

# Revolutionary Front-Mount Mower Deck Design

“It can cut closer around trees and under bushes than anything on the market,” says Lew Williams, who designed and built a totally new kind of deck for front-mount riding mowers. What makes it unique is that the caster wheels are underneath the deck – rather than out front – and the new-style mower blades rotate around them.

The prototype 54-in. deck mounts on a Deere zero-turn mower. The rider sets his feet on top of the deck, which is equipped with 3 spindles set in a triangular configuration, allowing 3 points of contact with the ground.

“The narrow front end allows mowing and trimming close to and in between obstacles, such as trees and bushes,” says Williams. “I can mow to within 1/4 in. of whatever I want to trim.”

For years, Williams worked as an independent consultant for the lawn and garden industry. Although intrigued by the zero-turn mowers on the market, he noticed they all had a major design flaw.

“The problem is the caster wheels are

out in front and in the way,” he says. “My design puts the caster wheels underneath the deck. My goal is to eliminate secondary trimming as much as possible. With the deck’s pointed front end I can mow right up to buildings or fences, or go under bushes or evergreen trees.”

Williams fitted the deck with new disc-type mower blades that rotate around each caster wheel. Each “cupped” mower disc is fitted with 2 swinging cutter blades that cut a solid swath across the width of the deck. The caster wheel spindles ride inside the blade spindles, which in turn rotate inside specially designed hubs.

Williams says the new deck design offers a lot of potential for front-mount mowers of any kind, including walk-behind mowers. “Although my particular deck has 3 spindles, the same spindle-caster wheel design could be used whether you have one blade or multiple blades,” he says.

Now that a U.S. patent has been issued for the caster spindle apparatus, he plans to offer purchase or licensing opportunities to



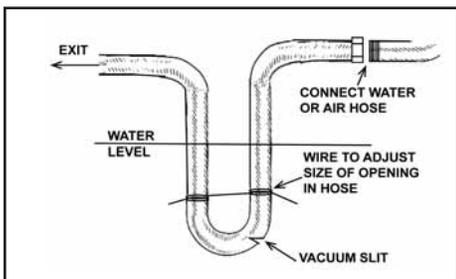
Front-mount mower deck is designed with the caster wheels underneath the deck – rather than out front – and new-style mower blades that rotate around them.



New mower can cut close to buildings and under trees and bushes. “I can mow to within 1/4 in. of whatever I want to trim,” says inventor Lew Williams.

manufacturing companies.

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As water or air is pumped through hose it creates a venturi effect, sucking water in through slit.

## Quick Way To Siphon Liquids

Ordinarily when you want to siphon water you have to use a pump to get it started. Sidney Stubbs came up with a simpler solution that lets him make use of an ordinary air or water hose.

He cuts a slit diagonally 2/3 of the way through a hose, then bends the hose and lays it down into the water to be siphoned. A wire is used to adjust the bend in the hose so the slit stays open enough to create vacuum. Then he pumps either water or air through the hose, which creates a venturi effect to suck water in through the slit.

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## How To Get Started In Aquaponics

If you’re interested in experimenting with aquaponics or ready to set up a commercial operation, FarmTek can help you design a system to fit your needs. Their systems come in 7 different sizes to produce fish and vegetables for your family or for sale.

“Most of our customers plan to market fish and produce from their aquaponics systems,” says Matt Denton, FarmTek. “They often create a small to medium size home system to learn with before upgrading to a commercial size.”

The GS Series Aquaponics System I is sized to produce as many as 650 heads of lettuce per year and 75 lbs. of fish. The 12 by 20-ft. system includes fish tanks, filters, float beds and pump. It’s priced at \$1,995.

Float beds are available in 4 to 50-ft. long configurations, 8 ft. wide. They consist of 16-ga. sq. steel pipe frames, 24-mil PolyMax liner and a 1 1/2-in. thick float surface. Prices start at \$549 for a 4 by 8-ft. bed, if ordered separately.

Systems are designed for producing lettuce but aren’t limited to that. “You can also incorporate peppers or tomatoes, but you need leafy greens to take out the excess nitrogen produced by the fish.”

Denton recommends tilapia for beginners. “They grow fast and tolerate swings in pH, temperature and water quality.”

One of the strengths FarmTek offers grow-



FarmTek can help you set up an aquaponics operation to produce fish and vegetables for your family or for sale.

ers is a strong support system. That includes information, training and reliable sources for tilapia.

“If people order a system from us, we can often send them and a significant other to school for free to learn how to use the system,” says Denton. “I often talk to customers every other day for the first week or two as they get set up.”

Denton suggests readers interested in an aquaculture system do the research first, not only on the relationship between plants and fish, but also on the local market for both. He also advises looking into energy resources such as solar and geothermal to help reduce costs.

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