

HUDY®

ULTIMATE PROFESSIONAL R/C TOOLS



#101081 HUDY DIAMOND CUTTING TOOL

This professional Diamond Cutting Tool has a diamond tip to provide unmatched precision cutting of armature commutators.

To allow your electric motor to have optimum power throughout its lifespan, it is necessary to regularly cut the armature commutator to expose fresh contact area and smoothen the surface. This Diamond Cutting Tool is the ultimate cutting tool for use with all Hudy Comm Lathes, giving professional results every time.

This professional Diamond Cutting Tool has a diamond tip, which is the hardest known material but is also very breakable if not installed and used properly.

Be sure to carefully read this instruction manual before using this great tool.



INSTALLATION

- Pay attention not to damage the diamond tip!
- Remove the previous cutting tool (if present).
- Fasten the Diamond Cutting Tool in the cutting tool mount and adjust the height of the tool with shims to ensure there is enough vertical clearance between the cutting tool and the stand.
- When using HUDY comm lathes:
 - **for RC car motors** there should be **0.15-0.20mm** clearance
 - **for slot car motors** there should be **0.35-0.40mm** clearance
- When using the tool **in other lathes**, we recommend **0.00-0.05mm** clearance, unless otherwise specified in the original manufacturer's instructions.
- Be sure that the cutting tool is secure in its mount, and does not vibrate. Do not overtighten the clamping screws otherwise tool clearance may be reduced.
- For more information about installing the cutting tool and setting proper clearance, see the documentation accompanying the comm lathe.

ARMATURE CUTTING

The armature should turn so that the comm moves upward where it contacts the cutting tool. If the armature turns in the opposite direction, it will break the tip of the cutting tool.

While cutting pay attention to where the tool stops moving along the comm. Adjust the comm lathe's adjustable stop screw to prevent the cutting tool from hitting the winding tabs on the armature; this can severely damage the cutting tool.

MAINTENANCE

- Clean the tip of the cutting with a cotton swab after each use.
DO NOT try to clean it with anything hard (example, a screwdriver).
- DO NOT try to resharpen the tip of the cutting tool.

USEFUL INFORMATION

Resharpener the Diamond Cutting Tool

Due to the complex process of manufacturing the cutting tool, it is cheaper to purchase a new tool rather than try to rework the existing tool. Contact your distributor or local shop for information on obtaining a new cutting tool.

Direction of cutting passes

When cutting move the bit from the right to the left and back. You can repeat this operation as many times as necessary until the surface of the comm is smooth.

Depth of cut

We recommended you adjust the cutting depth only one notch per pass.

Minimum comm diameter

You can cut the comm as long as there is a visible copper layer.

Number of cutting passes

You can run the bit across the comm as many times as necessary until the desired cut is achieved.

For the automatic comm lathe we recommend you run the cutting tool across the comm 2-3 times at maximum speed, then 1-2 times at minimum speed to finish.

Length of cut

Adjust the comm lathe's adjustable stop screw to keep the cutting tool a safe distance from the wiring tabs. Never hit the tabs! This will break the cutting tool.

Cutting fluid and lubricant

The combination of Hudy Comm Lathe + plastic clips + Diamond Cutting Tool makes a perfect cut without using cutting fluid or lubricant. However, you may use any cutting fluid if you want to.

If you are using a Hudy Comm Lathe with hardened V guides, lubricate the contact area with graphite powder to reduce friction between the guides and the armature, and extend the lifetime.

Small regularly repeating grooves on the comm after a cut

The cutting tool is not held firmly, and it moves while you are cutting. Tighten the two screws in the tool block that holds the cutting tool.

Cut comm does not have a mirror finish

A mirror finish is not as important as a smooth comm surface; the comm must be smooth and even, as the entire burned layer must be cut down.

A mirror finish does not affect the quality of the cut nor the performance of the motor.

Comm is coned after a cut

To achieve the best motor performance, the comm must have an even (non-coned) surface. That is, the comm's diameter at the both ends and the middle must be the same. If the comm is cut conic, this means that the stands are slightly out of alignment. This sometimes happens if you have replaced a stock stand with the optional Axial Support, and that stand is not set properly.

Please refer to the instructions accompanying the stand to understand how to set it properly.

Each Diamond Cutting Tool is specially manufactured under rigid control and carefully inspected under microscope to guarantee 100% quality of each new tool.

If you follow these instructions, HUDY guarantees high-quality, high-reliability armature cutting as well as a long life span for this great tool.

We hope that you will be satisfied with the performance and quality of this equipment. If you have any questions or advice about how to improve this equipment, please do not hesitate to contact us.

Thank you for choosing HUDY products!

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