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Briggs & Stratton 591420

Briggs & Stratton 591420 Magneto Armature Instruction Manual

For Select L-Head Vertical Engines

1. Introduction

This manual provides comprehensive instructions for the installation, function, and basic maintenance of the Briggs & Stratton 591420 Magneto Armature. This genuine OEM part is designed to ensure proper ignition performance in compatible Briggs & Stratton L-Head vertical engines, replacing older magneto and points/condenser systems.

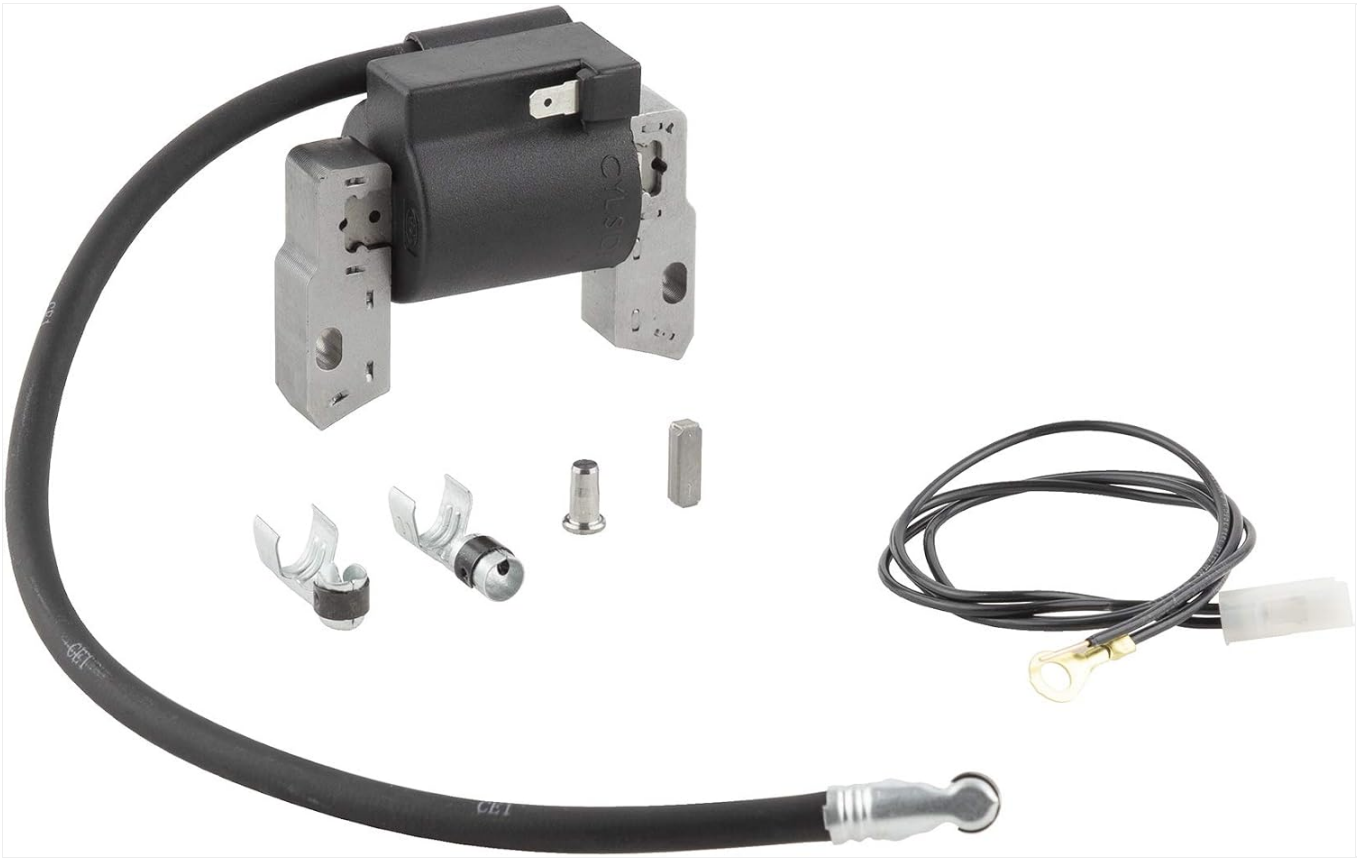

Image 1.1: The Briggs & Stratton 591420 Magneto Armature, including the coil, spark plug wire, and various small components for installation.

2. Safety Information

Always prioritize safety when working with engine components. Failure to follow safety precautions can result in serious injury or damage to equipment.

- Disconnect the spark plug wire before performing any service or maintenance to prevent accidental engine starting.
- Allow the engine to cool completely before handling any components.
- Wear appropriate personal protective equipment, including safety glasses and gloves.
- Ensure the work area is well-ventilated and free from flammable materials.
- If you are unsure about any step, consult a qualified service technician.

3. Product Overview

The Briggs & Stratton 591420 Magneto Armature is an ignition coil designed to generate the high voltage necessary for the spark plug to ignite the fuel-air mixture in the engine's combustion chamber. This component is a direct replacement for several older Briggs & Stratton part numbers, offering improved reliability and often eliminating the need for points and condenser systems.

3.1 Key Features

- Genuine Briggs & Stratton OEM part.
- Designed for select 9 & 10 cubic inch L-Head vertical engines.
- Replaces older part numbers: 799285, 793352, 792594, 793281, 496914, 398593, 395489, 397316, 697036, 298502, 395488, 792395, 799471.
- Integrated ignition system, often eliminating external points and condenser.



Image 3.1: A detailed view of the magneto armature, highlighting its construction and components.

4. Compatibility

This magneto armature is compatible with specific Briggs & Stratton L-Head vertical engines, typically those with 9 and 10 cubic inch displacement. It is designed to replace the original ignition coil and, in many cases, the points and condenser system. Always verify your engine's model and type numbers against the compatible part list or consult your engine's service manual to ensure correct fitment.
Replaces the following Briggs & Stratton part numbers:

- 799285
- 793352
- 792594
- 793281
- 496914
- 398593
- 395489

- 397316
- 697036
- 298502
- 395488
- 792395
- 799471

5. Installation (Setup)

The installation of the magneto armature requires careful attention to detail. If you are not comfortable performing this procedure, it is recommended to seek assistance from a qualified technician.

5.1 Tools and Materials

- Wrench set (for engine cover and magneto bolts)
- Flywheel puller (potentially needed if removing points/condenser)
- Spark plug wrench
- Small flat-head screwdriver
- New magneto armature (Briggs & Stratton 591420)
- Cardboard spacing card (usually included with the new magneto)
- Optional: Metal plug for points plunger hole (if removing points)

5.2 Installation Steps

1. **Prepare the Engine:** Ensure the engine is cool. Disconnect the spark plug wire from the spark plug. Remove any engine covers that obstruct access to the magneto armature and flywheel.
2. **Remove Old Magneto:**
    - Locate the existing magneto armature. Note its position and wiring connections.
    - Disconnect the kill switch wire from the old magneto.
    - Unbolt and carefully remove the old magneto armature.
3. **Address Points and Condenser (if applicable):**
    - If your engine has a points and condenser system, the new magneto armature often replaces its function. You have two options:
        a. **Leave in place:** You can cut the wires leading to the points and condenser and leave them installed. This avoids removing the flywheel.
        b. **Remove:** For a cleaner installation, you can remove the flywheel (using a flywheel puller) and then remove the points and condenser. If removed, use the provided metal plug to seal the points plunger hole.



Image 5.1: Sealing the points plunger hole with a metal plug after removing the points and condenser.

4. **Install New Magneto:**
    - Position the new magneto armature onto its mounting studs. Do not fully tighten the bolts yet.
    - **Set the Air Gap:** Place the cardboard spacing card (typically 0.006 to 0.010 inches thick, refer to specific instructions if provided) between the magneto armature and the flywheel magnets.
    - Push the magneto armature firmly against the flywheel (with the card in between) and then tighten the mounting bolts securely.
    - Remove the cardboard spacing card. The magneto should now be correctly gapped.



Image 5.2: Proper positioning and gap setting of the magneto armature against the flywheel.

5. **Connect Wiring:** Connect the kill switch wire to the appropriate terminal on the new magneto armature. Ensure all connections are secure.
6. **Transfer Spark Plug Boot:** If the new magneto armature does not come with a spark plug boot, carefully transfer the old boot from the old spark plug wire to the new one. Ensure it is securely attached.
7. **Reassemble:** Reinstall any engine covers that were removed. Reconnect the spark plug wire to the spark plug.

6. Operation

Once correctly installed, the magneto armature functions automatically to provide ignition spark. When the engine's flywheel rotates, the magnets on the flywheel pass by the magneto armature, inducing an electrical current. This current is then stepped up to a high voltage, which is sent to the spark plug to create a spark, initiating combustion.
For the magneto to generate sufficient spark, the flywheel must rotate at a minimum speed, typically around 360 RPM. This is why a strong pull on the starter cord is essential for engine starting.

7. Maintenance

The Briggs & Stratton 591420 Magneto Armature is largely maintenance-free once installed correctly. However, regular engine maintenance contributes to its longevity and reliable performance.

- **Spark Plug:** Regularly inspect and replace the spark plug according to your engine's maintenance schedule. A fouled or worn spark plug can mimic magneto issues.
- **Wiring:** Periodically check all wiring connections, especially the kill switch wire, for corrosion or damage.
- **Cleanliness:** Keep the area around the magneto armature and flywheel clean from debris, grass clippings, and dirt, which can interfere with its operation or cause overheating.
- **Engine Tune-up:** Adhere to the engine manufacturer's recommended service intervals for oil changes, air filter replacement, and fuel system checks.



Image 7.1: Example of a Briggs & Stratton maintenance kit, emphasizing the importance of overall engine care.

8. Troubleshooting

If your engine experiences ignition problems after installing the new magneto armature, consider the following common issues:

Problem	Possible Cause	Solution
No Spark	• Incorrect air gap setting. • Loose or corroded kill switch wire. • Faulty spark plug. • Flywheel not spinning fast enough. • Damaged magneto armature (rare for new part).	• Re-check and adjust air gap (Section 5.2). • Inspect and secure kill switch wire. • Test or replace spark plug. • Ensure strong pull on starter cord. • Verify part installation and connections.
Engine Starts, Then Dies	• Intermittent kill switch connection. • Fuel delivery issues (not related to magneto). • Engine overheating (not related to magneto).	• Check kill switch wiring for shorts or loose connections. • Inspect fuel filter, carburetor, and fuel lines. • Ensure proper engine cooling and oil levels.

For further troubleshooting or complex issues, refer to your engine's specific service manual or contact Briggs & Stratton customer support.

9. Specifications

- **Model Number:** 591420
- **Manufacturer:** Briggs & Stratton
- **Product Dimensions:** 13.5 x 2 x 2.75 inches
- **Item Weight:** 8 ounces
- **Compatibility:** Select 9 & 10 cu. in. L-Head vertical engines
- **Replaces Part Numbers:** 799285, 793352, 792594, 793281, 496914, 398593, 395489, 397316, 697036, 298502, 395488, 792395, 799471

10. Warranty and Support

As a genuine Briggs & Stratton part, this magneto armature is covered by the manufacturer's standard warranty. For specific warranty

details, claims, or technical support, please contact Briggs & Stratton directly or visit their official website.
Briggs & Stratton Official Website: www.briggsandstratton.com



Image 10.1: Briggs & Stratton official logo.

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