



THE POWER WITHIN™



# ENGINES

## IT'S THE ENGINE THAT MATTERS MOST

Outdoor power equipment lasts a long time. Make sure you choose the right equipment, and the right engine brand to power it. Most consumers recognize that the single most critical component to consider on outdoor power equipment is the engine. That's because Ease of starting, durability and available power directly impact power equipment performance and your satisfaction with it.

When considering the engine brand, keep in mind that some engine manufacturers provide a much broader engine lineup than others. The broader the engine line, the more choices you have in terms of power, features and price levels on the equipment you purchase.

## WHAT TO CONSIDER WHEN SELECTING AN ENGINE

### Easy starting features

There are a variety of ways to make starting easier and they will vary by the engine you select. To be sure you find the combination of features and power that's right for you, look for an engine brand that offers a wide selection of easy-starting options. Briggs & Stratton offers the following starting features.

steps

starting ease



### READYSTART™ ELECTRIC

No prime. No choke. Just turn the key and mow.



### READYSTART™

No prime. No choke. Just pull for power.



### SMOOTH START™

20% easier to pull.



### PRIME 'N PULL™

Push 3X and pull.

easy

easiest

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## Power

Engine power is the single biggest difference from one piece of power equipment to the next. For instance, the more cutting power a lawnmower has the more easily it will maintain the speed of the blade and deliver a consistent, quality cut, even under tough conditions. Lawnmower cutting power is a combination of three things:

- **Engine size**

In combination with engine configuration, engine size is the most important factor in a lawnmower's ability to handle tough, demanding jobs. The higher the torque or horsepower rating, the more power the machine has to get the job done.

For walk-behind mowers, Briggs & Stratton engine sizes typically range from 4.50 to 8.75 gross torque. For riding mowers the sizes typically range from 10.5 to 26.0 gross horsepower

- **Torque** – is defined as the twisting force that tends to cause rotation. It is a more direct way measure power in walk-behind mowers as well as pressure washers and generators.



In walk-behind mowers, more torque means a cleaner and more even cut, even in high, thick grass.



In pressure washers, more torque means more pounds per square inch (PSI) and gallons per minute (GPM) of water for improved pressure and cleaning.



In generators more torque means higher wattage output under full load.

- **Horsepower** – is the rate of doing work over time. It is a more meaningful measure of power for riding lawnmower engines. That's because power in ride engines is distributed to the transmission, wheels, hydraulics, and the cutting blades via various gear ratios. This makes horsepower a more meaningful measure of the ride engine's ability to get the job done.
- **CC's (cubic centimeters)** – is a measure of size and indicates an engine's volume or capacity.

## Engine configuration

Walk-behind lawnmowers are typically equipped with smaller side valve or Overhead Valve (OHV) engines.

- Side valve engines provide exceptional value and performance at a variety of power levels.
  - Light-duty engine sizes range from 4.50 to 5.50 ft-lbs of torque.
  - Mid- to heavy-duty engine sizes range from 6.25 to 6.75 ft-lbs of torque.

- OHV engines offer significantly more power, run smoother and quieter, and are better for the environment since they burn fuel more efficiently. Direct Overhead Valve (DOV™) engine technology is also available. It has fewer moving parts, which further reduces engine size and vibration.
  - Heavy-duty engine sizes range from 7.00 to 8.75 ft-lbs of torque

Riding lawnmowers are typically equipped with larger single-cylinder or V-Twin (two cylinder) OHV engines.

- Large, single-cylinder engines cover a broad spectrum of power levels and range from being designed for value to being designed for premium performance and durability.
- V-Twin engines take performance to the next level. They provide greater horsepower and better balance that translates to lower vibration and greater comfort, and are quieter than single cylinder engines. And, they run cooler and burn cleaner.

### **Mower configuration**

This is a matter of mower deck size, features and design. Mower configuration will determine the amount of engine power needed to get the job done easier and faster.

- Push and side discharge walk-behind mowers with smaller decks will require the least amount of power. Look for light-duty side valve engines in these cases.
- Rear bagger and self-propelled mowers, and mowers with larger cutting widths, will require more power. Look for larger OHV engines in these cases.
- Riding mowers with smaller decks and gear-driven transmissions typically require less power. Look for large single-cylinder engines in these cases.
- Riding mowers with larger decks and hydraulic drive trains demand more power. Look for larger V-twin, OHV engines in these cases, and when the mower will be used for towing other equipment.

### **How and where will the equipment be used?**

In the case of lawnmowers, the size and terrain of your yard will determine whether you select a push or a self-propelled walk-behind mower or a riding mower.

The condition of your yard and your mowing habits can also make a difference in the engine you select. Consider the following conditions when selecting an engine:

- Size of yard – typically, the larger the yard, the higher the power needed.
- Heavy, thick grass or hilly terrain - look for higher torque or horsepower ratings.
- Frequent cutting; Large yards – look for enhanced starting features like ReadyStart™ from Briggs & Stratton, and easy access service points for air, fuel and oil filters.
- Dirty, dusty areas; Extreme heat – look for advanced air and fuel filtering and full-pressure lubrication systems on engines for riding mowers.

## **Durability and Performance**

It is important to select an engine manufacturer that has a long history of delivering durability and performance. One that offers an extensive lineup of engines that are engineered for performance on a budget and those designed for superior power and reliability, with features intended to make getting the job done easier and faster.

Additional engine features may be included as the price range increases on mowers. Here are some engine step-ups to look for:

- Walk-behind mower engines
  - o Higher torque ratings
  - o OHV or DOV design
  - o Easy starting features like ReadyStart™ from Briggs & Stratton
  - o Automotive-style air cleaner
  - o Lo-Tone™ muffler
  
- Riding mower engines
  - o Higher horsepower ratings
  - o V-twin design
  - o Full-pressure lubrication systems
  - o Premium air, oil and fuel filters
  - o Advanced debris management systems
  - o Cast iron cylinder sleeves
  - o Chrome plated valves and super-finished bearing surfaces

## **Serviceability**

Selecting an engine brand that is easy to maintain and service is key to your product satisfaction:

- Some easy maintenance features to look for are:
  - o Automotive-style dipsticks
  - o Easy access service points for air and fuel filters
  - o Spin-on oil filters
  
- Look for an engine brand that offers:
  - o An extensive network of dealers including certified master service dealers
  - o A full line of genuine replacement parts available at dealers and select retailers
  - o Extensive customer support for parts and an online service center locator
  - o Online assistance with how-to projects, maintenance and service tips
  - o Electronic maintenance reminders

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