SHARK®

World Class. Made in USA.

SHARK 2 HP Air-Cooled Spindle Kit

NEXT WAVE® CNC

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A Note to Our Customers

Thank you for purchasing the 2HP Air Cooled Spindle kit! We hope you enjoy this versatile tool for your SHARK CNC machine.

This manual provides you with the necessary information to get your accessory up and running. Please read through the entire manual carefully. Proper installation and setup are the key to achieving the best results.

Disclaimer

This manual has been written with the expectation that the operator has a basic understanding of their SHARK CNC machine and is familiar with the safe operation of woodworking power tools. Information in this manual is subject to change without notice. For more information, please refer to the support page on our website: https://www.nextwavecnc.com/support

Warranty

Next Wave CNC warrants to the original retail purchaser of the 2HP Air-Cooled Spindle Accessory and purchased from an authorized CNC Shark distributor will be free from defects in material and workmanship for ONE YEAR from the date of purchase. This warranty is for parts and labor to correct the defect and does not cover the cost of shipping the defective item(s) to Next Wave CNC for repair or replacement.

<u>This warranty does not apply to defects arising from normal wear and tear, misuse, abuse, negligence, accidents, unauthorized repair or alteration, or lack of maintenance.</u>
This warranty is void if the 2HP Air-Cooled Spindle Accessory is modified without the prior written permission of Next Wave CNC, LLC, or if the 2HP Air-Cooled Spindle Accessory is located or has been used outside the country of residence of the authorized CNC Shark distributor.

Please contact Next Wave CNC to take advantage of this warranty. If Next Wave CNC determines the 2HP Air-Cooled Spindle Accessory is defective in material or workmanship, and not due to normal wear and tear, misuse, abuse, negligence, accidents, unauthorized repair or alteration, or lack of maintenance, then Next Wave CNC will, at its expense and upon proof of purchase, send replacement parts to the original retail purchaser necessary to cure the defect.

What's Included

a	2HP Air-Cooled Spindle Motor	e	M6 x 90mm bolt – qty 4
b	80mm Aluminum Spindle Clamp	f	17mm ER11 Wrench
c	1/8" ER11 Collet	g	13mm ER11 Wrench
d	1/4" ER11 Collet	h	1.5KW Inverter

In the unfortunate case your unit is missing one of the components, please reach out to the Next Wave CNC Support Team at support@nextwavecnc.com for a replacement.

Product Overview

The 2HP Air-Cooled Spindle Accessory serves as a robust enhancement for your SHARK CNC machine, especially when dealing with tasks demanding both meticulous precision and extended operational periods. This accessory works with all HD500, HD510, and HD520 machines, and is controlled manually through the 1.5KW Inverter.

Spindle Installation

Step 1: Remove the router mount

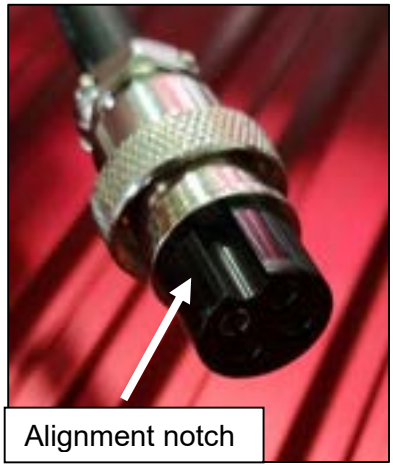
Remove the two bolts on the left side of the mount and then remove your router. Next remove the two bolts on the right side and remove the mount.

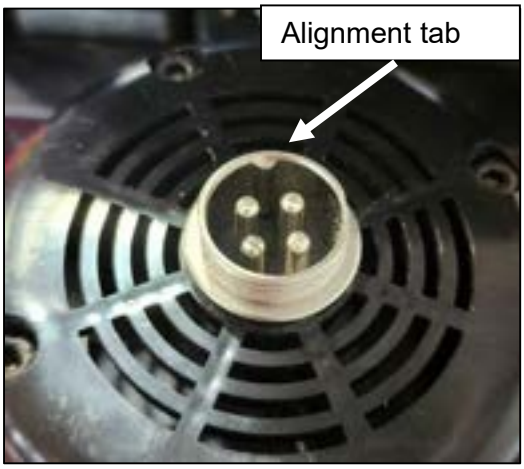
Step 2. Install the spindle mount

Loosely attach the spindle mount with the four new mounting bolts with the cut through on the clamp positioned on the left side. Tighten the two bolts on the right side. Slide the spindle into the mount so it is positioned about midway, or a height that meets your needs. Tighten the two left-hand bolts to secure the spindle.

Step 3. Open the gantry drag chain

With a flathead screwdriver, position it beneath the tab of the drag chain link, then twist your wrist to gently release the tab. Repeat this process for all tabs until they are all open.





Step 4. Attach the spindle cable

Attach the spindle power cable to the top of the spindle. The power cable has a groove that corresponds to a tab in the spindle socket. Ensure proper alignment when joining the two components.

Step 5. Cable management

Place the spindle power cable into the drag chain located at the rear of the gantry. Secure the cable by closing the first two drag chain tabs nearest to the Z-axis motor. Use the LCD Pendant or Ready2Control to raise and lower the Z-axis, and modify the spindle power cable's position to prevent rubbing or excessive tension while moving the Z-axis vertically. Once the cable is positioned correctly, close all tabs on the drag chain.

Step 6. Inverter Placement

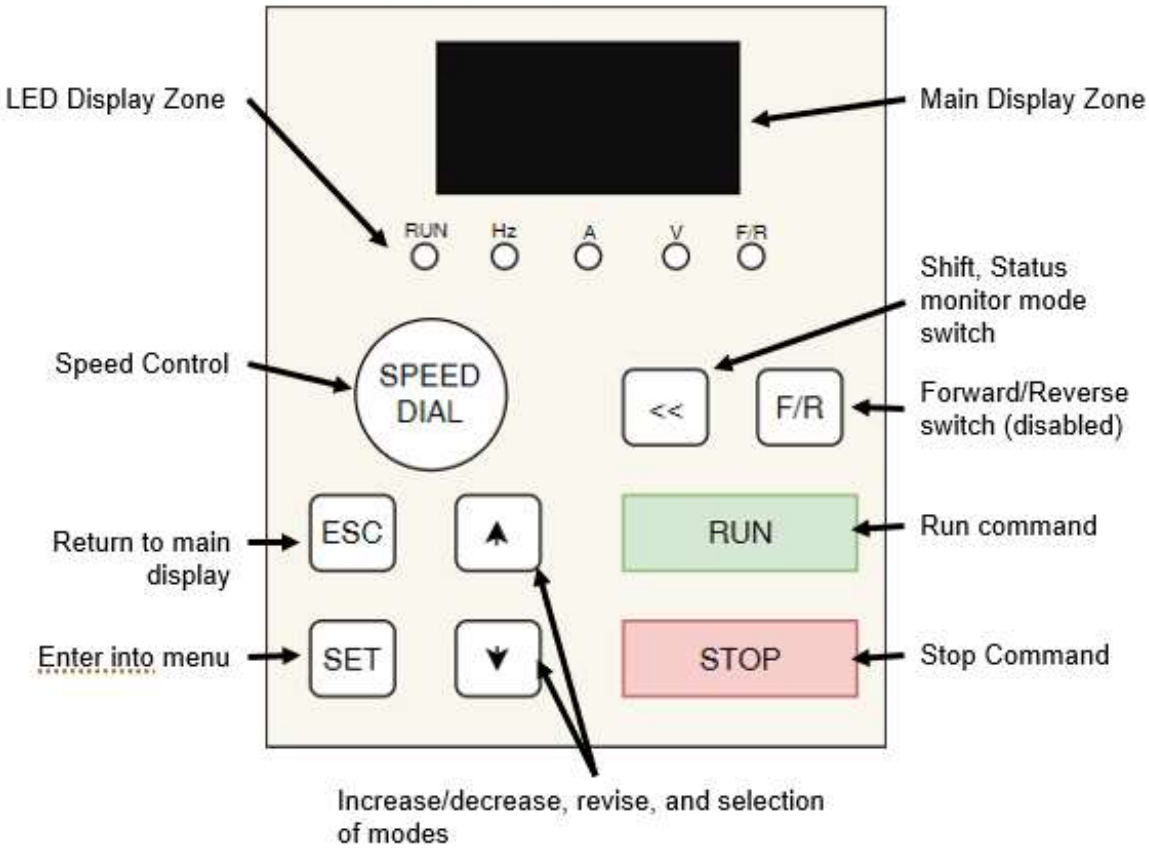
The placement of the Inverter may differ based on your workshop and SHARK CNC configuration or orientation. However, it's essential to place the Inverter in a convenient spot where you can easily reach the Inverter front panel controls. Move the gantry along the X and Y-axes to confirm that the Inverter to spindle cable doesn't impede the machine's motion or create undue stress on the cable.

Step 7. Inverter power cable

To power on the Inverter, plug the three-pronged Inverter power cord into a standard 110V wall outlet or a power strip (not included) connected to a 110V wall outlet.

Inverter Overview

The Inverter comes pre-programmed and controls various functions of the Air-Cooled spindle through the Inverter's front panel.



The main display of the Inverter will show information depending on what LEDs are lit in the LED display zone. Pressing the Shift << key will cycle between the different displays outlined below.

Indicator LED	Status	Description
RUN	On	Spindle is running
Hz	On	Displays set frequency or output frequency
A	On	Displays output current
V	On	Displays Voltage
F/R	On	Spindle is in reverse (disabled)

When the Inverter is set to display the RPM's, none of the LED indicators will be lit but the Display will flash zeros. When the spindle is running, the Run LED will light green and the RPM's will display. Any value exceeding 10,000 RPM will be displayed with a period instead of a comma. For instance, 12,500 RPM will appear as 12.50.

Bit Installation

Assembling either the 1/4” or 1/8” ER11 collets with the clamping nut is very important. Incorrect assembly can cause the bit to fall out during operation or cause damage to the threads of the spindle. Both of which are not covered under warranty.

Step 1. Collet and Clamping nut assembly

Press the wide channeled end of the collet into the clamping nut. The collet will snap into the clamping nut and when flipped upside down, the collet will not fall out.

Step 2. Insert a bit

Thread the assembled collet and clamping nut onto the first few threads of the spindle shaft by hand, then insert the bit into the collet. Tighten the nut by hand to hold the bit in place.

Step 3. Tighten the clamping nut

Using the 17mm and 13mm wrenches provided, tighten the clamping nut.

Operation

The 2HP Air-Cooled Spindle accessory requires you to start, stop, and adjust the RPM’s manually from the front panel of the Inverter. The following steps will need to done before the project is started on the SHARK CNC machine and assumes all steps from bit installation, to zeroing the X, Y, and Z-axes have been completed. For complete steps on zeroing the X, Y, and Z-axes see the SHARK CNC owner’s manual.

Step 1. Load the .tap file

Insert the flash drive into the USB port on the LCD pendant. In the bottom right corner, choose "USB" and pick the desired .tap file from the list. Then, click "Next" to move on to the Job screen of the pendant.

Step 2. Start the spindle

Press the green Run button located on the Inverter's front panel to start spindle rotation. Then, turn the speed dial to your preferred RPM setting. The spindle speed can be adjusted within the range of 8,000 to 24,000 RPM.

Step 3. Start the .tap file

With the spindle operating at the set RPM's, select Start on the LCD pendant to begin the project.

Preventative Maintenance Checks & Services

Before Operation

1. **Look for Dust and Debris**

   Check if there's any dust or debris on the spindle motor near the top fan and above the clamping nut. If you see any, use a brush or compressed air to clean it.

2. **Check Connections**

   Make sure the cables on the inverter and spindle are properly connected. If a cable is loose or not connected, turn off the inverter before fixing it to avoid electrical problems.

3. **Inspect for Damage**

   Check if the cables are getting damaged or worn out. If you see any wires exposed, they could harm your machine, spindle, or inverter.

After Operation

Once the project is finished or at the end of the day, use a brush to remove loose dust or debris from the spindle motor, and compressed air to blow out any dust or debris from the inverter.

Troubleshooting

1. **Inverter won't turn on.**
   a. Test a wall outlet with a lamp to ensure the outlet is providing electricity, then plug the Inverter into this outlet. If the Inverter still does not power on, contact Next Wave CNC Technical Support about repairs.

2. **Damaged Cable.**
   a. Contact Next Wave CNC Technical Support about repairs. Make sure to leave service loops and slack in the cable along the entire length of travel.

3. **Spindle not spinning.**
   a. Unplug the Inverter and examine the spindle power cable connections at both the spindle and Inverter. Plug the Inverter back in, then press start and turn the Speed Dial all the way clockwise. If the issue continues, please reach out to Next Wave CNC Technical Support for repair assistance.

Contact Technical Support

If you need assistance with your 2HP Air-Cooled Spindle accessory, please visit our Help Center at: https://nextwaveautomation.zendesk.com/hc/en-us (QR code below) or email Technical Support at: Support@NextWaveCNC.com. Please include your product model number, date of purchase, and other pertinent information associated with the issue.

Support Email: Support@NextWaveCNC.com
Available: 9 am – 5 pm (ET) Monday-Friday

Scan for Support

QC	Date