

# CHICAGO

**Electric<sup>®</sup> Power Tools**

## 1-3/4 HP PLUNGE ROUTER WITH BRAKE

**Model 43585**

### OPERATING INSTRUCTIONS



3491 Mission Oaks Blvd., Camarillo, CA 93011  
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For technical questions please call 1-800-444-3353

## SPECIFICATIONS

ITEM	DESCRIPTION
Net Weight	15.8 Lbs.
Electrical Requirements	120 VAC, 60 Hz 11 Amps 1-3/4 HP Single Phase
Speed	20,000 RPM
Cord/Plug/Switch	UL/CE/CSA Approved
Cord Length	5 Ft.
Plug Type	2 Pole Polarized
Collet Size	1/2" with 3/8" & 1/4" Adapters
Collet Wrenches	21mm & 23mm
Router Shank	1/2"
Depth Scale	1" - 3" x 1/16"



### SAVE THIS MANUAL

**You will need the manual for the safety warnings and precautions, assembly, operating and maintenance procedures, Parts List and Diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep the manual and invoice in a safe and dry place for future reference.**

### SAFETY WARNINGS AND PRECAUTIONS

1. **KEEP WORK AREA CLEAN AND DRY.** Cluttered, damp or wet work areas invite injuries.
2. **KEEP CHILDREN AWAY FROM WORK AREA.** Do not allow children to handle this product.
3. **DO NOT USE THIS PRODUCT IF UNDER THE INFLUENCE OF ALCOHOL OR DRUGS.** Read warning labels on prescriptions to determine if your judgement or reflexes are impaired while taking drugs. If there is any doubt, do not attempt to use this product.
4. **USE EYE PROTECTION.** Wear ANSI-approved safety impact eye goggles. ANSI-approved safety impact goggles are available from Harbor Freight Tools.
5. **DRESS SAFELY.** Do not wear loose clothing or jewelry as they can become caught in moving parts. Wear a protective hair covering to prevent long hair from becoming caught in the moving parts.
6. **DO NOT OVERREACH.** Keep proper footing and balance at all times.

7. **STAY ALERT.** Watch what you are doing at all times. Use common sense. Do not operate this product when you are tired or distracted from the job at hand.
8. **OBSERVE WORK AREA CONDITIONS.** Do not use this product in the presence of flammable gasses or liquids. Do not use in damp or wet areas. Keep work area well-lighted.
9. **CHECK FOR DAMAGED PARTS.** Before using this product, carefully check that it will operate properly and perform its intended function. Check for damaged parts and any other conditions that may affect its operation. Replace or repair damaged or worn parts immediately.
10. **DO NOT ABUSE THE POWER CORD.** Protect the electrical power cord from damage, either from impacts, pulling, or corrosive materials. Do not yank the tool's cord to disconnect it from the electrical receptacle.
11. **DO NOT FORCE THE TOOL.** It will do the job better and more safely at the rate for which it was intended. Do not use inappropriate attachments in an attempt to exceed the tool's capacities.
12. **REMOVE ADJUSTING KEYS AND WRENCHES.** Be sure that keys and adjusting wrenches are removed from the tool or machine work surface before operation.
13. **AVOID UNINTENTIONAL STARTING.** Be sure that you are prepared to begin work before turning the start switch on.
14. **ALWAYS DISCONNECT THIS TOOL FROM ITS ELECTRICAL SUPPLY SOURCE WHEN NOT IN USE, BEFORE PERFORMING MAINTENANCE OR SERVICING, AND WHEN CHANGING ACCESSORIES SUCH AS ROUTER BITS.**
15. **SECURE THE MATERIAL.** ALWAYS use clamps or a vise to hold the workpiece.
16. **REPLACEMENT PARTS AND ACCESSORIES.** When servicing, use only identical replacement parts. Only use accessories intended for use with this product. Approved accessories are available from Harbor Freight Tools.
17. **MAINTAIN THIS PRODUCT WITH CARE.** Keep this product clean and dry, moving parts lightly lubricated, and router bits sharp for better and safer performance.
18. **STORE IDLE EQUIPMENT.** When not in use, tools and equipment should be stored and locked up in a dry location to inhibit rust. Keep out of reach of children.
19. **MAINTENANCE:** For your safety, service and maintenance should be performed regularly by a qualified technician.
20. **USE THE RIGHT PRODUCT FOR THE RIGHT JOB.** There are certain applications for which this tool was designed. Do not use a small tool or attachment to do the work of a larger industrial tool. Do not use this product for a purpose for which it was not intended.

## SPECIFIC PRODUCT WARNINGS AND PRECAUTIONS

1. **AVOID OVERLOADING THE TOOL.** If the speed drops abnormally, decrease the pressure immediately.
2. **ALWAYS USE SHARPENED BITS.** If the bit stops abruptly, or the bit becomes blocked, release the trigger switch immediately.
3. **USE THE LOCKING TRIGGER SWITCH PROPERLY.** Be aware that the router will continue to operate while the locking mechanism is engaged. Never lay the router down or hand it to another person while the locking mechanism is engaged.
4. **BEFORE ROUTING, RUN THE TOOL FOR ABOUT 10 SECONDS** to ensure that all moving parts are running smoothly and there are no loose parts, rattles, or sparking that would indicate damage.
5. **WARNING:** Under no circumstance is the Router base ever to be removed from the Router in order to use bits that are too large to use with the base assembly attached. The removal of the Router base and using the Router “Free Hand” can lead to serious bodily injury!!
6. **IF USING AN EXTENSION CORD,** observe the minimum gauge requirements found in the following chart. Improper extension cord use can result in electrical hazard and poor tool performance.

AMP RATING	Total Extension Cord Length in Feet							
	25	50	75	100	125	150	175	200
<i>0-10 Amp</i>	18	18	16	16	14	14	12	12
<i>10.1-13 Amp</i>	16	16	14	14	14	12	12	12
<i>13.1-15 Amp</i>	14	14	12	12	12	12	12	--

*Use only UL approved extension cord.*

7. **AVOID WET CONDITIONS WHEN USING ELECTRICAL EQUIPMENT.**
8. **USE ONLY GROUNDED OUTLET** with appropriate breaker switch inline.
9. **ALWAYS INSPECT POWER CORDS AND EXTENSION CORDS** for damage before use. Never plug in a power cord that is not in good condition.
10. **HOLD TOOL BY INSULATED GRIPPING SURFACES WHEN PERFORMING AN OPERATION WHERE THE CUTTING TOOL MAY CONTACT HIDDEN WIRING OR ITS OWN CORD.** Contact with a “live” wire will make exposed metal parts of the tool “live” and shock the operator.
11. **PEOPLE WITH PACEMAKERS SHOULD CONSULT THEIR PHYSICIAN(S) BEFORE USING THIS PRODUCT.** Electromagnetic fields in close proximity to a heart pacemaker could cause interference to or failure of the pacemaker. In addition, people with pacemakers should adhere to the following:  
 Avoid operating power tools alone.  
 Don't use a power tool with the power switch locked on.  
 Be certain that the tool is properly grounded. A ground fault interrupt (GFCI) system is also a good precaution. This inexpensive device is a good safety measure

because it prevents a sustained electrical shock.

Properly maintain and inspect all tools before use to avoid electrical shock.

12. **WARNING:** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities, contains chemicals known [to the State of California] to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints
- Crystalline silica from bricks and cement or other masonry products
- Arsenic and chromium from chemically treated lumber

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles. (California Health & Safety Code § 25249.5, *et seq.*)

## UNPACKING

When unpacking, check to make sure all parts shown on the Parts List (page 11 and 12) are included. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover of this manual as soon as possible.

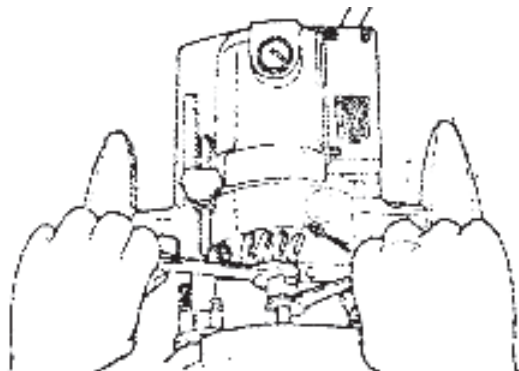
## OPERATING INSTRUCTIONS

**NOTE:** All parts below refer to the parts listed on page 11 of this manual.

### To Install The Router Bit:

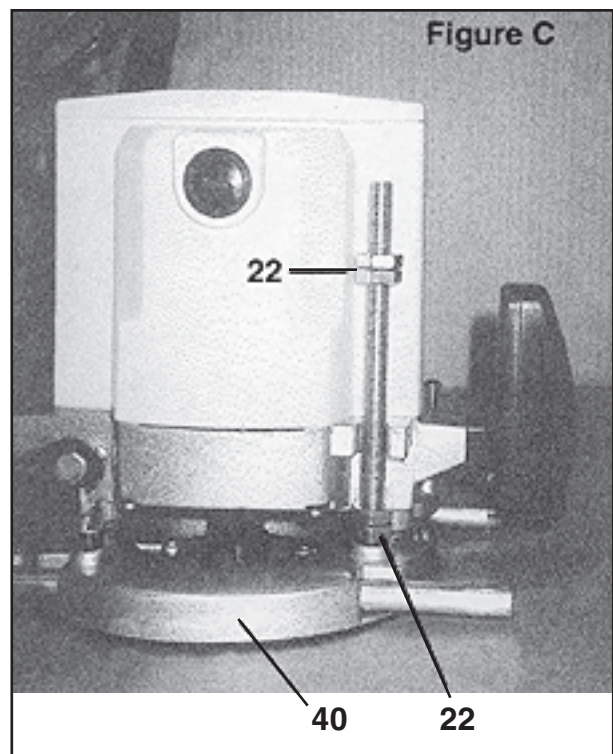
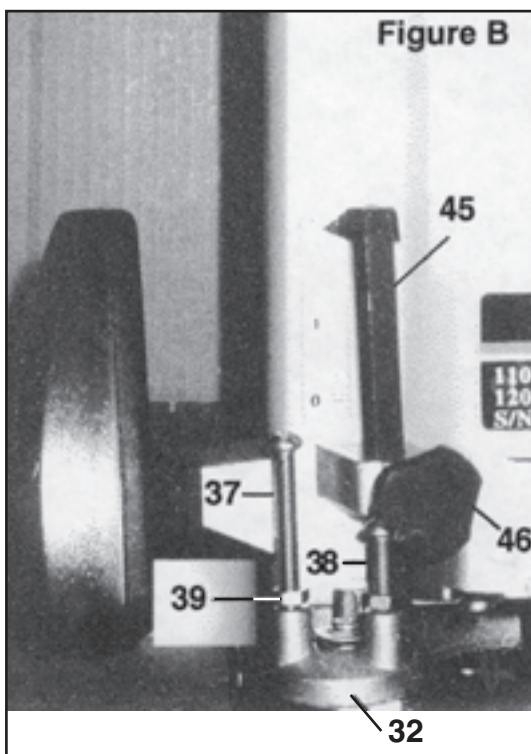
1. Check to make sure the Router is unplugged from the electrical power source.
2. Fully insert the Bit (not included) into the Collet Chuck (part #24). Firmly tighten the Collet Chuck with the two accessory Wrenches (parts #63 & #64). **(Figure A)**
3. **NOTE:** When using bits with a shaft diameter of 6mm, 8mm, 10mm, 1/4" or 3/8" use the Chuck Sleeve (part #77). Fully insert the Chuck Sleeve into the Collet Chuck. Then, insert the Bit into the Chuck Sleeve and firmly tighten the Collet Chuck with the two accessory Wrenches.

**Figure A**



### **To Adjust The Depth Of The Cut:**

1. Loosen the Knob (part #46). Adjust the Stopper Pole (part #45) and the Stopper Block (part #32) to obtain the required cutting depth. Then, retighten the Knob. Check to make sure that, even if released with the Lock Lever, the Router stops at the determined depth for repeated cuts. **(Figure B)**
2. Minute depth adjustments can be made by raising or lowering the Stopper Pole.
3. By turning the Lock Nuts (part #22) left or right, the tool can be adjusted to a different *upper* limit. When the tip of the Router Bit is retracted more than required in relation to the Base Plate (part #40) surface, turn the Lock Nuts to lower the upper limit for more effective routing. **(Figure C)**

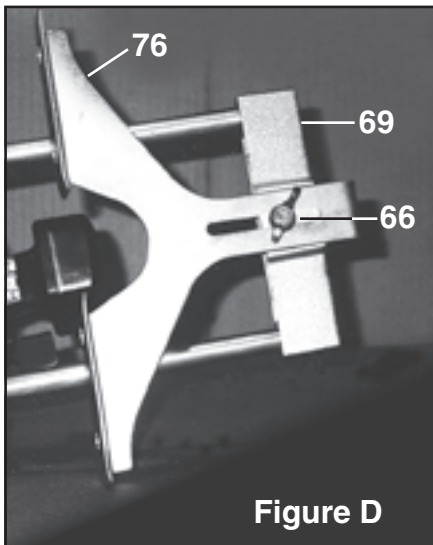


### **To Adjust The Triple Depth Stop:**

1. Three different cutting depths can be concurrently set by adjusting the two cut-depth setting Screws (parts #37 & #38) located on the Stopper Block (part #32). Make sure the two Nuts (part #39) are securely tightened to prevent loosening of the cut-depth setting Screws. **(Figure B)**

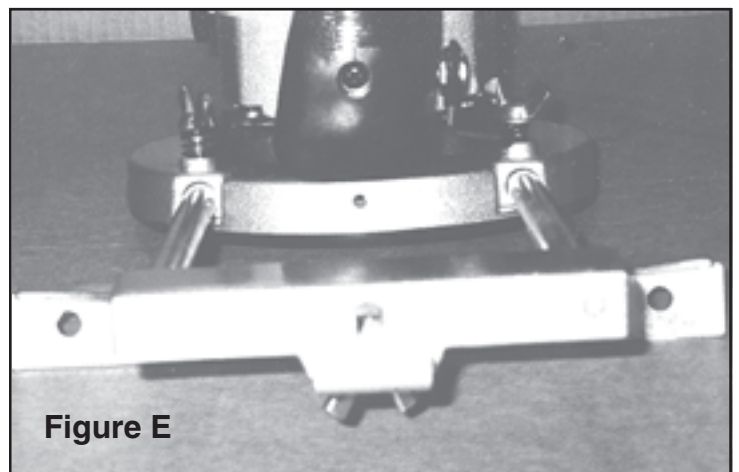
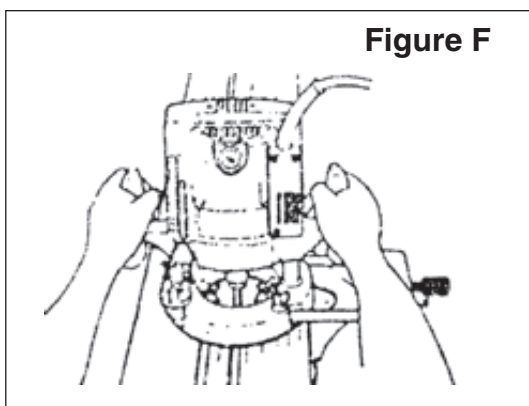
**To Use The Straight Guide:**

1. **The Straight Guide is used to make parallel cuts, or to make cuts on the edge of a work piece.**
2. Assemble the Straight Guide (part #76) onto the Bar Holder Assembly (part #69), using the Wing Bolt (part #66). NOTE: Loosely hand tighten the Wing Bolt. **(Figure D)**
3. Insert the two bars of the Bar Holder Assembly fully into the Base Plate, and securely tighten the two Wing Nuts (part #84). **(Figure E)**
4. Fine Adjust the desired distance from the Router Bit to the edge of the Straight Guide by turning the Feed Screw (part #70). When the desired distance is determined, securely tighten the Wing Bolt (part #66) located on the Bar Holder Assembly (part #69).
5. Set the Base of the Router firmly against the surface of the workpiece, and align the Straight Guide with the edge of the workpiece. **(Figure F)**



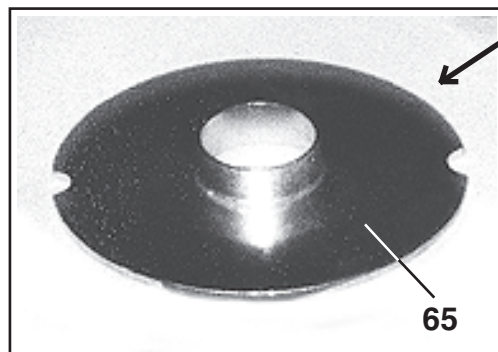
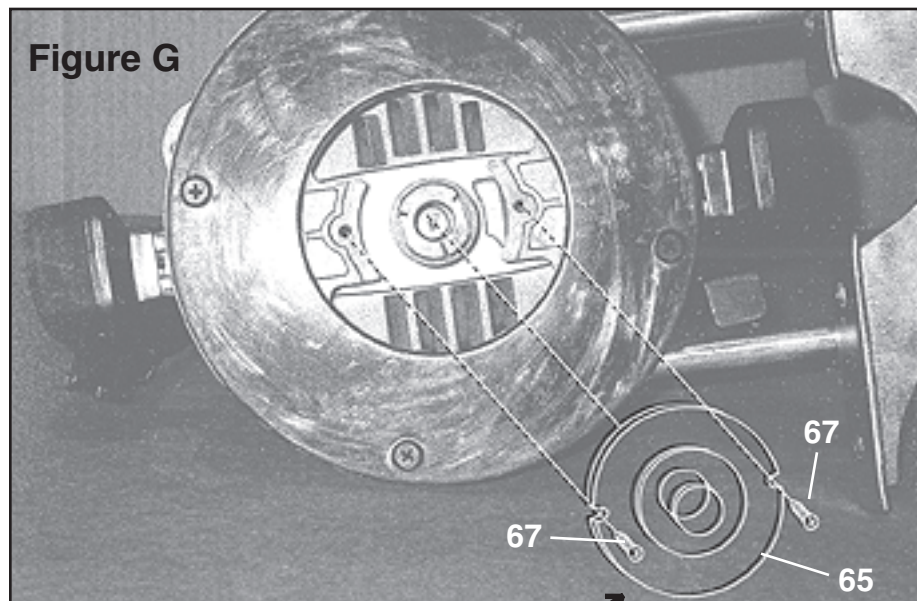
**Caution:** Always make sure the workpiece is firmly clamped to the work surface before using the Plunge Router.

When using the Plunge Router, both hands should firmly grasp the Handles (#25 and #26) to insure complete control of the tool while it is being used.



**To Use The Template Guide:**

1. The Template Guide is used with a template (not provided) for producing a large quantity of identically shaped products. A template is a mold made of plywood or thin lumber. The template should also have openings large enough to admit the Router Bit and the Template Guide.
2. Secure the Template Guide (part #65) to the Base of the Router with the two accessory Machine Screws (part #67). Make sure the projected side of the Template Guide is facing the bottom surface of the Base of the Router. **(Figure G)**
3. Clamp the template to the workpiece in the desired location.
4. Feed the Router in a manner so that the Template Guide moves along the template.

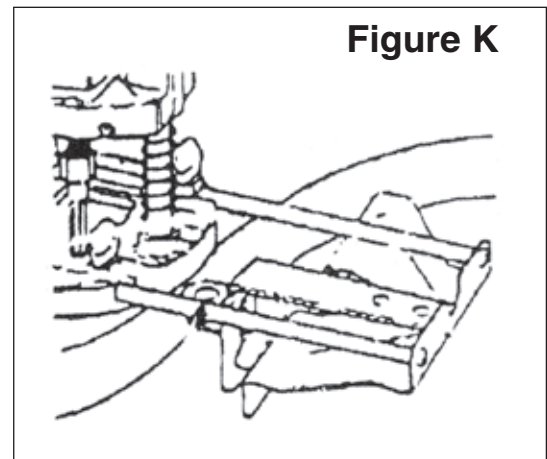
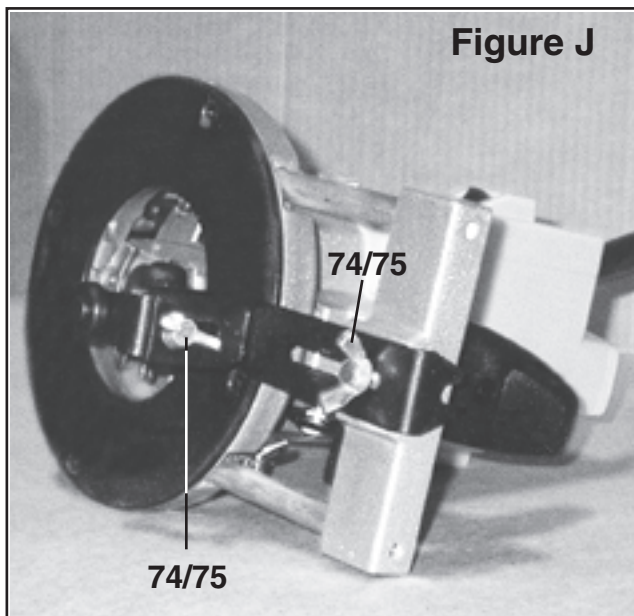
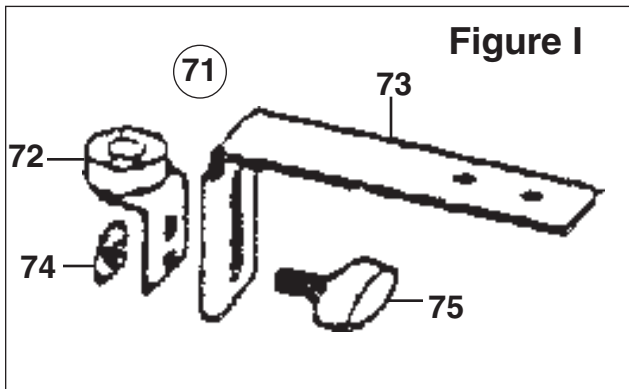




**To Use The Trimmer Guide:**

The Trimmer Guide allows you to follow curved edges. **NOTE: Because the Trimmer Guide is narrower than the Straight Guide, it requires greater skill and attention to produce a cut that is consistent in its relation to the edge.**

1. To assemble the Trimmer Guide Assembly (part #71) attach the Roller (part #72) to the Set Plate (part #73) using the accessory Bolt Washer (part #74) and the Wing Bolt (part #75). **(Figure I)**
2. Attach the Trimmer Guide Assembly to the Bar Holder (part #69), using the accessory Bolt Washer (part #74) and the Wing Bolt (part #75). **(Figure J)**
3. After measuring and setting the desired distance from Bit cutting depth to edge of workpiece, carefully follow the edge of the workpiece as shown. **(Figure K)**



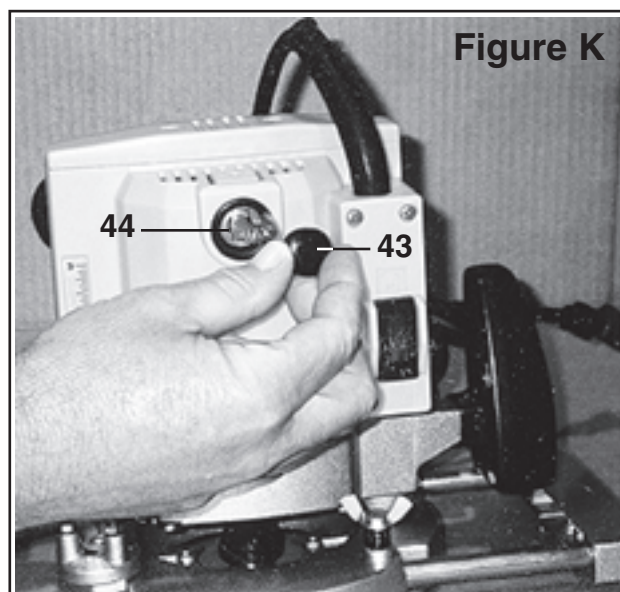
**To Follow The Best Routing Direction:**

1. **The Router Bit rotates clockwise. Therefore, you should adjust for this while cutting.**
2. For most materials it is best to move the Router from left to right as you face the workpiece.
3. When cutting outside edges, move the Router counterclockwise. When cutting inside edges, move the Router clockwise.

**MAINTENANCE**

**NOTE: ALWAYS disconnect this tool from its electrical supply source before performing any cleaning, maintenance, changing Router Bits or Brushes.**

1. Clean with a damp cloth and dry. If necessary, use a mild detergent.
2. For better product performance, periodically lubricate its moving parts, using a light-grade lubricant.
3. To change the two Carbon Brushes (part #44), use a Standard screwdriver (not provided) to remove the two Brush Caps (part #43) located on each side of the Router.
4. Remove the old Carbon Brushes and replace with the two accessory Carbon Brushes. Replace the Brush Caps. **(Figure L)**



## PARTS LIST

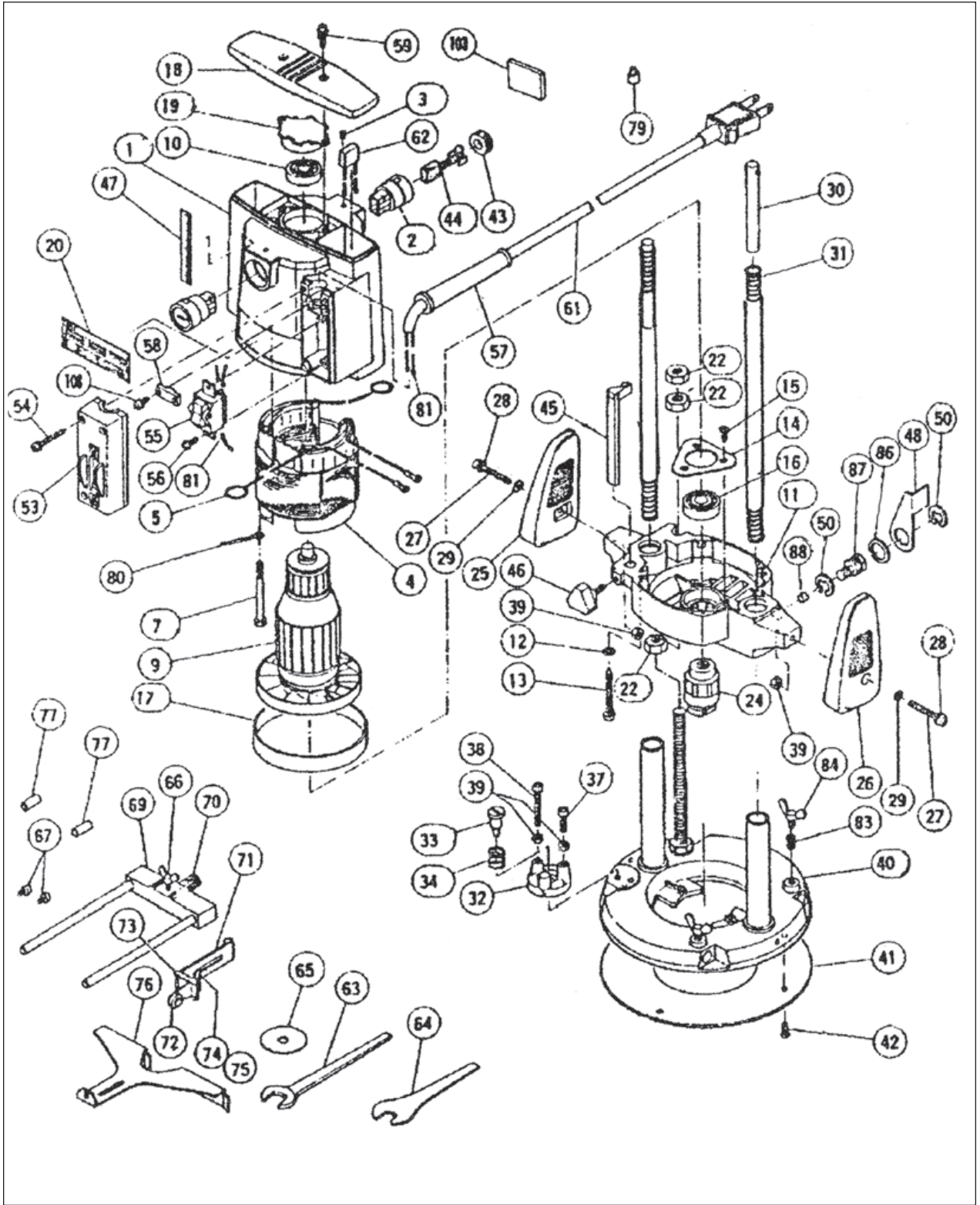
Part	Description
1	Housing Assembly
2	Brush Holder
3	Hexagon Socket Set Screw
4	Stator Assembly
5	Brush Terminal
7	Tapping Screw
9	Armature
10	Ball Bearing
11	End Bracket Assembly
12	Spring Lock Washer
13	Tapping Screw
14	Bearing Cover
15	Flat Head Screw
16	Ball Bearing
17	Insulator
18	End Cover
19	Bearing Bushing
20	Name Plate
22	Lock Nut
24	Collet Chuck
25	Handle (L)
26	Handle (R)
27	Machine Screw
28	Spring Lock Washer
29	Bolt Washer
30	Spring Guide
31	Spring
32	Stopper Block
33	Self Tapping Screw
34	Spring
37	Machine Screw
38	Machine Screw
39	Nut
40	Base Assembly
41	Sub Base
42	Flat Head Screw
43	Brush Cap
44	Carbon Brush

Part	Description
45	Stopper Pole
46	Knob
47	Scale
48	Lock Lever
50	E-Type Retaining Ring
53	Switch Cover
54	Tapping Screw
55	Switch
56	Tapping Screw
57	Cord Armor
58	Cord Clip
59	Tapping Screw w/Flange
61	Cord
62	Noise Suppressor
63	Wrench (23mm)
64	Wrench (21mm)
65	Template Guide
66	Wing Bolt
67	Machine Screw
69	Bar Holder
70	Feed Screw
71	Trimmer Guide Assembly
72	Roller
73	Set Plate
74	Bolt Washer
75	Wing Bolt
76	Straight Guide
77	Chuck Sleeve
79	Connector
80	Internal Wire
81	Terminal
83	Lock Spring
84	Wing Bolt
86	Wave Washer
87	Lock Screw
88	Lock Piece
103	Support
108	Tapping Screw

### PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER NOR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

# ASSEMBLY DIAGRAM



**NOTE:** Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.