

R100 Table Top PCB Router

Singulate tab routed PCB panels.

Users Guide



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Operating Instructions. R100 Pcb Depaneling Router

Features

- Power: 120V AC
- Router: NSK Elector E Max.
- Router Bits. Various sizes fishtail .125" shank.
- Rotation adjustable front guide pin for round PCB patterns.
- Speed adjustable router, to 35,000 rpm.

1. Introduction

The R100 is a high speed table top PCB router with built in dust extraction channels. This tool is intended to be used to finish singulating tab routed PCB panels by manual operation. Two guide pins, one in back of the router bit and one in front of the router bit assure that the board will be guided past the router bit along the line of the routing channel, for clean and straight separation of the panel.

Dust extraction vacuum is available separately.

2. Contents of Package

- R100 router.
- Users Guide
- NSK Router Users Guide
- Safety Shield and mounting brackets.
- Router bits. 1 installed . Additional as per PO.

3. Technical Specifications

- Router: NSK E MAX
- Digital display
- Max RPM 35,000
- Optional Foot Pedal.

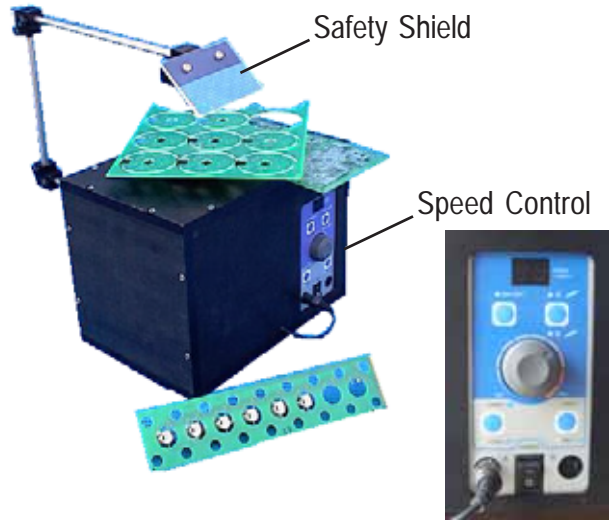
3.Router Bits

The Following table shows standard sizes of router bits which are available. Most applications are for .1250" , .0938" and .0625" rout diameters. Those are the standard guide pin sizes and bits in stock.

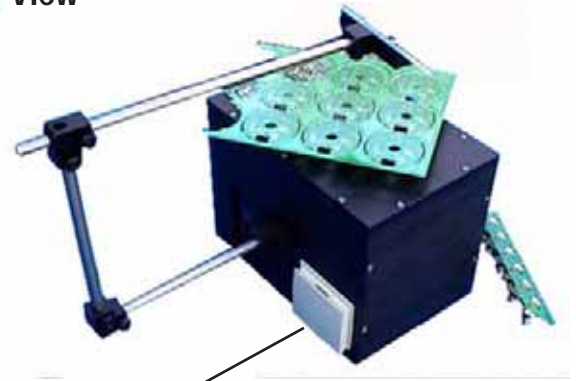
Router Bits. .125" Shank. Diamond Cut 1.5" overall length

Part Number	Cutting Diameter
<i>R100-2120-0625.255F</i>	<i>.0625" 1/16</i>
<i>R100-2120-0938.395F</i>	<i>.0938" 3/32</i>
<i>R100-2120-1250.500F</i>	<i>.1250" 1/8</i>

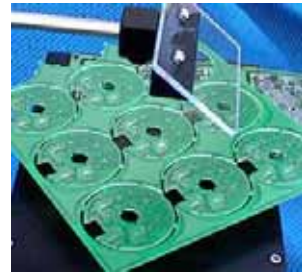
Front View



Rear View



Dust Extraction Port



Dust Extraction Vacuum	
00-V100N	Standard 110 V Nilfisk
00-V100A	Portable 110V Atrix



00-V100N
Standard 110 V Nilfisk



00-V100A
Portable 110V Atrix

4. Set up

Place the router onto a suitable work table, mount the see through safety shield, and plug the unit into a 120 Volt Power supply. For straight routed panels, set the front guide pin to align with the router bit and with the back guide pin. For curved panels, set the front guide pin to match the appropriate radius of the panel. Be sure to plug in the dust removal vacuum before starting the routing procedure.

5. Operation

Switch on the machine and set the speed to 30,000 rpm. Place the tab of the panel between the front guide pin and the router bit and bring the tab into the router bit for cutting into single panels.

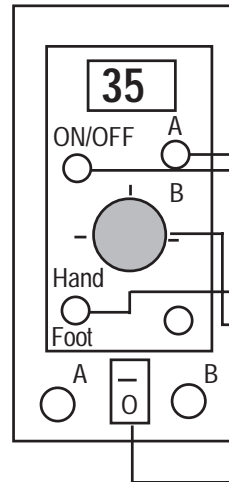
According to router bit suppliers, a speed of 30,000 rpm is recommended for 3/32 (.093) bits. For larger bits of 1/8" (.125) the speed should be set at 23,000 rpm. This translates to a surface feed rate of 600 to 900 feet per minute.

The front guide pin can be set to the correct gap for your pcb tab by loosening the guide pin slide set screw. Curvature of the board channel can be accounted for by rotating the front guide pin holding plate. To do this, loosen set screw A and rotate the holding plate to the point where the front and back guide pin are on the correct circumference path with the bit.

6. Bit Replacement

To replace the router bit:

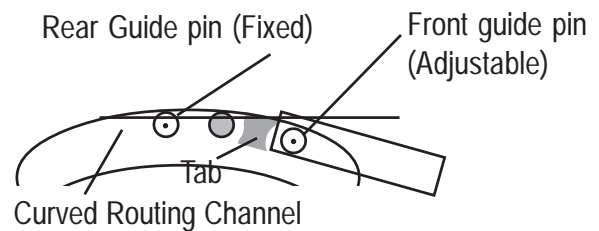
- 1) Move the Back Guide pin slide (C) out of the way.
- 2) Remove the rotation ring for the front guide pin (B) by taking out the set screw (A)
- 3) Crank the router spindle so that the collet and bit are all the way up in order to make the lower holding nut accessible to the large hex wrench.
- 4) Use both wrenches to open the collet and replace the bit.
- 5) Crank the router back down and replace all parts to their original position.



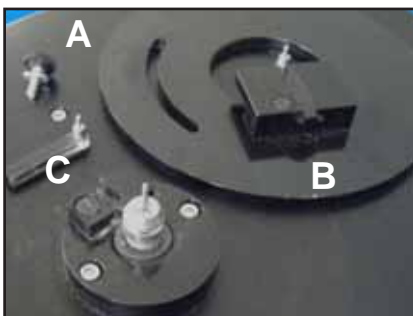
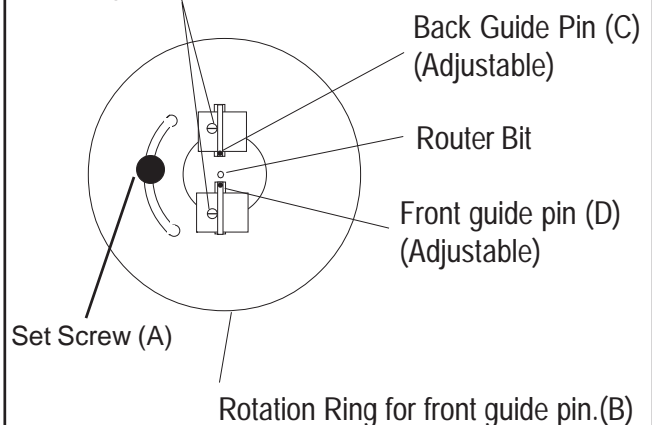
Start Up Procedure

1. Plug Machine Into Mains Power
2. Turn power switch on (led speed control lights up.)
3. Push On/Off to On.
4. Set A/B to A
5. Set Hand/Foot switch to Hand.
6. Set Speed Dial to min 30,000 rpm.

Set Guide Pins To Match Panel Curvature



Guide pin block set screw



Remove Back Guide pin and rotation ring.



Crank up Router Spindle.



Replace bit.

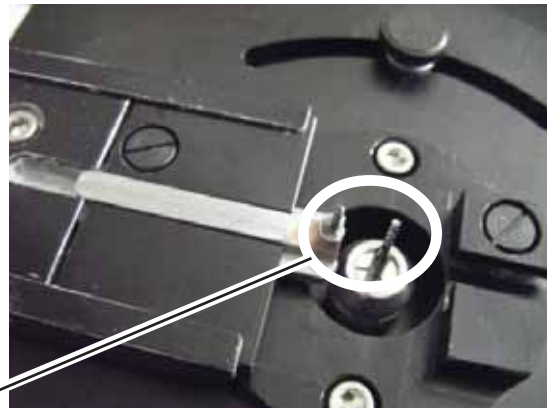
7. Guide Pin Slide (Optional)

In order to singulate tabs which are close to the end of the routed run, the front guide pin is built into a slide block which allows the pin to be pulled forward when it reaches the end of the track, thus allowing the tab to be completely removed. Without this feature, the tab could not be moved past the router bit as the board movement would be restricted by the pin.

The Pin and pin slide bar should be locked into position just short of the router bit when the slide block is at full extension.

If the slide block feature is to be prevented, just lock the block into the closed position by turning the left adjustment screw.

Note: Front guide pin closes gap between start position and final position.



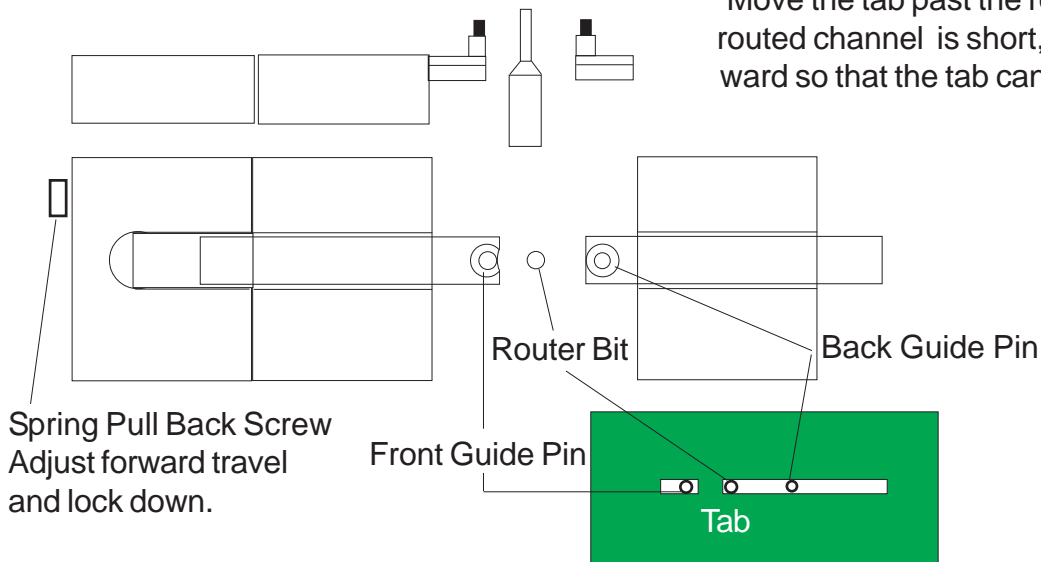
Start Position.

Place Tab between front guide pin and router bit.



End Position.

Move the tab past the router bit to remove. If the routed channel is short, the pin can be pulled forward so that the tab can be completely removed.



8. Safety precautions

The N100 Router may only be used to separate PCB boards. Do not use the machine for any other purpose than it's intended use. Use the machine only when everything is set up correctly. Before changing parts disconnect the power. Use only original parts.