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Briggs & Stratton 104M02-0197

Briggs & Stratton 104M02-0197 Engine Instruction Manual

Model: 104M02-0197 | 7.25tp 163cc Vertical Shaft Engine

Introduction

This manual provides essential instructions for the safe and effective setup, operation, and maintenance of your Briggs & Stratton 104M02-0197 vertical shaft engine. This engine is specifically designed for use with push lawn mowers. It is crucial to read and understand all instructions before attempting to install or operate the engine.
Important Note: This engine is intended exclusively for push mower applications. It is not suitable for pressure washers, log splitters, edgers, or any other equipment.

Safety Information

Always prioritize safety when working with internal combustion engines. Failure to follow safety instructions can result in serious injury or property damage.

- **Read the Manual:** Familiarize yourself with all instructions and warnings before operation.
- **Fuel Safety:** Handle fuel in a well-ventilated area, away from sparks or open flames. Store fuel in approved containers.
- **Exhaust Fumes:** Engine exhaust contains carbon monoxide, a colorless, odorless, and deadly gas. Operate the engine only outdoors in a well-ventilated area.
- **Hot Surfaces:** The engine and muffler become very hot during operation and remain hot for a period afterward. Avoid contact to prevent burns.
- **Moving Parts:** Keep hands, feet, and clothing away from moving parts such as the flywheel and shaft.
- **Maintenance:** Always disconnect the spark plug wire before performing any maintenance or adjustments to prevent accidental starting.

Setup and Installation

Carefully follow these steps for proper engine installation.

1. **Unpacking:** Remove the engine from its packaging. Inspect for any shipping damage.
2. **Mounting:**
    - The engine features drilled mounting holes.
    - Secure the engine to your push mower deck using appropriate nuts and bolts or the self-tapping bolts from

your existing equipment. Ensure all fasteners are tightened securely.

3. **Shaft Measurement:** Ensure correct vertical shaft measurement for proper fitment. Refer to the diagram below for guidance.

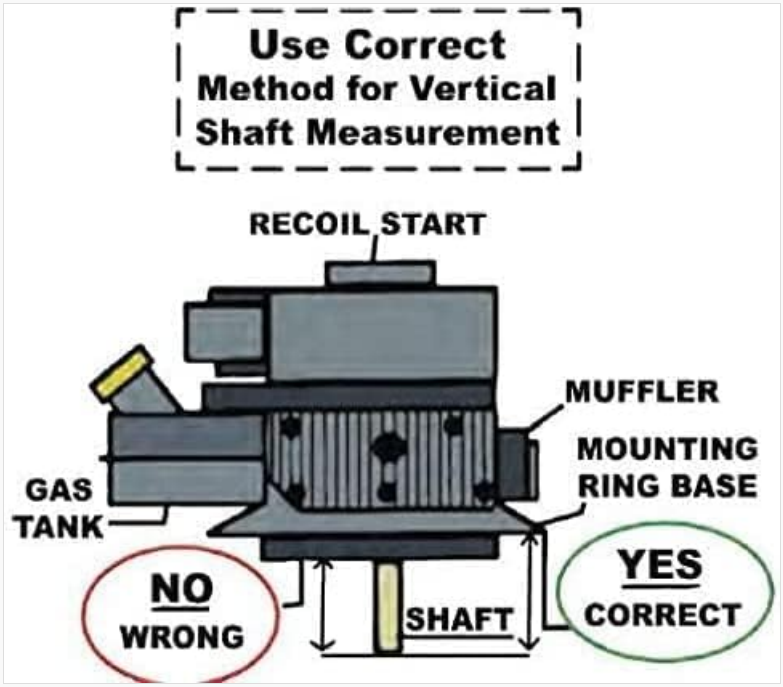

Figure 1: Vertical Shaft Measurement Guide. This diagram shows the correct method for measuring the vertical shaft from the mounting ring base, contrasting it with an incorrect measurement from the gas tank or muffler area.

4. **Add Engine Oil:**
    - The engine is shipped without oil. **Failure to add oil before starting will cause severe engine damage.**
    - Refer to the engine's oil fill cap or dipstick for the recommended oil type and capacity.
    - Fill the crankcase to the 'FULL' mark on the dipstick. Do not overfill.
5. **Add Fuel:**
    - Fill the fuel tank with fresh, clean, unleaded gasoline.
    - Do not use E85 fuel or fuel containing more than 10% ethanol.
    - Do not overfill the tank. Leave space for fuel expansion.
6. **Connect Cables:** Attach the throttle cable and any other necessary control cables from your mower to the engine. Ensure connections are secure and allow for proper operation.



Figure 2: Top view of the engine, highlighting the fuel cap and oil fill cap for easy access during setup and maintenance.



Figure 3: Close-up of the 7/8 x 3-5/32 inch keyed crankshaft, showing the keyway and threaded end for blade attachment.

Operating Instructions

Follow these steps to start and operate your engine safely.

1. **Flywheel Brake:** The engine is equipped with a flywheel brake system. This brake must be released for the engine to function. Ensure your mower's safety bar or lever is engaged to release the brake before attempting to start.
2. **Starting the Engine (Recoil Start):**
    - Ensure the fuel valve (if present) is in the 'ON' position.
    - Grasp the recoil starter handle firmly.
    - Pull the rope slowly until resistance is felt, then pull with a rapid, continuous motion.
    - Allow the rope to rewind slowly. Repeat until the engine starts.
3. **Engine Speed:** This engine features a fixed-speed throttle, typically set at 3100 RPM, which is standard for push-

style lawn mowers. No manual throttle adjustment is required or possible.

4. **Stopping the Engine:** To stop the engine, release the mower's safety bar or move the engine switch to the 'OFF' position.

Maintenance

Regular maintenance ensures optimal performance and extends the life of your engine. Always refer to the complete Briggs & Stratton engine manual for detailed maintenance schedules and procedures.

- **Oil Changes:** Check engine oil level before each use. Change the engine oil after the first 5 hours of operation, then every 25-50 hours or annually, whichever comes first.
- **Air Filter:** Inspect the air filter regularly. Clean or replace as needed, especially in dusty conditions. A dirty air filter can reduce engine performance and lifespan.
- **Spark Plug:** Inspect the spark plug annually or every 100 hours. Clean or replace if necessary, ensuring correct gap.
- **Fuel System:** Use a fuel stabilizer if storing the engine for extended periods. Drain the fuel tank and carburetor if storing for more than 30 days without stabilizer.
- **General Cleaning:** Keep the engine clean from debris, especially around the cooling fins, to prevent overheating.

Troubleshooting

This section addresses common issues you might encounter. For more complex problems, consult a qualified service technician.

Problem	Possible Cause	Solution
Engine will not start	No fuel, old fuel, no oil, spark plug issue, flywheel brake engaged	Check fuel level, use fresh fuel, add oil, check/replace spark plug, ensure flywheel brake is released.
Engine runs poorly/surges	Dirty air filter, stale fuel, carburetor issue	Clean/replace air filter, use fresh fuel, consult service for carburetor.
Engine lacks power	Dirty air filter, incorrect oil level, dull mower blade	Clean/replace air filter, check oil level, sharpen/replace mower blade.
Excessive smoke	Overfilled oil, incorrect oil type, internal engine issue	Check oil level and type, consult service for persistent smoke.

Specifications

- **Model Number:** 104M02-0197
- **Engine Type:** 7.25tp 163cc Vertical Shaft Engine
- **Crankshaft:** 7/8 inch diameter x 3-5/32 inch length, keyed
- **Application:** Designed for push mowers only
- **Throttle:** Fixed speed, set at approximately 3100 RPM
- **Flywheel Brake:** Integrated system, must be released for operation
- **Mounting:** Drilled holes for nut and bolt or self-tapping bolt installation
- **Product Dimensions:** 16 x 16 x 16 inches (approximate)

- **Item Weight:** 22.5 pounds (approximate)
- **Manufacturer:** Briggs & Stratton



Figure 4: Overview of the Briggs & Stratton 7.25EXi Series 163cc engine, showing the recoil starter and air filter cover.



Figure 5: Bottom view of the engine, illustrating the vertical shaft configuration for mower applications.

Warranty and Support

For warranty information, technical support, or service, please contact Briggs & Stratton directly or visit their official website. Keep your purchase receipt and engine model/serial numbers handy for any inquiries.
Briggs & Stratton engines are designed for reliability, but proper installation and maintenance are key to long-term performance. Always use genuine Briggs & Stratton replacement parts for optimal results.

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