Bosch 85208M

Bosch 85208M Solid Carbide Router Bit User Manual

Model: 85208M | Type: 1/16" Straight Single Flute Router Bit

1. Product Overview

The Bosch 85208M is a high-quality solid carbide straight router bit designed for precision routing applications. This 1/16-inch diameter, single-flute bit features a 1/4-inch shank, making it suitable for creating straight grooves, dados, and mortises in various wood materials. Bosch router bits are known for their durable construction, precise cutting geometry, and long operational life, ensuring consistent performance and clean cuts.

Figure 1.1: The Bosch 85208M solid carbide router bit shown in operation, precisely cutting a straight groove into a

wooden workpiece. This illustrates the bit's primary function for creating accurate channels.

Key Features:

- **Solid Carbide Construction:** Ensures exceptional durability and extended tool life, especially when working with tough materials.
- **Precision Cutting Geometry:** Engineered for exactly calculated cutting, resulting in clean, accurate, and low-vibration routing.
- **Single Flute Design:** Optimized for efficient chip evacuation and smooth cutting, particularly in smaller diameter applications.
- **Standardized Working Lengths:** Designed to match the normal thickness of standard solid wood and wood materials for versatile use.

2. Safety Information

Always prioritize safety when operating power tools and using router bits. Failure to follow these safety guidelines may result in serious injury.

- **Read Router Manual:** Always read and understand the instruction manual for your router before installing or using any router bit.
- **Personal Protective Equipment (PPE):** Wear appropriate PPE, including safety glasses, hearing protection, and a dust mask. Avoid loose clothing, jewelry, and long hair that could get caught in moving parts.
- **Inspect Bit:** Before each use, inspect the router bit for any signs of damage, dullness, or cracks. Do not use damaged bits.
- **Secure Workpiece:** Ensure the workpiece is securely clamped or held to prevent movement during routing.
- **Proper Installation:** Install the bit correctly and ensure it is tightened securely in the router's collet. Refer to the "Setup" section for detailed instructions.
- **Maintain Control:** Always maintain a firm grip on the router and guide it smoothly. Avoid forcing the bit through the material.
- **Unplug Router:** Always unplug the router from the power source before changing bits, making adjustments, or performing maintenance.
- **Ventilation:** Work in a well-ventilated area to minimize inhalation of wood dust.

3. Setup and Installation

Correct installation of the router bit is crucial for safe operation and optimal performance.

1. **Ensure Power Off:** Disconnect the router from its power source to prevent accidental startup.
2. **Clean Collet and Shank:** Ensure both the router's collet and the bit's shank are clean and free of debris. Any foreign material can prevent proper seating and lead to runout or bit slippage.
3. **Insert Bit:** Insert the shank of the Bosch 85208M router bit into the collet. For optimal grip and to prevent the bit from bottoming out, insert the shank at least three-quarters of its length, but avoid inserting it so deep that the cutting flutes touch the collet. A common practice is to insert it fully, then pull it out about 1/16 to 1/8 inch.
4. **Tighten Collet Nut:** Using the wrenches provided with your router, securely tighten the collet nut. Do not overtighten, as this can damage the collet or the bit shank. Ensure the bit is firmly held and cannot be pulled out by hand.

5. **Verify Bit Seating:** Double-check that the bit is seated correctly and securely before reconnecting power and operating the router.

4. Operating Instructions

Follow these guidelines for effective and safe operation of the Bosch 85208M router bit.

- **Material Compatibility:** This straight bit is suitable for routing grooves and dados in various wood types, including hardwoods, softwoods, plywood, and composite materials.
- **Router Speed:** Refer to your router's manual for recommended speed settings for a 1/16-inch diameter bit. Generally, smaller diameter bits require higher RPMs. Adjust speed to prevent burning or excessive vibration.
- **Depth of Cut:** For optimal results and to prevent overloading the bit, make multiple shallow passes rather than one deep pass, especially in harder materials. This also helps in achieving a cleaner finish and extends bit life.
- **Feed Rate:** Maintain a consistent and moderate feed rate. Feeding too slowly can cause burning, while feeding too quickly can lead to tear-out, poor cut quality, and excessive strain on the bit and router.
- **Direction of Cut:** Always feed the router against the rotation of the bit (climb cutting is generally not recommended for handheld routing due to increased risk of kickback).
- **Workpiece Support:** Ensure the workpiece is fully supported throughout the routing process to prevent tipping or movement.

5. Maintenance

Proper maintenance extends the life of your router bit and ensures consistent performance.

- **Cleaning:** After each use, clean the bit to remove resin, pitch, and wood dust buildup. Use a specialized bit cleaner or a mild solvent and a brass brush. Avoid using wire brushes, which can damage the carbide.
- **Inspection:** Regularly inspect the cutting edges for dullness, nicks, or chips. A dull bit will cause burning, tear-out, and increased strain on your router.
- **Storage:** Store router bits in a protective case or rack to prevent damage to the cutting edges. Keep them in a dry environment to prevent corrosion.
- **Sharpening:** Carbide bits can be professionally sharpened. Do not attempt to sharpen them yourself unless you have specialized equipment and training.

6. Troubleshooting

Common issues encountered when using router bits and their potential solutions.

- **Burning on Workpiece:**
  - **Cause:** Dull bit, too slow feed rate, too deep cut, excessive router speed.
  - **Solution:** Replace or sharpen bit, increase feed rate, reduce depth of cut, adjust router speed.
- **Rough Cut / Tear-out:**
  - **Cause:** Dull bit, too fast feed rate, incorrect router speed, grain direction issues.
  - **Solution:** Replace or sharpen bit, decrease feed rate, adjust router speed, ensure proper grain direction.

- **Excessive Vibration / Poor Bit Seating:**
  - **Cause:** Bit not fully seated, dirty collet/shank, damaged collet, bent bit shank.
  - **Solution:** Re-seat bit, clean collet/shank, inspect and replace collet if damaged, replace bent bit.
- **Bit Breakage:**
  - **Cause:** Overtightening collet, forcing the bit, hitting foreign objects, excessive side pressure.
  - **Solution:** Ensure proper collet tightening, use appropriate feed rate, inspect workpiece for foreign objects, avoid excessive side pressure.

7. Specifications

Detailed specifications for the Bosch 85208M Solid Carbide Router Bit.

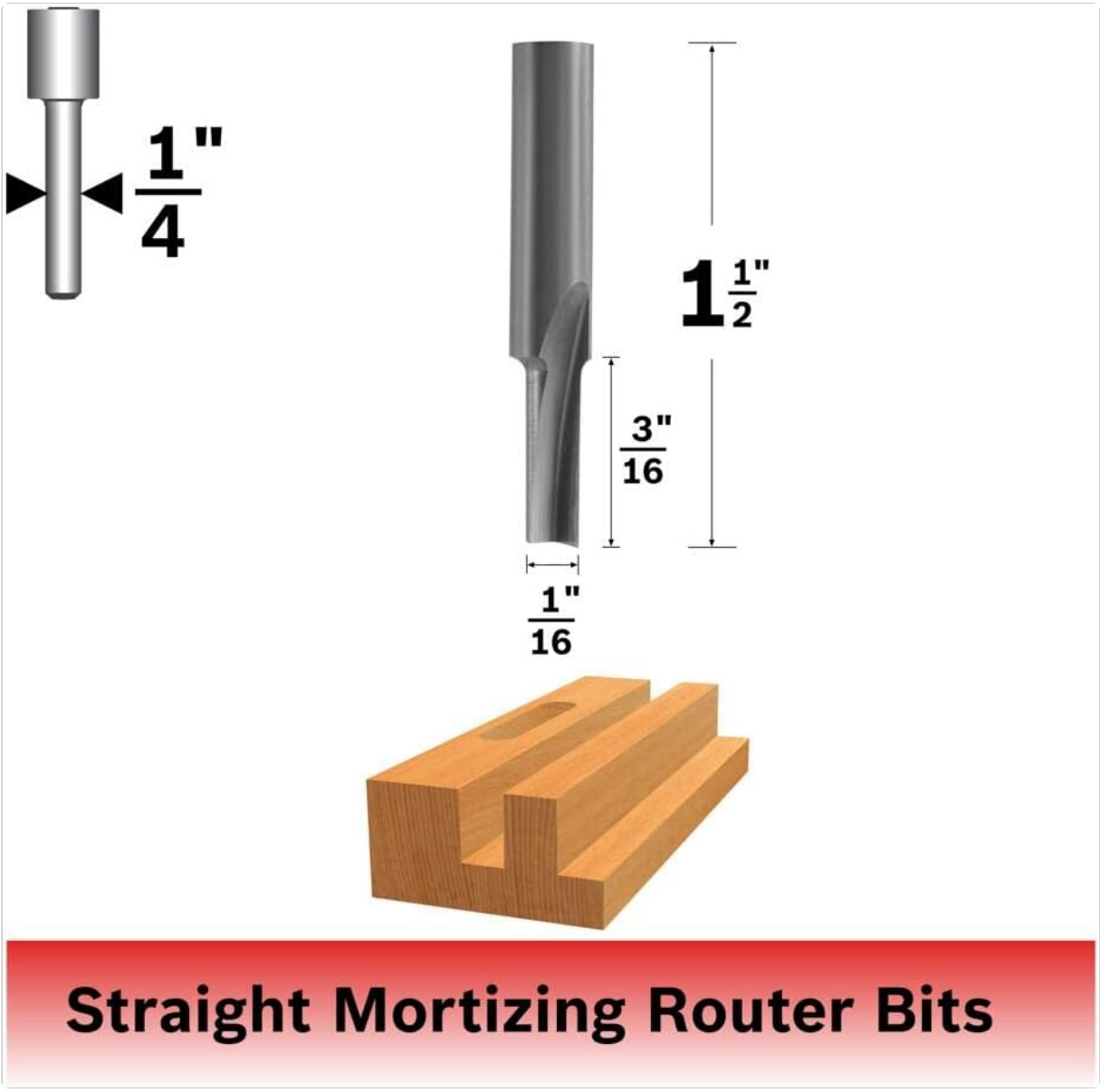

Figure 7.1: Dimensional diagram of the Bosch 85208M router bit, illustrating its 1/4-inch shank diameter, 1/16-inch cutting diameter, and overall length. This provides critical measurements for compatibility and application.

Specification	Detail
Model Number	85208M

Specification	Detail
Brand	Bosch
Material	Solid Carbide
Cut Type	Straight Cut
Cutting Diameter	1/16 inch
Shank Diameter	1/4 inch
Number of Flutes	1 (Single Flute)
Item Weight	20 g
UPC	000346361483

8. Warranty and Support

No specific warranty information is provided for the Bosch 85208M router bit in the product details. For detailed warranty terms, product support, or technical assistance, please refer to the official Bosch Power Tools website or contact Bosch customer service directly.
You can typically find contact information and support resources on the official Bosch website: www.boschtools.com