

CMT 811.700.11

CMT 811.700.11 Straight Router Bit User Manual

Model: 811.700.11 | Brand: CMT

1. INTRODUCTION

Thank you for choosing the CMT 811.700.11 Straight Router Bit. This high-quality carbide-tipped router bit is designed for precision routing applications in various woodworking projects. It is ideal for creating straight grooves, dados, rabbets, and for general-purpose routing tasks. To ensure safe and optimal performance, please read this manual thoroughly before use and keep it for future reference.

2. SAFETY INFORMATION

Working with router bits and power tools requires strict adherence to safety precautions. Failure to follow these guidelines may result in serious injury or damage to the tool and workpiece.

- **Always wear appropriate personal protective equipment (PPE)**, including safety glasses, hearing protection, and dust mask.
- **Ensure the router bit is securely installed** in the router collet before operation. A loose bit can be extremely dangerous.
- **Disconnect power** from the router before changing bits, making adjustments, or performing maintenance.
- **Use the correct bit for the application.** Do not force the bit or use it for tasks it was not designed for.
- **Maintain a firm grip on the router** and keep hands clear of the cutting area.
- **Work in a well-lit and clear workspace**, free from obstructions.
- **Feed the workpiece against the rotation of the bit** to prevent kickback.
- **Inspect the bit before each use** for any signs of damage, dullness, or wear. Replace damaged bits immediately.
- **Keep children and bystanders away** from the work area.

3. PRODUCT OVERVIEW

The CMT 811.700.11 is a high-performance straight router bit featuring a durable carbide cutting edge and a 12.7mm (1/2 inch) shank. Its design ensures clean and precise cuts for various woodworking applications.

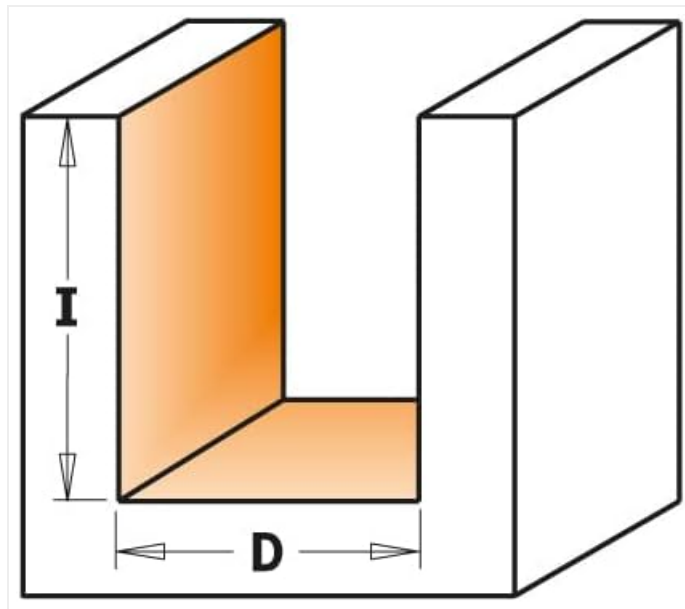


Figure 3.1: The CMT 811.700.11 Straight Router Bit.

The bit's dimensions are crucial for selecting the correct application and ensuring compatibility with your router. The cutting diameter (D) is 19.85mm, and the cutting length (I) is 25.4mm. The overall length is 59mm.



Figure 3.2: Illustrative diagram of a straight cut, indicating cutting depth (I) and cutting diameter (D).

4. SETUP

Proper installation of the router bit is essential for safety and performance.

1. **Ensure Router is Unplugged:** Always disconnect your router from the power source before installing or removing bits.
2. **Clean Collet and Shank:** Inspect the router collet and the bit's shank for any dust, debris, or resin buildup. Clean them thoroughly to ensure a secure grip.
3. **Insert Bit:** Insert the bit shank into the collet. For optimal grip and to prevent bit breakage, insert the shank at least three-quarters of its length into the collet, but avoid bottoming it out. Leave a small gap (about 1/16 inch or 1.5mm) between the end of the shank and the bottom of the collet.
4. **Tighten Collet Nut:** Use the appropriate wrenches to firmly tighten the collet nut. Do not overtighten, as this can damage the collet or the bit shank. Ensure the bit is held securely and does not wobble.
5. **Adjust Cutting Depth:** Set the desired cutting depth on your router according to your project requirements. Perform a test cut on scrap material to verify the depth before routing your final workpiece.

5. OPERATING INSTRUCTIONS

The CMT 811.700.11 straight router bit is versatile for various woodworking operations. Always perform test cuts on scrap material to determine the optimal feed rate and router speed for your specific wood type and application.

5.1. Creating Grooves and Dados

Straight bits are ideal for cutting grooves (channels along the grain) and dados (channels across the grain) for joinery or decorative purposes. Ensure your fence or guide is set accurately for straight cuts.



Figure 5.1: Example of a dado joint, a common application for straight router bits.

5.2. Cutting Rabbets

A rabbet is a step cut along the edge of a workpiece, often used for back panels, drawer bottoms, or joinery. Use a router table with a fence or a straight edge guide for precise rabbet cuts.



Figure 5.2: Illustrative example of a rabbet cut.

5.3. Tongue and Groove Joints

While specialized bits exist, straight bits can be used to create tongue and groove joints by making multiple passes and careful measurements. This is common for flooring or paneling.



Figure 5.3: Example of a tongue and groove joint.

5.4. Step Cuts

Straight bits can also be used to create various step profiles or recesses in a workpiece, depending on the desired depth and width.

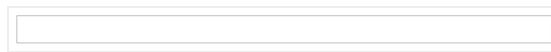


Figure 5.4: Example of a step cut.

General Routing Tips:

- **Multiple Passes:** For deeper cuts, make several shallow passes instead of one deep pass. This reduces strain on the bit and router, improves cut quality, and minimizes burning.
- **Router Speed:** Adjust router speed according to the material and bit diameter. Larger diameter bits generally require slower speeds.
- **Feed Rate:** Maintain a consistent feed rate. Too slow can cause burning, while too fast can lead to tear-out or excessive strain.
- **Clamping:** Always securely clamp your workpiece to prevent movement during routing.

6. MAINTENANCE

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

- **Cleaning:** After each use, clean the bit to remove resin and wood dust buildup. Use a specialized bit cleaner or mineral spirits and a brass brush. Avoid abrasive cleaners or wire brushes that can damage the carbide.
- **Inspection:** Regularly inspect the carbide cutting edges for chips, cracks, or excessive wear. Also check the shank for any signs of damage or scoring.
- **Sharpening:** When the bit becomes dull, it should be professionally sharpened. Do not attempt to sharpen carbide bits yourself unless you have the proper equipment and expertise.
- **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 rust.

7. TROUBLESHOOTING

Here are some common issues and their solutions:

- **Burning or Scorching on Wood:**

- Bit is dull: Sharpen or replace the bit.
- Feed rate is too slow: Increase feed rate.
- Router speed is too high: Reduce router RPM.
- Resin buildup on bit: Clean the bit thoroughly.

- **Rough or Chipped Cuts:**

- Bit is dull or damaged: Sharpen or replace the bit.
- Feed rate is too fast: Reduce feed rate.
- Incorrect router speed: Adjust RPM for the material.
- Workpiece not securely clamped: Re-clamp workpiece.

- **Excessive Vibration or Noise:**

- Bit not properly seated or tightened: Re-seat and tighten the bit in the collet.
- Damaged bit: Replace the bit.
- Worn router collet: Inspect and replace collet if necessary.

8. SPECIFICATIONS

Technical specifications for the CMT 811.700.11 Straight Router Bit:

Feature	Specification
Manufacturer	CMT
Model Number	811.700.11
Product Dimensions (L x W x H)	6.72 x 6.53 x 6.53 cm
Item Weight	453.59 grams
Shank Diameter (S)	12.7 mm (1/2 inch)
Cutting Diameter (D)	19.85 mm
Cutting Length (L)	25.4 mm
Overall Length	59 mm
Material	HW (Hard Metal / Carbide)
Color	Cranberry
Components Included	CMT 811.700.11 Straight Router Bit

9. WARRANTY AND SUPPORT

Specific warranty information for the CMT 811.700.11 Straight Router Bit is not provided in this manual. For details regarding warranty coverage, claims, or technical support, please refer to the official CMT website or contact your authorized CMT dealer. Keep your proof of purchase for any warranty-related inquiries.

