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**STATE
OF THE
ENGINE
MARKET**

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Using Insights to Tackle Pressing Industry Pain Points

If you ask anyone in the landscape industry what's been the biggest challenge they've faced over the last few years, you may get a dozen different answers. Between stricter emissions regulations, labor shortages, pent-up demand and tightening margins, professional landscapers are navigating countless stressors while trying to maximize productivity and performance.

Because of all this, I'm incredibly proud Vanguard® is sponsoring this year's Lawn & Landscape 2022 State of the Engine Market research study. As a power solutions provider, Vanguard is no stranger to the challenges our industry is working to overcome. When setting out to solve any problem, knowledge, research and insights are among the most powerful tools.

We've heard from landscape business owners that crews are tasked with doing more work with less people. This means the equipment they deploy becomes an extension of their team. When a piece of equipment goes down, work will screech to a halt, upsetting the balance and efficiency landscape crews work so hard to perfect. Taking these insights from our customers into account, Vanguard has engineered innovations like the Vanguard Oil Guard™ System, which provides the industry's first 500-hour oil change interval resulting in more uptime.

Environmental regulations are another concern we know is keeping our customers up at night. While this trend seems to be rapidly unfolding, Vanguard has kept a close eye on it for years. Our

power application experts have been focused on bringing innovations to market that directly address emission concerns including combining electronic fuel injection (EFI) and electronic throttle control (ETC) technologies into a dynamic solution that provides smooth, consistent power while reducing fuel consumption.

Vanguard is also heavily investing in the development of reliable, rugged battery power. Drawing on years of industry research and customer feedback, Vanguard Commercial Battery Packs are engineered to meet the demanding needs of commercial turf applications. The battery pack's roll cage design delivers maximum protection and is tested to withstand harsh conditions including extreme temperatures, vibration and excessive moisture and dirt. Our battery and other low-emission solutions are going to help our customers and landscapers confidently plan within the ever-changing industry landscape.

Backed by Briggs & Stratton, we look forward to continuing to challenge conventions with progressive innovations while providing our customers with unparalleled power and support. Please enjoy the insights gathered in this report and know Vanguard is applying them to solve the industry's next great trial.

JEFF COAD

Vice President, Global Marketing and Product Management
Briggs & Stratton



MAKE A

POWER

STATEMENT.

Cut Downtime, Trim Costs and Edge Out the Competition with Vanguard®.

Vanguard's cutting-edge and easy-to-maintain engines are commercial turf pros' first choice to power their equipment. Smart innovations maximize productivity, giving you more power to mow tough terrain faster. And our exclusive Oil Guard™ System extends oil change intervals to 500 hours — saving you up to 60% on maintenance costs*. From heavy-duty zero turn riding mowers to commercial-grade blowers, Vanguard powers turf. Learn more at vanguardpower.com/engineerreport.

*Per season, per unit on oil maintenance. Savings calculated reflect a 500-hour season and does not include costs associated with downtime.



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Longevity and power ranked at the top of what readers said was most important when choosing a small engine.

Power up

From maintenance to hiring a mechanic, here's what to know about engines — what makes your business go.

by Kristen Hampshire

The engine is shot. But the mower is still in its prime and all of its other parts are working. Clayton Graham would typically replace the motor. “We have some mowers that are on their third engine,” says the president of Sundance Landscape Maintenance in Queen Creek, Ariz.

But the engine currently in the mower — and not working — is a scarce find, given supply chain challenges and shortages. “When we checked with our vendors, there was only one engine in the country that anyone could identify as a replacement,” he says.

“We could go with a different brand, but then would we need to retrofit it since everything is set up for the other engine? How different is it? Our mechanics are working on figuring that out now, including how much it would cost to retrofit—or

Survey results are based off approximately 100 respondents. Due to rounding, all numbers may not add to 100%.

What is your company's overall gross revenue for 2021?

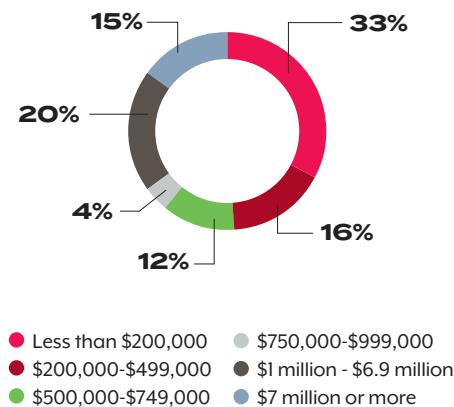
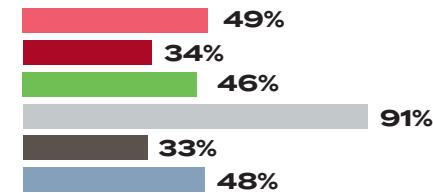


PHOTO © ALEK NICH | ADOBE STOCK

What services do you provide? Please choose all that apply.



- Design/build or landscape construction
- Irrigation installation or service
- Chemical lawn care
- Maintenance (mowing, trimming, pruning)
- Tree Care
- Snow and Ice

do we just part the mower out and buy a new one?”

In another instance, a mower went down and Graham took it into a machine shop to have the heads redrilled. “We rebuilt the motor because it was 2020 and getting a replacement was out of the question, but we had to keep the mower going,” he says.

Across industries, the cost of materials, parts, equipment and doing business in general has escalated during the last couple of years, and especially in recent months. “It seems like pricing has gone through the roof,” Graham says. “The motor we just got a quote on was \$3,300 and a few years ago I replaced an engine and it was like \$2,200.”

“And there are definitely supply chain issues,” Graham continues. “I needed a head for one of our edgers and it took almost a month to get that part in.”

Andrew Stachowiak has purchased new hand-held equipment rather than getting repairs because replacement parts were “few and far between,” says the owner of Seasons Change Services in Comstock Park, Mich.

From accessing engine parts to replacing motors and executing a maintenance schedule, Lawn & Landscape’s State of the Engine Market explores the ins and outs of running well-oiled machines.

PREVENTING HIGH MAINTENANCE. For warranted maintenance, Zack Rulli, owner of Dirt and Stone Landscaping in Newington, Conn., will send engines that require repair to a dealer. “Or, if it’s a situation where I do

PHOTO © AUREMAR | ADOBE STOCK

WISE BUYS

Is brand a big deal, and what do crewmembers think? Factor in these engine buying considerations.

THE ENGINE IS A PIVOTAL “PART” when selecting equipment for Dirt and Stone Landscaping in Newington, Conn. “I want something reliable, but not an engine that can only take certain parts from select places,” says Zack Rulli, who owns the business with his wife, Leigh. “If you need something in a pinch, at least you can run to a hardware store.”

Rulli also likes an engine with a track record. “I tend to stay away from brand-new engines that have no history yet,” he says, adding that if he knows that a certain brand’s engine tends to have an issue like the intake gasket breaking apart, he can prepare. He also considers ease of maintenance and parts replacement. In other words, how much “deconstructing” is required to make simple fixes? “It’s like changing the wiper blades on your car — you’re in, you’re out and good to go.”

Rulli does his homework. And he takes advantage of demo opportunities. “It’s about doing your research and going to open houses, demo days or trade shows to get your hands on the equipment so you can try it and see how it works for you,” he says. “I like to start it, run it, listen to it and also see how hard it is to maintain. You can only do so much by looking online.”

Andrew Stachowiak is loyal to engine brands. And the engine inside does factor into an equipment purchase, says the owner of Seasons Change Services in Comstock Park, Mich. “I look for longevity, and dealer support is important,” he adds. “With a lot of those off-the-market motors, the manufacturer support is just not there and if the dealer can’t get support from the manufacturer, their hands are tied.”

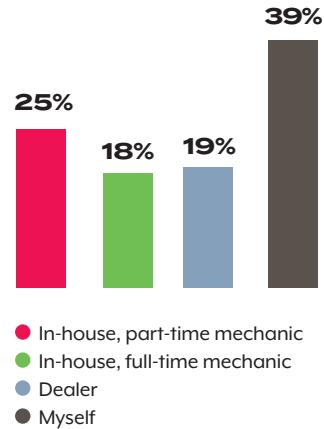
At Padilla Group in San Leandro, Calif., crewmembers weigh in on engine and equipment preferences. “We are not necessarily brand-specific,” says Michaela Rivas, area operations and sales manager. “One mechanic prefers a (brand) blower because the parts are easy to replace and that is his background. But when we tried it, it was too heavy for our maintenance guys to use all day, so we went back to our tried-and-true.”

Rivas adds, “Field input is the biggest thing — what the crews like because they are the ones that are going to use it day in and day out for multiple hours. Longevity, durability and power is great. But if we do not have their buy-in they will not want to use it, or they will use it and not do a great job.” — **Kristen Hampshire**



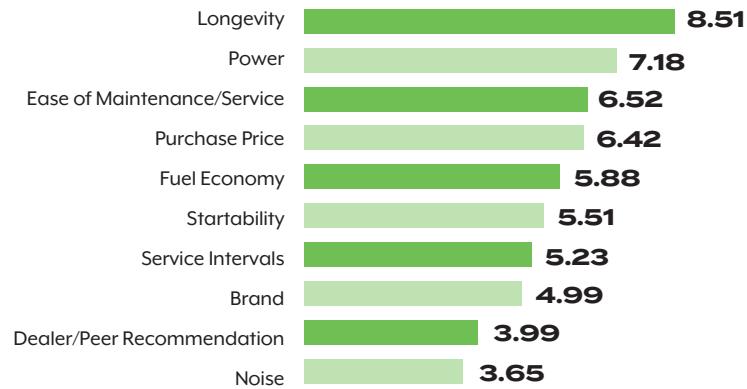
Input from crews on what engines to buy is an important part of the purchasing process.

Who maintains your engines most of the time?



What's most important to you when choosing a small engine?

10 being most important, 1 being least important.



39% of respondents said they maintain their engines themselves most of the time.



not have the space to take it apart and work on it, I'll have a dealership or someone who knows how to work on the equipment do it," he says.

For the most part, Rulli maintains engines and equipment himself. And sticking to a regular schedule prevents repairs and downtime. For example, on a Saturday, he might clean all equipment, change oil and clean filters. "With how dusty it has been and all the pollen, changing filters is really important," he says.

Padilla Group in San Leandro, Calif., has an in-house mechanic who performs routine maintenance weekly. "Crews can sharpen their own blades if needed," says Michaela Rivas, area operations and sales manager.

The company runs three maintenance crews and an enhancement crew. Each is equipped with a 21-inch walk-behind mower and 36-inch mower, plus blowers, hedge trimmers, edgers and pole pruners. "We also have spare equipment so we can keep our guys running out in the field," Rivas says.

Dealers' recommendations on how often to perform certain maintenance tasks weighs into Stachowiak's schedule. "I make sure oil is checked every day and after that we do maintenance on an hourly basis, whether it's changing oil every 100 hours," he says.

Every day, Stachowiak greases equipment. "That little bit of grease is cheap insurance," he says.

At Sundance Landscape Maintenance, mowers are on a monthly maintenance rotation. "Our mechanics

Have you been delayed a piece of new equipment or a vehicle because of engine supply chain issues?

YES
59%

NO
41%

do a full service, trailer by trailer. With two-cycle equipment, we do the same thing where every week. We take one truck and go through all of the equipment to make sure it is working properly and up to date," Graham says.

THE RIGHT FIX. After calling around to various dealers in town, Rulli decided to take on a repair himself — which is what he tends to do most of the time. "When our walk-behind went down last fall, I wanted to see if I could drop it off at a dealership but they would say, 'I can't give you a time as to when we can look at it,' and I couldn't wait," he says. A loaner wasn't possible.

"I did fix it—the problem was an intake gasket, but it also had a faulty ignition coil, which I replaced, as well," Rulli says, adding that he poked around a bit before diagnosing the problem, "but it was better than not knowing when a dealer could look at the equipment or get it back to me."

Stachowiak also performs his own maintenance and relies on his dealer for repairs. There's no in-house mechanic. "I've built the skills over the years," he says, relating that his dad taught him how to tinker as a kid.

Downtime and wait time are two factors that pushed Padilla Group to invest in a part-time mechanic. "It's easier to control the repair time," Rivas says. "It's one thing if our mechanic says it

will take two days," and another if a dealer says you're on the wait list.

Sundance Landscape Maintenance has two fulltime mechanics. "We hired our first back in 2017 when we hit that \$5-million mark, and before that it was either myself or a manager or my dad who was wrenching on equipment, or we were taking it to shops," Graham says. "That was just getting insanely expensive."

What's the cost of hiring a mechanic to service equipment in house? That depends on the market, but according to Lawn & Landscape's 2022 Benchmarking Your Business Report, the going rate for an entry level mechanic is \$37,050 while an experienced mechanic pays \$48,750 an hour.

The mechanics are charged with creating the maintenance schedule, regular tune-ups and repairs as complex as engine overhauls. They advise on purchases and decisions like whether to replace an engine or buy new equipment. That includes trucks and the engines that keep the company's rigs moving.

And now more than ever, minding the maintenance schedule and an ability to at least make minor fixes is a time and money saver considering the rising cost of parts, equipment and labor challenges.

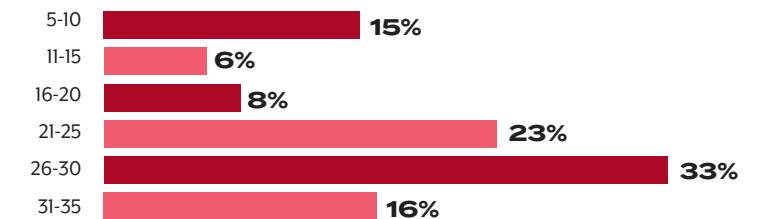
"Our guys turn in a daily truck inspection sheet and that gives our mechanics the mileage so they can keep an eye on when it's time for service," Graham says.

The author is a contributing editor with Lawn & Landscape magazine.

How often do you replace small engines?



What's your preferred horsepower for your small engine?



What do you consider to be the useful life of a commercial mower engine?

