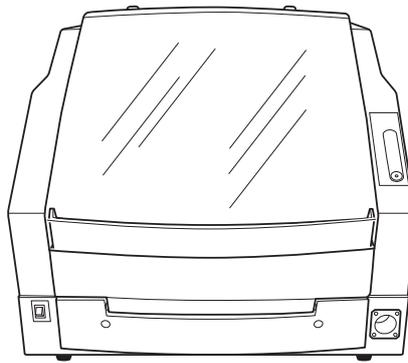


DWX-50

5 AXIS / AUTO TOOL CHANGER

Operation Guide



Documentation Included with the Machine

The following documentation is included with the machine.

DWX-50 Setup & Maintenance Guide

This document explains how to set up the machine, how to install the supplied software, and how to perform maintenance. Be sure to read it first.

DWX-50 Operation Guide (PDF): this document

This document explains how to perform cutting by using this machine. The manual is in electronic format, and no printed document is included. You can find it on the included Roland Software Package CD-ROM.

DWX-50 VPanel Guide (PDF)

This document explains how to operate the software. The manual is in electronic format, and no printed document is included. You can find it on the included Roland Software Package CD-ROM.

What This Document Assumes

Before performing any operations described in this guide, make sure that all the following preparations have been complete.

- Installation of the machine, cable connections, and other hardware setup tasks for the machine
- Connecting the machine to a computer, installing the required programs, and other software-related setup tasks for the machine

Before You Read This Document

Before you make use of this document, you should first be sure to read the Setup & Maintenance Guide to familiarize yourself thoroughly with the safe and correct use of the machine.

The Setup & Maintenance Guide also includes such information as daily and other periodic maintenance methods, and what to do if a problem occurs in the course of basic operation. To ensure the full use of the machine, we recommend reading this thoroughly.

For the latest information about this machine (including manuals), see the Roland DG Corp. website (<http://www.rolanddg.com>).

Thank you very much for purchasing this product.

- To ensure correct and safe usage with a full understanding of this product's performance, please be sure to read through this manual completely and store it in a safe location.
- Unauthorized copying or transferral, in whole or in part, of this manual is prohibited.
- The contents of this operation manual and the specifications of this product are subject to change without notice.
- The operation manual and the product have been prepared and tested as much as possible. If you find any misprint or error, please inform us.
- Roland DG Corp. assumes no responsibility for any direct or indirect loss or damage which may occur through use of this product, regardless of any failure to perform on the part of this product.
- Roland DG Corp. assumes no responsibility for any direct or indirect loss or damage which may occur with respect to any article made using this product.

For the USA

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Unauthorized changes or modification to this system can void the users authority to operate this equipment.

When the equipment requires a usb cable, it must be shielded type.

For Canada

CLASS A NOTICE

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

CLASSE A AVIS

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

NOTICE

Grounding Instructions

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded.

Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug.

Repair or replace damaged or worn cord immediately.

For California

WARNING

This product contains chemicals known to cause cancer, birth defects and other reproductive harm, including lead.

For EU Countries



Manufacturer:

ROLAND DG CORPORATION

1-6-4 Shinmiyakoda, Kita-ku, Hamamatsu-shi, Shizuoka-ken, 431-2103 JAPAN

The authorized representative in the EU:

Roland DG Corporation, German Office Halskestrasse 7, 47877 Willich, Germany

For EU Countries

WARNING

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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Operating Instructions

KEEP GUARDS IN PLACE and in working order.

REMOVE ADJUSTING KEYS AND WRENCHES. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.

KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.

DON'T USE IN DANGEROUS ENVIRONMENT. Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.

KEEP CHILDREN AWAY. All visitors should be kept safe distance from work area.

MAKE WORKSHOP KID PROOF with padlocks, master switches, or by removing starter keys.

DON'T FORCE TOOL. It will do the job better and safer at the rate for which it was designed.

USE RIGHT TOOL. Don't force tool or attachment to do a job for which it was not designed.

USE PROPER EXTENSION CORD. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.

WEAR PROPER APPAREL. Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.

USE SAFETY GLASSES, face or dust mask if cutting or cleaning operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.

SECURE WORK. Use clamps or a vise to hold work when practical.

DON'T OVERREACH. Keep proper footing and balance at all times.

MAINTAIN TOOLS WITH CARE. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

DISCONNECT TOOLS before servicing; when changing accessories, such as blades, bits, cutters, and the like.

REDUCE THE RISK OF UNINTENTIONAL STARTING. Make sure switch is in off position before plugging in.

USE RECOMMENDED ACCESSORIES. Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.

NEVER STAND ON TOOL. Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.

CHECK DAMAGED PARTS. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function - check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.

NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF. Don't leave tool until it comes to a complete stop.

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<http://www.rolanddg.com/>

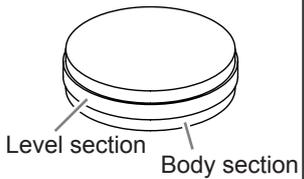
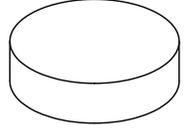
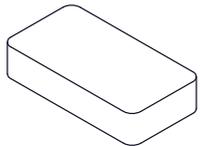
Getting Ready to Cutting

Preparation for Workpiece (Usable workpieces)

Type of workpiece

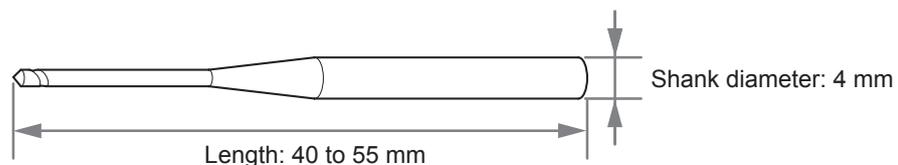
Zirconia (pre-sintered), modeling wax, PMMA

Type and size of workpiece

Type		Size (unit: mm)	
		External diameter, or width x depth	Height
Disc with levels		Level section : diameter 98 to 100 Body section : diameter 95	Level section : 10 Body section : 12 to 26
Disc without levels		Diameter 98 to 100	10 to 14
			16 to 20
Block		38 x 76	16 or 22

Preparation for Tool (Size of Tool That Can Be Used)

The tool size that can be used is shown in the figure below.



* The shape of the tool is an example. Select an appropriate tool suitable for usage. To purchase a tool, ask us or the dealer where you purchased the machine.

Preparation for Supply of Compressed Air (Setting the Regulator)

Set the air pressure as using the table given below as a reference.

Zirconia	0.05 MPa
WAX	0.05 MPa
PMMA	0.2 MPa

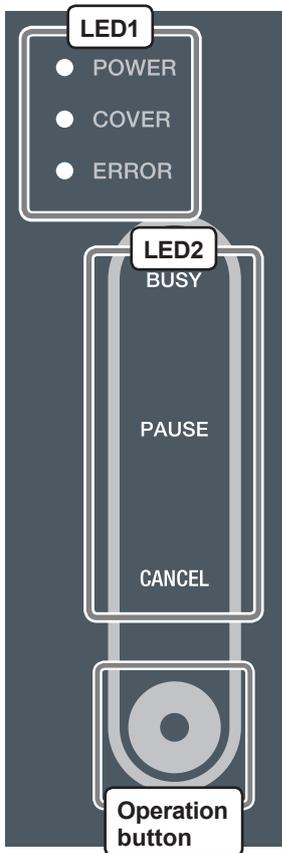
When supply of air starts, the air starts to flow and the pressure drops. When the pressure has dropped, adjust the regulator to have an appropriate value again. (Air is supplied when the spindle rotates or when the tool is replaced.)

* For information on how to install the regulator, etc., see "Setup & Maintenance Guide" ("Preparing the Regulator" in "Installation").

How to Use the Built-in Panel/ How to Read the Display

How to Use the Built-in Panel/ How to Read the Display

The built-in panel is used to operate the machine and display the machine status and operation state.



LED1

Displays the machine status.

POWER	Lights when the power switch is ON.	
COVER	Flashes when the front cover is open.	
ERROR	Flashes when an error has occurred. The flashing speed varies depending on the error. The description of the error is displayed in VPanel. If a measure is displayed, follow the instructions. For more information, see "VPanel Guide" ("Responding to an Error Message").	
	Slow flashing	The error can be canceled by holding the operation button depressed. Even if the error is canceled, it might occur again depending on the error. In that case, check the instructions given on VPanel and deal with the error by following the instructions.
	Fast flashing	Recovery failed. Turn off the power switch.

LED2

Displays the machine operation state.

BUSY	Lights while the machine is in operation.
PAUSE	Lights while the operation is paused.
CANCEL	Flashes while the data is canceled, or the initial operation is performed. The cutting data received while the lamp is flashing is canceled.
* All the LEDs are flashing.	When an error occurred while the tool is replaced, all the LEDs of BUSY, PAUSE, and CANCEL might flash at the same time. In that case, reset the error in accordance with the instructions given on the VPanel.

Operation button

Operates the machine.

Standby	Pressing the operation button moves the spindle head and the table to the VIEW position*. If the tool is mounted, it is returned to the ATC magazine. (When the ERROR LED is flashing slowly, the error can be canceled by holding this button depressed.)
Cutting	Pressing the operation button pauses the operation and moves the spindle head and the table to the VIEW position*. The operation can be resumed by pressing the button again. Holding the button depressed while the operation is paused stops the cutting.

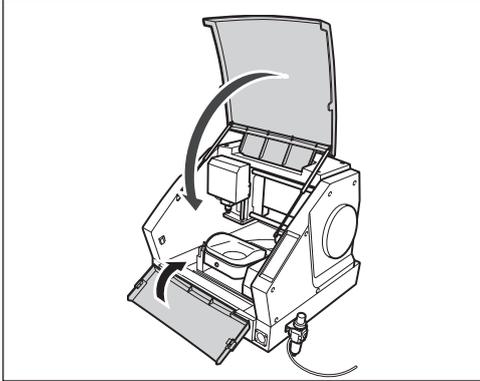
*View position is the left end in the highest position for the spindle head, and the frontmost position for the table.

Starting Cutting

STEP1: Mounting the Workpiece

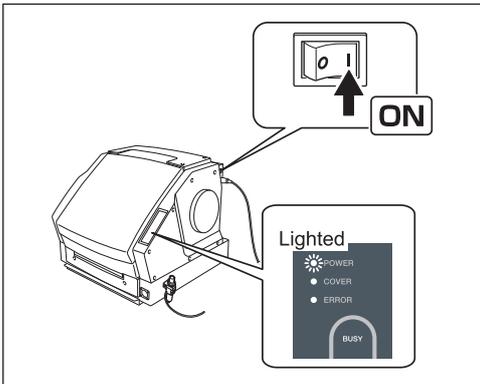
Procedure

1



Close the front covers.

2



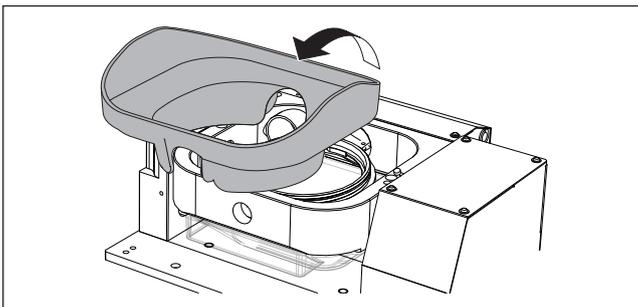
Switch on the power switch.

When the spindle head and table move to the VIEW position, and the LEDs except POWER LED go off, the starting up of this machine is complete.

3

Open the front covers.

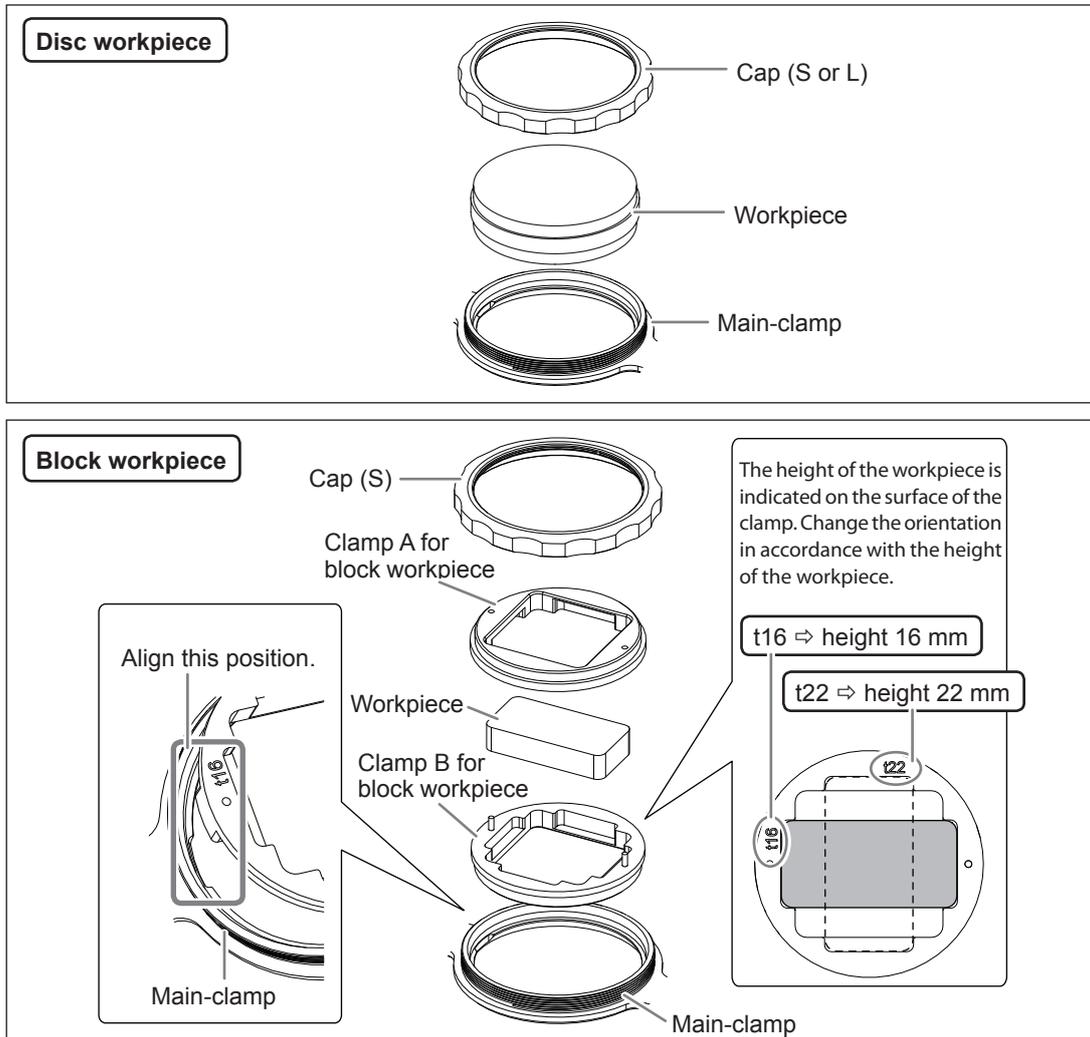
4



Remove the dust collection capsule.

5 Mount the workpiece.

Select the sub-clamp in accordance with the type and size of the workpiece to be used based on the figure and table given below.



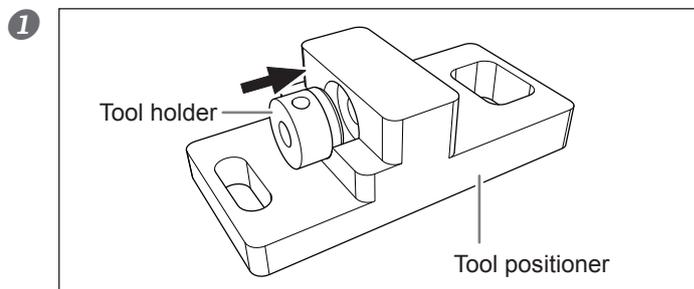
Use an appropriate sub-clamp indicated with a check mark in the table below.

Type of work-piece	Size of workpiece (unit: mm)		Sub-clamp		
			Cap		Clamp for block workpiece
	External diameter, or width x depth	Height	S	L	A and B
Disc with levels	Level section : diameter 98 to 100 Body section : diameter 95	Level section : 10 Body section : 12 to 26	✓		
Disc without levels	Diameter 98 to 100	10 to 14	✓		
		16 to 20		✓	
Block	38 x 76	16 or 22	✓		✓

6 Mount the cover of the dust collection capsule.

STEP2: Installing a Tool

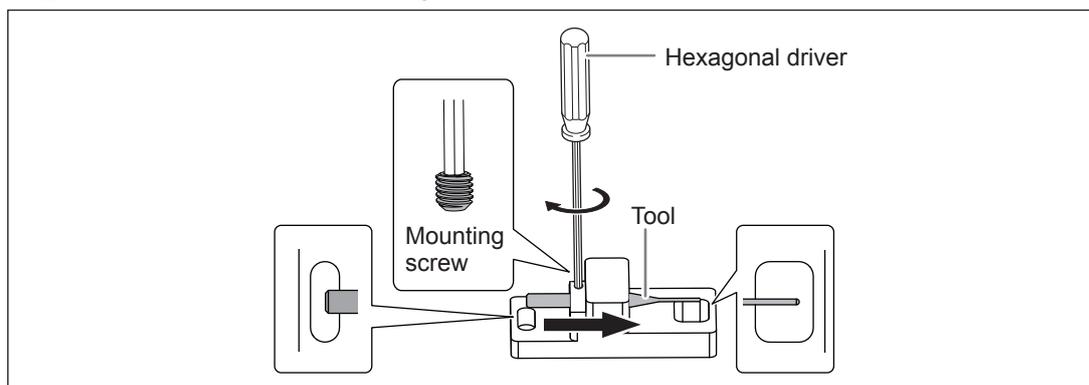
Procedure



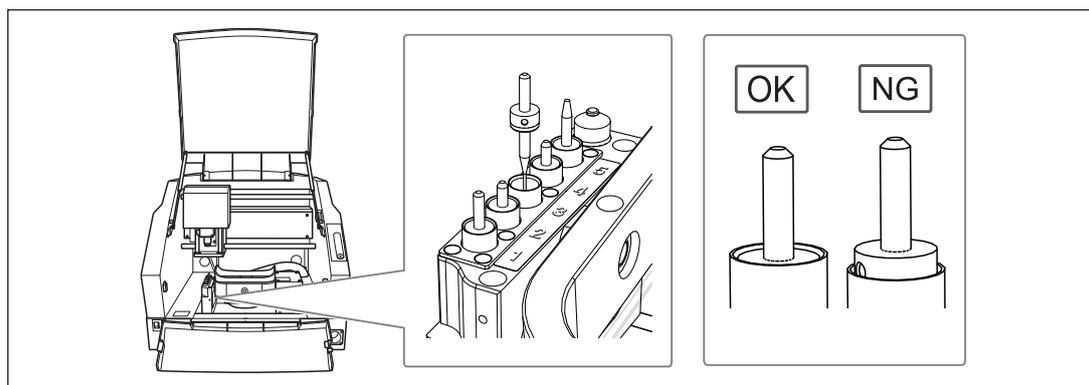
Place the tool holder on the tool positioner.

Press it to the end of the hole in the orientation shown in the figure.

- ②
- ① Insert the tool into the tool holder and determine the position.
Insert the tool in the orientation shown in the figure so that the both ends are located within the ranges of the holes of the tool positioner.
- ② Fix the tool with a mounting screw.



- ③ Set the tool on the ATC magazine.
- Insert the tool to the bottom firmly. The ATC magazine can accommodate 5 tools. The tool numbers are printed on the surface of the magazine.



STEP3: Starting Cutting

Close the front covers and send the cutting data from the computer.

You can send the data from the computer by using your CAM software or VPanel, which is supplied with the machine. For information on how to operate VPanel, see "VPanel Guide (PDF)" (select [Roland DWX-50] - [VPanel Guide] from the [Start] menu of Windows.) The output method is explained mainly in "Chapter 1 Basic Operation."

Roland DG Corp. has licensed the MMP technology from the TPL Group.

