

Engine Performance Matters



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For landscape contractors, time is money.

Equipment downtime caused by small engine performance – or lack thereof – can be a financial albatross for any contractor's bottom line.

Oftentimes, human error is the cause of engine underperformance or breakdown. And many of those engine issues can be sourced to an oversight that could have been easily avoided by a diligent crew.

The following is a list of commonly seen equipment operator mistakes that can lead to an engine underperforming or failing altogether. But, if properly addressed, your crew can help keep equipment running all season long.

1. Pumping the wrong fuel

When a piece of equipment isn't functioning properly, fuel is most likely to blame.

"We see all kinds of failures each season, but all too often in the landscape market the issue is fuel-related," says Wayne Russell, national sales and service manager for [Briggs & Stratton](#). "It's that simple."

Fuel can cause a variety of issues because of its corrosive behavior. Specifically, [ethanol in gasoline](#) contains harsh solvents that naturally corrode the engine's carburetor.

Crewmembers who may be filling equipment need to be well versed on the pitfalls of ethanol. This is such a common issue with small engines that the Outdoor Power Equipment Institute (OPEI) has an entire campaign dedicated to educating operators to ["Look Before You Pump"](#) to ensure they use gasoline with low ethanol content to prevent engine performance-related problems.

According to OPEI, a gasoline blend with more than 10 percent ethanol in

outdoor power equipment, including commercial mowers, can corrode metals, distort rubber components and cause engines to run poorly.

This problem is becoming more prevalent for landscape professionals as gas stations across the country are offering more gasoline blends with higher ethanol content.



2. Leaving the fuel untreated

Fuel stabilizers and treatments are designed to combat corrosion caused by, among other things, ethanol.

Here's how they work: Fuel treatments have metal deactivators that combat corrosion and water-dispersion agents that coat water molecules found in the gas tank. These agents prevent water from separating from the gasoline and allow a proper burn through the combustion system. Additional cleaning agents in the fuel treatment keep the engine valves working efficiently by preventing carbon build-up.

Add a treatment or additive any time fresh fuel is put in the fuel tank.

Treatments are especially important on pieces of equipment that may have fuel at rest in the tank for several days between uses like leaf blowers or dethatchers.

3. Cutting too much in a single pass

Contractors experiencing quality-of-cut issues often think the power source is to blame. But, really, the operator may just be attempting to cut too much in a single pass. If the mower's clippings are clumping when it's running with a mulch kit, oftentimes there is nothing wrong at all with the mower. It's typically an operator who's trying to cut more grass than the mower can handle.

The fix is likely as simple as adhering to the "one-third rule." That is, never cut more than one-third of the grass length up to 1 inch in a single pass, especially when the ground is damp and the grass is more prone to clumping. This can occur when a contractor is trying to mow a property in one pass. Sometimes doing it right and obtaining a quality cut requires two passes.

Another quirk that can be a quick fix is when an operator is experiencing an uneven cut. For example, the operator will say the mower is cutting low on the right front side of the mower deck. It could very well be the tire pressure is low on one side, causing an uneven cut.



4. Lack of daily equipment oversight

A quick visual inspection every morning before equipment heads out into the

field may be the most important preventive maintenance step that a contractor can make.

“Each morning, a two-minute visual inspection can save you two days of repairs, not to mention a boatload of costs,” says Mark Nelson, Briggs & Stratton technical trainer. “The inspection doesn’t even have to be very in-depth –just look everything over. Are the air cleaner covers tight? Is debris cleared away? Are there any visual oil leaks?”

Nelson says a daily checklist can be this simple:

- Check the oil level daily – and don’t forget the hydraulic oil on ZTRs.
- Keep the cooling system clear and clean. Blow away grass, dirt and debris, which is common when the summer gets dry.
- Look for leaks under the piece of equipment if it’s kept on a trailer or in a storage area.
- Visually inspect any belts for wear and tear as well as for proper belt tension.

5. Using old oil

“Being diligent on oil changes – every 100 hours of operation for larger equipment and every 50 hours for smaller utility pieces of equipment that may not be used daily – can prevent major damage,” Russell says. “Yes, it’s obvious, but you’d be amazed how many times that is what lands a piece of equipment in the shop.”

Preventing any dirt and debris from entering the engine and mixing with the oil is nearly impossible. But if it’s not changed out regularly, the aging oil and dirt will form a thick, gooey substance – like tar – that can’t flow through oil passageways or lubricate the engine.

Additionally, an oil filter is an inexpensive, yet critical, engine component that contractors should consider changing every time they replace the oil. “When you change the oil, change the oil filter for a few extra dollars,” Russell says.

6. Operating with a clogged air filter

Without access to clean air, a small engine can heat up and break down fast. Change the engine air filter every 100 to 250 hours, depending on how dirty the environment is in which the contractor is working. A clogged or old air filter will restrict airflow and adversely affect the air-fuel mixture. That will result in decreased horsepower, poor fuel economy, slow response, tough starting and, ultimately, shorter engine life.

“Preventing these seemingly small issues, which can lead to larger engine issues, requires a level of constant attention by the contractor and equipment operators on a daily basis. But keeping an engine out of the shop and instead in the field cutting grass and making money is what’s at stake,” Russell says. “If engines are maintained correctly, they’ll last as long as the pieces of equipment last.”

PHOTOS: BRIGGS & STRATTON