

4-in-1 Screwdriver Turning Kit Instructions

Effective December 2018



GENERAL SAFETY WARNINGS

This product is designed only for specific applications as defined in the instructions and should not be modified or used for any manner not described in these instructions. Use only recommended accessories. Before using the 4-in-1 Screwdriver Turning Kit: **READ, UNDERSTAND** and **FOLLOW ALL INSTRUCTIONS AND SAFETY WARNINGS. KEEP THESE INSTRUCTIONS READILY AVAILABLE FOR FUTURE REFERENCE.**

- > Always confirm that you are using the most recent version of the Instructions and safety warnings for your product (see the Instructions link on the product page at Rockler.com).
- > Before using another tool with this product, always read, understand and follow the instructions and safety warnings in the owner's manual for that tool. If you do not have the owner's manual, obtain one from the tool's manufacturer before using it with this product.
- > Before using any chemical with this product, always read, understand and follow all safety warnings and guidelines in the manufacturer's Safety Data Sheet (SDS; formerly called "MSDS"), especially regarding:
 - How to safely use the chemical, including potential hazards and recommended first aid measures;
 - Personal safety equipment required to safely use the chemical (e.g. gloves, eye protection, mask/respirator, etc.);
 - Proper and safe handling, storage and disposal of the chemical.
- > Before using this product, review and verify that all tools to be used with it have safety equipment installed and are in proper working order as defined by the tool's owner's manual.
- > Do not use this product until you have read and are confident you understand:
 - Product Specific Warnings (p. 3);
 - Part List (p. 3);
 - Choose Your Stock (p. 4);
 - Drill the Blank (p. 4);
 - Turn the Handle (p. 4).
- > The user assumes all risk and responsibility for the proper and safe use of this product and for ensuring product suitability for the intended application.
- > It is the sole responsibility of the purchaser of this product to ensure that any anyone you allow to use this product reads and complies with all instructions and safety precautions outlined in this manual prior to use.
- > Follow all standard shop safety practices, including:
 - Keep children and bystanders away from the tool operating area;
 - Do **NOT** use power tools in explosive environments, or in the presence of flammable liquids, fumes or dust;
 - **TURN OFF AND UNPLUG** all power tools **BEFORE** making any adjustments or changing accessories;
 - Remain alert and use good judgment. Do not use this product if you are in any way impaired by medications, alcohol, drugs or fatigue;
 - Keep your work area well lit and clean;
 - Dress appropriately. Secure loose clothing, remove all jewelry and tie up long hair before using this product;
 - **ALWAYS** wear safety glasses, hearing protection and respiratory protection that complies with NIOSH/OSHA/ANSI safety standards;
 - Use dust collection tools and dust face masks to reduce exposure to dust;
 - Use safety equipment such as featherboards, push sticks and push blocks, etc., when appropriate;
 - Maintain proper footing at all times and do not overreach;
 - Do **NOT** force woodworking tools.
- > These warnings and instructions do **NOT** represent the total of all information available regarding tool safety, use and technique. Always seek out opportunities to learn more and improve your skills and knowledge.

⚠ WARNING: Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known at the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to www.P65Warnings.ca.gov/wood.

⚠ DANGER Danger indicates a hazardous situation that, if not avoided, will result in death or serious injury.

⚠ WARNING Warning indicates a hazardous situation that, if not avoided, could result in death or serious injury.

⚠ CAUTION Caution indicates a hazardous situation that, if not avoided, may result in minor or moderate injury or property damage.

NOTICE Notice indicates important or helpful information and/or user tips.

PRODUCT SPECIFIC SAFETY WARNINGS

⚠️ WARNING

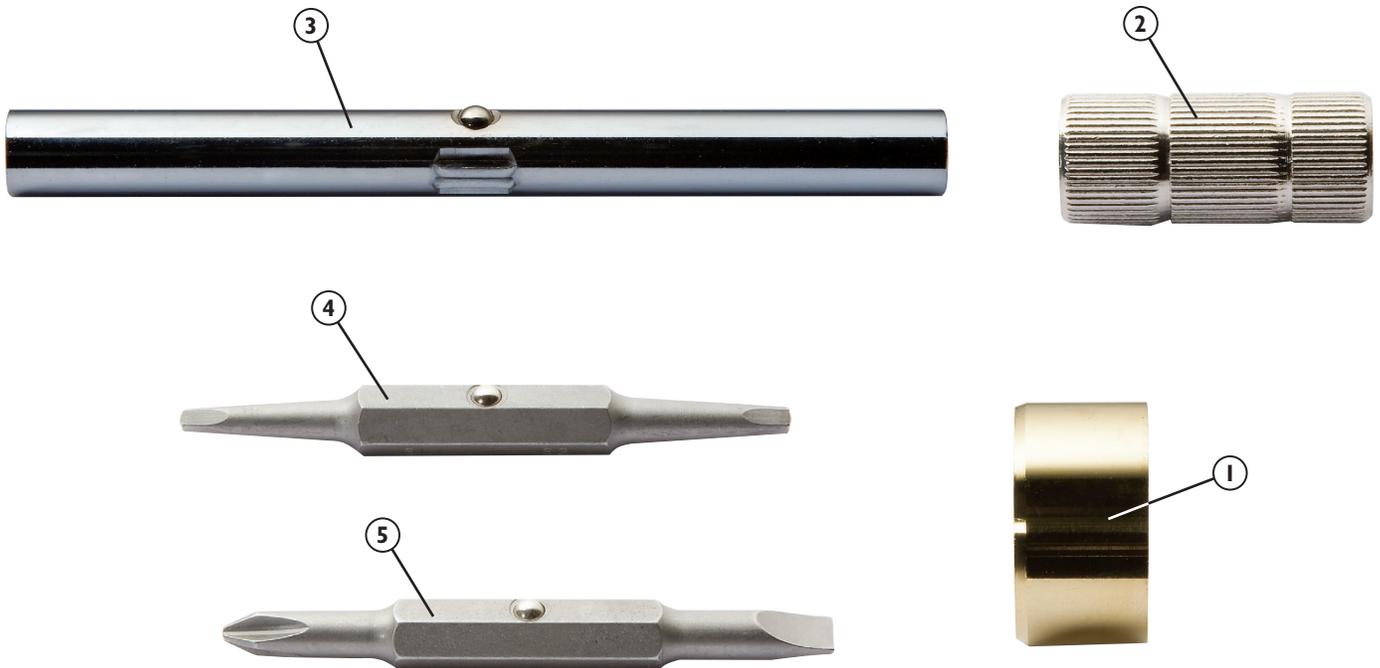
> To avoid serious injury, always turn off and unplug the drill press or the lathe before installing or removing a bit.

NOTICE

> When drilling the blank, don't attempt to drill the entire depth at once. Drill about 1/2" at a time, backing out the bit to clear chips and dust, and repeat until you've reached the desired depth.

> To ensure a perfect fit when turning the tenon, use calipers that have been set to match the inside diameter of the Brass Ferrule (1) to check the tenon's diameter.

> When installing the Knurled Insert (2) in the handle, the two internal slots **MUST** face outward to accept the Reversible Shaft (3), which holds the bits (4 and 5).



PARTS LIST

	Quantity
1 Brass Ferrule	1
2 Knurled Insert	1
3 Reversible Shaft	1
4 Square #1/Square #2 bit	1
5 Phillips #2/Slotted bit	1

Choose Your Stock

Select a wood or acrylic blank that measures at least 1¾" x 1¾" x 6". Be sure the blank is long enough that there's enough material for cutting the handle off the lathe.

Drill the Blank

NOTICE

When drilling the blank, don't attempt to drill the entire depth at once. Drill about 1/2" at a time, backing out the bit to clear chips and dust, and repeat until you've reached the desired depth.

You will need to drill a stepped hole a total depth of 3¾" in one end of the blank to accommodate the hardware. The first 1½" must be drilled with a 5/8" diameter drill or Forstner bit. The rest of the length must be drilled with a 1/2" drill or Forstner bit and be centered in the first opening.

There are two ways to drill the hole needed for the hardware: at a drill press or on the lathe. Both require that the ends of the blank are square to the sides, so check your blank to make sure the faces are square.

⚠ WARNING

To avoid serious injury, always turn off and unplug the lathe before installing or removing the bit.

At a drill press: Draw diagonal, corner-to-corner lines on the end of the blank to locate the center. Chuck a 5/8" diameter bit in the drill press and set the speed to about 750 r.p.m. Use a handscrew clamp or drill press vise to hold the blank perpendicular to the table, and center the blank under the tip of the drill bit. (Secure it in this location if possible.) Drill the 5/8" diameter hole to a depth of 1½". Switch to a 1/2" bit (keep the speed the same), check to be sure that the blank is still centered under the bit and drill to a total depth of 3¾".

⚠ WARNING

To avoid serious injury, always turn off and unplug the lathe before installing or removing the bit.

On the lathe: Install a four-jaw chuck in the headstock and a lathe drill chuck in the tailstock. Secure your turning blank in the four-jaw chuck and install a 5/8" diameter bit in the drill chuck. Turn on the lathe to a speed of about 750 r.p.m. and slowly advance the tailstock until you have drilled the 5/8" diameter hole to a depth of 1½". Switch to the 1/2" diameter bit (keep the speed the same) and drill to the final total depth of 3¾".

Turn the Handle

1. Mount the drilled blank securely on the lathe, using either a drive center or a four-jaw chuck at the headstock end and a cone-style live center in the tailstock (to fit into the drilled hole in the blank).
2. Rough turn the blank round.
3. With the lathe turned off, make a mark 5/8" in from the drilled end of the blank; rotate the blank by hand to extend the mark all the way around. (This is to guide you as you turn a tenon to fit the Brass Ferrule [1] included in the kit.)

NOTICE

To ensure a perfect fit, use calipers that have been set to match the inside diameter of the Brass Ferrule (1) to check the tenon's diameter.

4. Using a parting tool or square carbide cutter, carefully turn a 1" diameter tenon up to the line. It's best to take light cuts as you get close to the final diameter so you don't go too far. Stop the lathe frequently to check your progress with the calipers.
 5. Once you think you've reached the final diameter, stop the lathe and retract the tailstock to test fit the Brass Ferrule (1) on the end of the tenon. If the fit is good, re-engage the tailstock, but don't overtighten it, or the ferrule end could crack. (Another option is to epoxy the ferrule onto the tenon at this point and then cover it with painter's tape so you don't damage it while turning the handle. Be sure to wipe away any squeeze-out.)
 6. Turn the handle to the desired shape and size. Be aware of the length and diameter of the drilled hole, making sure to leave enough wood for sufficient strength. Reduce the material at the headstock end of the blank so it will be easy to cut or part off after you've applied finish.
 7. Sand the completed turning to remove all torn grain and scratches. Apply the desired finish, taking care not to get any on the tenon.
 8. Cut or part off the waste material at the headstock end of the handle; sand the end smooth and apply the desired finish.
 9. Apply epoxy to the tenon and drive the Brass Ferrule (1), beveled edge facing out, onto the tenon, firmly seating it against the shoulder of the wood. Wipe away any squeeze-out.
- NOTICE** When installing the Knurled Insert (2) in the handle, the two internal slots **MUST** face outward to accept the Reversible Shaft (3), which holds the bits (4 and 5).
10. Apply a small amount of epoxy to the first 1½" of the hole in the handle. Orient the Knurled Insert (2) so the two internal slots face outward and press it into the handle, flush with the surface. Make sure that no glue will block the passage of the Reversible Shaft (3) when it is inserted into the handle. Allow the epoxy to cure.
 11. Insert the bits (4 and 5) into the Reversible Shaft (3) and then insert the Reversible Shaft in the Knurled Insert (2) to use the screwdriver

Check Rockler.com for updates. If you have further questions, please contact our Technical Support Department at 1-800-260-9663 or support@rockler.com