that is generally the result. However, there is a solution that is over 40 years old but still largely unknown in the United States—Hover Mowers. As the name implies, this is a mower that hovers over the ground so the operator can swing the

machine side to side on slopes and cover large areas of ground leaving a smooth, mower-finish behind.

### How They Work

Hover mowers of all makes and sizes work in the same basic manner: a one-sided impeller under a solid deck spins, which sucks air in from the space between the engine and the deck, and then a large portion of the air is pushed out underneath from the outer edge. This lifts the mower off the ground and allows for free movement. The air that is not in the flow going out from under the deck is trapped under the swinging blades; as it tries to reach the faster moving air above, it lifts the grass for a smooth mower like cut.

### Shapes and Sizes

There are only a few manufacturers of hover mowers world-wide—Air Force Hover Mowers, Eastman Hover Mowers and Toro—and these builders offer sizes from 16” wide to 21” wide. The 19” machines are the most popular and generally offer the best power to

weight ratios available. The power to weight ratio is important because if the hover mower is using all of the engine power just to get the machine to float, then that leaves very little power left over for cutting. The best formula for finding which machine floats the best and offers the most power is to find the largest engine on the lightest deck with the tallest impeller. The taller the impeller, the more air flow and the better the machine will operate. It is also important to look for strong handles, reinforced handles and engine mounts.

### Safety and Operation

Operating any piece of equipment on a hillside increases the need for proper safety awareness, and hover mowers are no different. The first step is to insure that all workers have the right protective footwear as well as eye and ear protection. All modern hover mowers are equipped with Operator Presence Control handles, and the larger machines have blade breaks. Also, some machines use a flail-style swing blade that gives a bar-blade-like cut while keeping operator safety at the forefront.



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## Engines

Current EPA and CARB requirements have made it so Honda is the only supplier of engines that work in this application. These engines are actually mounted in reverse so that when the hover mower is sent down a hill, the oil flows into the main sump to provide ongoing lubrication. The fuel tank is below the carburetor, but a mechanical fuel pump solves that problem.

## Uses

Perhaps the best thing about hover mowers is that they can do most anything a traditional walk-behind mower can do (except bag grass) and many things that a traditional mower can't do. Hover mowers are excellent for hillsides of any type and also lake and/or pond banks, drainage areas, getting under structures or between buildings/shrubs/fence lines as well as mowing areas that are too wet for traditional wheeled mowers. Since the hover mower floats across the top of the turf, it leaves no wheelmarks behind. Hover mowers were first introduced to the market back in the early 1970's



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and have gone through only a few changes since their inception. Materials, components, and handles have all changed, but the physics of how they work have always stayed the same. So, take a step back and a step forward all at the same time, and look to the hover mower to save time, increase efficiency and make a hard job easier.

### Lipstick on an Infield?

Switching gears from tackling a tough job to dressing up the drab. How can you differentiate your field from the others in your league in the limited time and resources that all sports field managers fight? How can you

dress up a particular area for an important event, like graduation, an important alumni event or perhaps Homecoming? Most of the time there is just enough energy and budget to make sure the field and facilities are playable and certain areas are just presentable.

### Looking Good

Luckily, there is a machine that allows for dressing up the infield and any other areas that need a little extra attention in a fast and easy manner. It also combines the dramatic striped look usually reserved for reel mower (expensive and hard to maintain) with the lower cost and ease of use and maintenance from a rotary.

The mower with these capabilities is called a Rear Roller Rotary mower. Remember how the mullet hair cut was all business up front and a party in the back? The Rear Roller Rotary looks like a regular wheeled mower up front but hides a stripe-inducing roller under the deck in the back.

### How They Work

By designing a rotary mower around the rear roller, designers made this feature an integral part of the machine instead of an after-market accessory. The principle is an integrated rear roller designed to fit inside the footprint of the deck allowing the cutting blade to get closer to the ground, and angling the blade slightly keeps the blade from making swirling marks when cutting at that lower height. Striping is traditionally caused by the large roller underneath a reel mower—a machine that gives a great cut and stripe but is expensive to purchase and requires a lot of maintenance. However, the Rear Roller Rotary requires no more maintenance than a traditional wheeled rotary mower and generally a lot less than entry-level reel mowers.

### Who Makes Them?

There are two manufacturers now producing a walk-behind rotary mower with a built-in rear roller for striping and height of cut as low as 1/2". While there are some differences between the two manufacturers (Masport and Toro), both operate on the same principle. Both machines offer height of cut between 1/2" and 2 1/2" with single handle height of cut adjustment, and both are powered by a 190cc Briggs and Stratton engine. There are cost and feature differences, so just find out if the Masport Rotarola or the Toro Pro Stripe is right for the job on your campus.

### Differentiate Your Field

Striped turf is incredibly eye catching and the fastest way to differentiate your field from others. It doesn't take much longer to mow with these machines than any other walk behind, and yet it really changes the look.

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