

Instruction Manual: 594601 Carburetor for Briggs & Stratton Engines

This manual provides essential information for the installation, operation, maintenance, and troubleshooting of your new carburetor.

PRODUCT OVERVIEW

The 594601 Carburetor is a replacement component designed for various Briggs & Stratton engines, particularly those found in lawn tractors and other outdoor power equipment. This carburetor is crucial for mixing air and fuel in the correct ratio for combustion, ensuring optimal engine performance.



Figure 1: The complete 594601 Carburetor assembly, including the main carburetor unit, fuel line, mounting gasket, and securing clamps. This image shows all components included in the kit.

This replacement part is engineered to meet or exceed original equipment specifications, providing reliable and efficient operation for compatible models. It is essential to verify compatibility with your specific engine model before installation.

SETUP AND INSTALLATION

Proper installation is critical for the carburetor's performance and engine safety. If you are unsure about any step, it is recommended to consult a qualified technician.

Safety Precautions:

- Always disconnect the spark plug wire before beginning any work on the engine to prevent accidental starting.
- Ensure the engine is cool before handling components.
- Work in a well-ventilated area.
- Have a fire extinguisher readily available when working with fuel.
- Wear appropriate personal protective equipment, such as gloves and eye protection.

Tools Required:

- Socket wrench set
- Screwdriver set (flathead and Phillips)
- Pliers
- Fuel line clamps or pinch-off tool
- Clean rags
- Container for draining fuel

Installation Steps:

1. **Prepare the Engine:** Disconnect the spark plug wire. Turn off the fuel supply valve, if present, or use fuel line clamps to prevent fuel flow. Place a container under the fuel line to catch any spilled fuel.
2. **Remove Air Filter Assembly:** Carefully remove the air filter housing and filter element to gain access to the carburetor.
3. **Disconnect Fuel Line:** Loosen the clamp and carefully disconnect the fuel line from the old carburetor.
4. **Disconnect Linkages:** Note the position and connection of all throttle and choke linkages, springs, and wires. Take photos if necessary for reassembly. Disconnect them from the old carburetor.
5. **Remove Old Carburetor:** Unbolt the old carburetor from the engine manifold. Remove any old gaskets.
6. **Clean Mounting Surface:** Ensure the engine mounting surface is clean and free of old gasket material.
7. **Install New Gasket:** Place the new gasket (included in the kit) onto the engine manifold.
8. **Mount New Carburetor:** Carefully position the new carburetor onto the gasket and secure it with the bolts. Do not overtighten.
9. **Reconnect Linkages:** Reattach all throttle and choke linkages, springs, and wires to their correct positions on the new carburetor.
10. **Reconnect Fuel Line:** Attach the fuel line to the new carburetor and secure it with a clamp. Remove any fuel line clamps used earlier.
11. **Reinstall Air Filter Assembly:** Reattach the air filter housing and filter element.
12. **Reconnect Spark Plug:** Reconnect the spark plug wire.

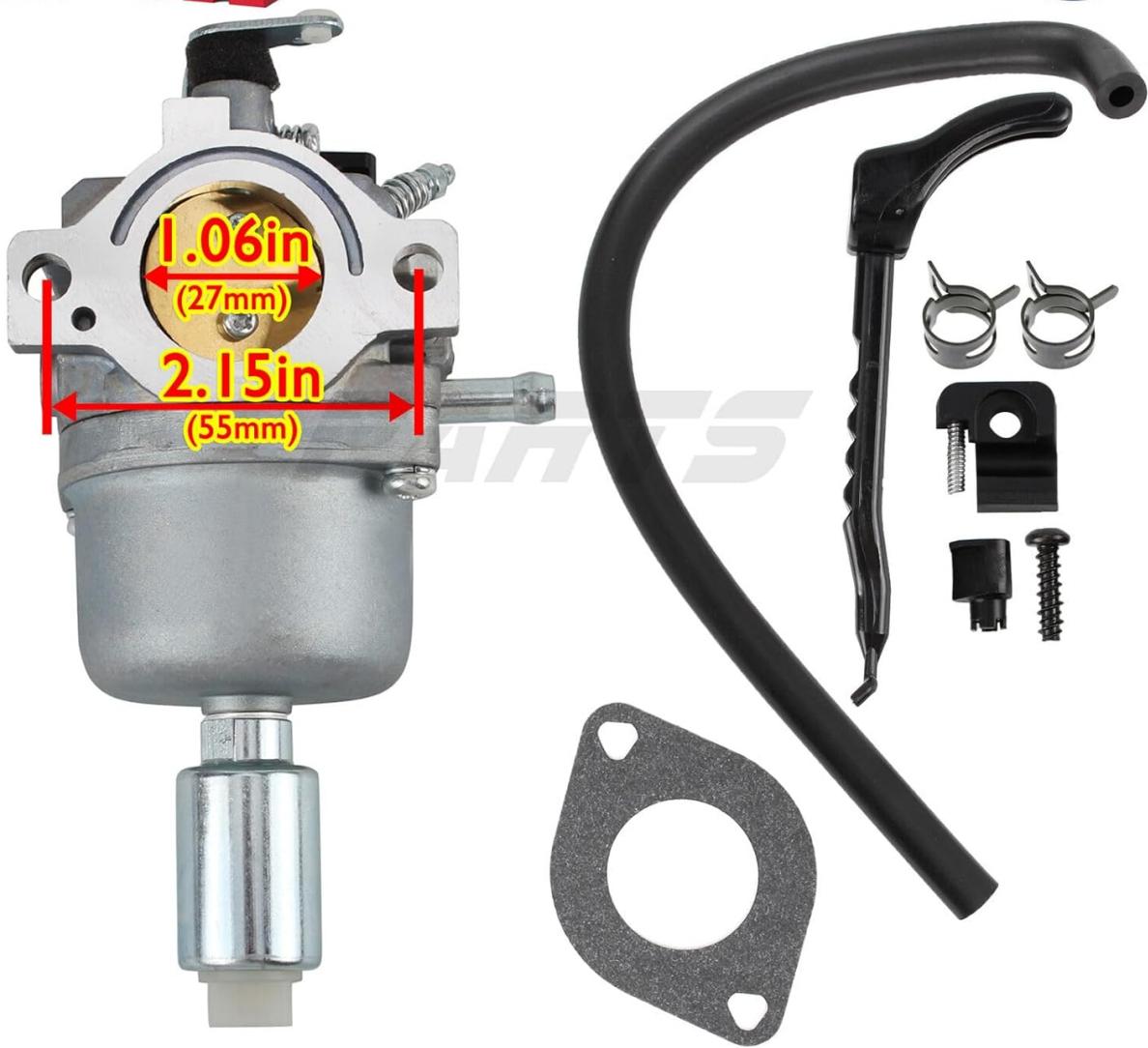


Figure 2: Front view of the carburetor showing key dimensions: 1.06 inches (27mm) for the air intake opening and 2.15 inches (55mm) for the overall height of the main body.

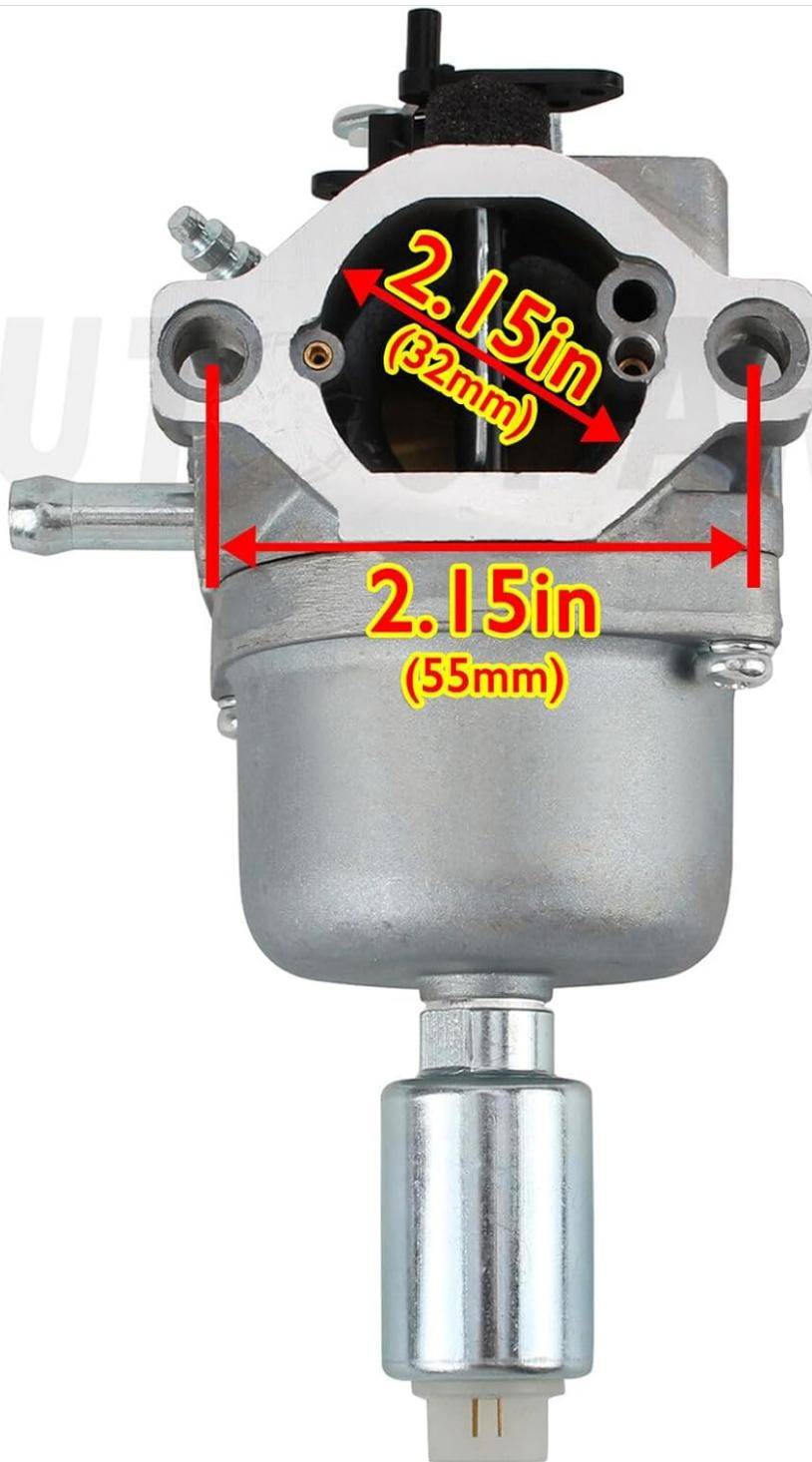


Figure 3: Rear view of the carburetor, illustrating the mounting bolt hole spacing. The distance between the bolt holes is approximately 2.15 inches (55mm) horizontally and 2.15 inches (32mm) vertically (center to center).

OPERATING CONSIDERATIONS

After installation, ensure all connections are secure and there are no fuel leaks. Start the engine and allow it to warm up. The carburetor is pre-set for optimal performance, but minor adjustments may be needed for specific environmental conditions or engine wear. Refer to your engine's service manual for detailed adjustment procedures if necessary.

- **Initial Start-up:** After installation, it may take a few pulls or cranks for the fuel system to prime and the

engine to start.

- **Engine Performance:** Observe engine idle, acceleration, and overall power. A properly functioning carburetor will provide smooth operation.
- **Fuel Quality:** Always use fresh, clean fuel as recommended by your engine manufacturer. Stale or contaminated fuel can lead to carburetor issues.

MAINTENANCE

Regular maintenance extends the life of your carburetor and ensures consistent engine performance.

- **Fuel System Cleanliness:** Use a fuel stabilizer, especially during storage, to prevent gum and varnish buildup in the carburetor.
- **Air Filter:** Regularly inspect and clean or replace the air filter. A dirty air filter can restrict airflow, causing the engine to run rich and affect carburetor performance.
- **Fuel Filter:** Check and replace the fuel filter periodically to prevent contaminants from reaching the carburetor.
- **Carburetor Cleaning:** If the engine experiences performance issues due to fuel contamination, the carburetor may need to be cleaned. This typically involves disassembling the carburetor and cleaning its internal passages with carburetor cleaner. This procedure should only be performed by individuals with mechanical experience.
- **Storage:** Before long-term storage, either run the engine until it runs out of fuel or drain the fuel system completely to prevent fuel degradation and carburetor clogging.

TROUBLESHOOTING

If you encounter issues after installing the new carburetor, consider the following common problems and solutions:

Problem	Possible Cause	Solution
Engine will not start or starts hard	No fuel reaching carburetor Incorrect choke setting Spark plug issue Air leak around carburetor gasket	Check fuel line, fuel filter, and fuel valve. Ensure fresh fuel. Verify choke operation. Inspect/replace spark plug. Check carburetor mounting bolts and gasket for proper seal.
Engine runs rough or stalls	Dirty air filter Stale or contaminated fuel Minor carburetor blockage Incorrect idle speed	Clean or replace air filter. Drain old fuel, refill with fresh fuel. Consider professional carburetor cleaning. Adjust idle screw (refer to engine manual).

Problem	Possible Cause	Solution
Engine lacks power or backfires	Fuel restriction Incorrect fuel mixture Ignition timing issue (less common with new carb)	Check fuel filter and fuel lines for kinks. Ensure carburetor is clean and free of debris. Consult engine service manual for advanced diagnostics.
Fuel leaks from carburetor	Loose fuel line connection Damaged gasket Float needle valve issue	Tighten fuel line clamps. Inspect and replace gaskets if damaged. If persistent, internal carburetor issue may require professional repair or replacement.

Note: For complex issues or if troubleshooting steps do not resolve the problem, it is advisable to seek assistance from a certified small engine mechanic.

SPECIFICATIONS AND COMPATIBILITY

This carburetor is designed as a direct replacement for Briggs & Stratton engines, specifically those using Nikki carburetors. It is compatible with a wide range of models and part numbers.

Key Specifications:

- **Part Number:** 594601
- **Type:** Nikki Carburetor Replacement
- **Application:** Various Briggs & Stratton engines for lawn tractors and other outdoor power equipment.
- **Manufacturer:** partscollect (as per product specifications)
- **Model Number:** 1 (as per product specifications)

Compatible Part Numbers (PN):

This carburetor replaces or is compatible with the following part numbers:

289707, 303777, 331877, 494502, 495706, 496592, 498027, 498061, 499161, 502556, 590399, 590400, 591731, 591734, 592223, 592224, 592226, 592953, 593432, 593433, 594593, 594601, 594603, 594605, 602701, 602705, 695115, 696353, 697122, 697202, 697203, 697215, 697216, 698620, 698945, 699915, 699916, 790023, 791886, 792036, 792060, 792345, 792534, 792554, 792768, 793365, 793371, 794294, 795366, 795373, 795374, 795872, 795873, 796109, 796110, 796178, 796250, 799244, 799246, 799252, 799256, 799728, 808891

Compatible Engine Models and Series:

This carburetor is known to fit the following engine models and series. Please cross-reference with your engine's specific model and type numbers.

- 12.5 hp Nikki B&S 219802 4118 F1
- 13-38XL 38" Lawn Tractor model 71185 w/ 13hp B&S
- 15-38HXL Lawn Tractor
- For model 71221 16 hp series number 303777 with Nikki 696353
- 2005 Bolens Riding Mower 13AM762F765

- 2013 DR Brush Mower w/ 799244 NIKKI G02558
- 590399 Nikki 215802, 215805 (works for 10hp, 12hp, 14hp)
- 590399 Nikki 215807, 215872, 215877
- 590399 Nikki 217877, 217902, 217907 (works for 10hp, 12hp, 14hp)
- Fits For 590400 / 593432 / 593433 / 594593 / 594601 Nikki

Fits for Following Serials (partial list):

210700, 210800, 212700, 212800, 212900, 214700, 214900, 215700, 215800, 215900, 216700, 216900, 217700, 217800, 217900, 218700, 218800, 219700, 219800, 219900, 216800, 21A700, 21A800, 21A900, 21B000, 21B807, 21R502, 21R507, 21R602, 21R607, 21R702, 21R707, 21R772, 21R777, 21R806, 21R807, 21R876, 21R877, 21B700, 21B800, 212702-015-E1, 212702-0111-E1, 212702-0114-E1, 212702-0114-E2, 212702-0116-E1, 212702-0117-E1, 212702-0119-E1, 212702-0124-E1, 212707-0025-E1, 212707-0026-E1, 212707-0050-E1, 212707-0113-E1, 212707-0120-E1, 212802-0110-E1, 212902-0015-E1, 212902-0020-E1, 212902-0117-E1, 212902-0122-E1, 212902-0125-E1, 212902-0127-E1, 212902-0129-E1, 212907-0025-E1, 212907-0026-E1, 212907-0028-E1, 212907-0114-E1, 212907-0121-E1, 212907-0124-E1, 212907-0128-E1, 212907-0272-E1, 214707-0113-E1, 214707-0114-E1, 214907-0272-E1, 215702-0015-E1, 215702-0015-G1, 215702-0110-B1, 215702-0110-E1, 215702-0110-E9, 215702-0113-B1, 215702-0113-E1, 215702-0113-E9, 215702-0115-B1, 215702-0115-E1, 215702-0116-B1, 215702-0116-E1, 215702-0116-E9, 215702-0466-B1, 215702-0466-E1, 215702-0553-B1, 215702-0578-B2, 215702-0578-G2, 215705-0119-

WARRANTY AND SUPPORT

Specific warranty information for this Generic brand carburetor is not provided in the product details. For warranty claims or technical support, please refer to the seller or manufacturer directly. It is recommended to retain your purchase receipt for any potential warranty inquiries.

For general engine maintenance and repair, always consult your engine's official service manual or a qualified small engine technician.