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## Dremel SM500

# Dremel SM500 3-Inch Multi-Purpose Carbide Saw-Max Wheel Instruction Manual

Model: SM500

## 1. INTRODUCTION AND OVERVIEW

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The Dremel SM500 3-inch multi-purpose carbide wheel is engineered for efficient cutting across a wide range of materials. Its robust carbide construction allows for precise straight and plunge cuts in materials up to 3/4 inches thick.

Compatible materials include hard and soft wood, plywood, composites, laminate flooring, drywall, PVC, and various plastics. This wheel is designed for use with Dremel Saw-Max tools.



Figure 1.1: The Dremel SM500 3-Inch Multi-Purpose Carbide Saw-Max Wheel in its retail packaging. This image displays the wheel's design and key specifications, including its 3-inch diameter and multi-purpose cutting capability.

## 2. SAFETY INFORMATION

Always prioritize safety when operating power tools and accessories. Failure to follow safety instructions can result in serious injury.

- **Eye Protection:** Always wear ANSI-approved safety glasses or goggles to protect against flying debris.
- **Hand Protection:** Wear appropriate work gloves to protect hands from cuts and abrasions.
- **Respiratory Protection:** When cutting materials that produce dust, wear a dust mask or respirator.
- **Hearing Protection:** Use hearing protection during extended periods of tool operation.
- **Tool Compatibility:** Ensure the SM500 wheel is used only with compatible Dremel Saw-Max tools. Refer to your tool's manual for specific compatibility and installation instructions.
- **Secure Workpiece:** Always secure the workpiece firmly to prevent movement during cutting.
- **Inspect Wheel:** Before each use, inspect the carbide wheel for any signs of damage, cracks, or excessive wear. Do not use a damaged wheel.
- **Proper Ventilation:** Work in a well-ventilated area.

- **Keep Clear:** Keep hands, hair, and loose clothing away from the rotating wheel.

### 3. SETUP AND INSTALLATION

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Proper installation of the SM500 wheel is crucial for safe and effective operation.

1. **Disconnect Power:** Always ensure your Dremel Saw-Max tool is unplugged or its battery is removed before attempting to change or install accessories.
2. **Access Spindle:** Follow your Dremel Saw-Max tool's instructions to access the spindle and release the current cutting wheel, if one is installed. This typically involves pressing a spindle lock button and using a wrench to loosen the arbor nut.
3. **Install SM500 Wheel:** Place the Dremel SM500 carbide wheel onto the tool's spindle, ensuring it is seated correctly. The cutting direction arrows on the wheel should match the rotation direction of the tool.
4. **Secure Wheel:** Re-attach the arbor nut and tighten it securely with the provided wrench. Do not overtighten, but ensure there is no play in the wheel.
5. **Verify Installation:** Gently spin the wheel by hand to ensure it rotates freely and is properly aligned.



Figure 3.1: A Dremel Saw-Max tool equipped with the SM500 wheel being used to make a cut in drywall. This illustrates the proper grip and positioning of the tool during operation, ensuring stability and control.

### 4. OPERATING INSTRUCTIONS

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The Dremel SM500 wheel is designed for making straight and plunge cuts in various materials.

- **Material Compatibility:** This wheel is suitable for cutting wood (hard and soft), plywood, composites, laminate flooring, drywall, PVC, and plastic.
- **Cutting Depth:** The 3-inch diameter allows for a maximum cutting depth of 3/4 inches. Adjust your tool's depth guide accordingly.
- **Straight Cuts:** For straight cuts, guide the tool along a straight edge or marked line. Apply steady, even pressure. Allow the wheel to reach full speed before engaging the material.
- **Plunge Cuts:** To make a plunge cut, position the front edge of the tool's base plate on the workpiece. Slowly lower the rotating wheel into the material until the desired depth is reached. Maintain control and avoid sudden movements.
- **Speed Settings:** Refer to your Dremel Saw-Max tool's manual for recommended speed settings for different materials. Generally, harder materials may require higher speeds, while softer materials or plastics may benefit from lower speeds to prevent melting or excessive heat buildup. The maximum RPM for the SM500 wheel is 20,000/min.
- **Avoid Forcing:** Do not force the wheel through the material. Let the wheel do the work. Excessive force can lead to poor cut quality, premature wear, and potential kickback.

## 5. MAINTENANCE

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Regular maintenance ensures the longevity and performance of your Dremel SM500 carbide wheel.

- **Cleaning:** After each use, disconnect the wheel from the tool and clean any accumulated dust or debris from the wheel and its arbor hole. A soft brush or compressed air can be used.
- **Inspection:** Periodically inspect the carbide teeth for wear, chipping, or damage. A dull or damaged wheel will not cut efficiently and can be dangerous. Replace the wheel if significant wear or damage is observed.
- **Storage:** Store the wheel in a dry, protected environment, away from moisture and extreme temperatures. Keep it in its original packaging or a protective case to prevent damage to the carbide teeth.
- **Rust Prevention:** While carbide is highly durable, prolonged exposure to moisture can affect the metal components. Ensure the wheel is dry before storage.

## 6. TROUBLESHOOTING

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If you encounter issues while using your Dremel SM500 carbide wheel, consider the following common troubleshooting steps:

- **Poor Cut Quality (Rough Edges, Slow Cutting):**
  - Check if the wheel is dull or damaged. Replace if necessary.
  - Ensure the wheel is installed correctly and securely tightened.
  - Verify that the tool speed is appropriate for the material being cut.
  - Avoid forcing the cut; let the wheel work at its own pace.
- **Excessive Vibration:**
  - Ensure the wheel is properly seated and the arbor nut is securely tightened.
  - Inspect the wheel for any warping or damage. A bent wheel must be replaced.
  - Check the tool itself for any issues.
- **Overheating of Material or Wheel:**

- Reduce the cutting speed, especially for plastics.
- Apply less pressure and allow the wheel to cool periodically.
- Ensure the wheel is sharp; a dull wheel generates more friction and heat.

If problems persist, consult your Dremel Saw-Max tool's instruction manual or contact Dremel customer support.

## 7. SPECIFICATIONS

Feature	Specification
Model	SM500
Material	Carbide
Product Dimensions (L x W)	7.6 cm x 7.6 cm (3 inches diameter)
Compatible Devices	Dremel Saw-Max tools
Grit Type	Coarse
Abrasive Type	Carbide
Grit Number	24
Construction Type	Bonded
Compatible Materials	Wood, plastic, plywood, composites, laminate flooring, drywall, PVC
Maximum RPM	20,000/min
Included Components	1 Piece
Country of Origin	United States
GTIN/UPC	080596032821

## 8. WARRANTY AND SUPPORT

Dremel products are manufactured to high-quality standards and are backed by a limited warranty. For specific warranty details, please refer to the documentation included with your Dremel Saw-Max tool or visit the official Dremel website.

For technical assistance, product inquiries, or warranty claims, please contact Dremel customer support. Contact information can typically be found on the Dremel website or in your tool's user manual.

**Online Resources:** Visit the official Dremel website for product information, FAQs, and additional support resources.