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Form P6596
Edition 2
January, 1984

MODELS R77 AND R77B ROUTERS

Always operate, inspect and maintain this tool in accordance with American National Standards Institute Safety Code for Portable Air Tools (ANSI B186.1) and any other applicable safety codes and regulations.

WARNING

Always turn off the air supply and disconnect the air supply hose before installing, removing or adjusting any accessory on this tool, or before performing any maintenance on this tool. Failure to do so could result in injury.

Models R77 and R77B Routers have a free speed of 15 000 rpm when operated at 90 psig (6.2 bar/620 kPa) air pressure. Operation at higher pressures will result in excessive speed.

Do not use any accessory having a maximum operating speed less than the free speed of the Router in which it is being used.

Always insert the tool shank to full depth in the Collet. Tighten the Collet Nut securely to prevent the accessory from working out during operation. Check the tightness of the Collet Nut before operating the Router.

Always wear protective eyewear when operating a Router. If the cutting operation is dusty, wear a dust mask.

FOR TOP PERFORMANCE AND MAXIMUM DURABILITY OF PARTS, OPERATE THIS TOOL AT 90 psig (6.2 bar/620 kPa) AIR PRESSURE WITH 1/2" (13 mm) INSIDE DIAMETER HOSE.

LUBRICATION

Oil: Ingersoll-Rand Pneu-Lube® Medium Lubricant No. 50 or a good quality SAE 20 or 20W motor oil.

Unless an air line lubricator is used, inject 2.5 cc of oil into the air inlet before attaching the hose. **After each eight hours of operation,** replenish the oil supply.

The use of an air line lubricator is recommended with these Routers. Where the lubricator cannot be permanently mounted, we recommend using Ingersoll-Rand No. 8LUB12 Lubricator. For permanent installations, we recommend using Ingersoll-Rand No. NFLRU-8 Filter-Lubricator-Regulator Unit. These units have 1/2" pipe tap, 1/2 pt (237 mL) capacity. Larger capacity units may be used, but do not use a unit having less than a 1/2" pipe tap inlet and outlet. Adjust the lubricator so there is a slight oil mist in the exhaust.

WARNING

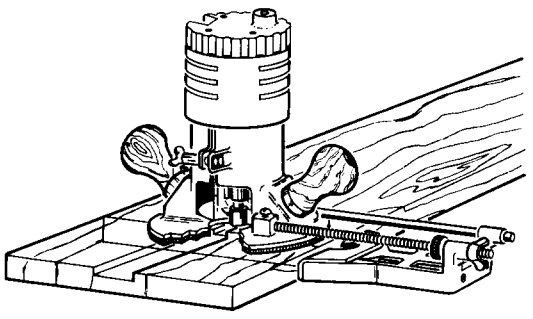
Do not attempt to disassemble the Controller. The Controller is available only as a unit and is guaranteed for the life of the tool if it is not abused. Prior to tool assembly, carefully inspect the Controller Assembly for nicks, gouges or dents. Replace it with a new Controller Assembly if necessary. Test free speed before applying an accessory.

OPERATION

When routing, make sure the workpiece is securely and rigidly clamped or fastened for the routing operation; then proceed as follows:

1. Routing a workpiece such as a table top, the tool should be operated in a counterclockwise movement around the work.
2. Routing in an interior recess the tool movement should be in a clockwise rotation.
3. Best results for routing are obtained by making two or more cuts, increasing the depth of cut each time, until the desired depth has been obtained.
4. Allow the tool to pause during a cut. The high speed of the tool can cause burning and possibly gouging of the work.

If an accessory without a pilot is to be used for edge routing or grooving, a guide must be used to position the bit for the desired cut (see Figure 1).



(Figure 1)

(Dwg. TPD731)

(Continued on Page 3.)

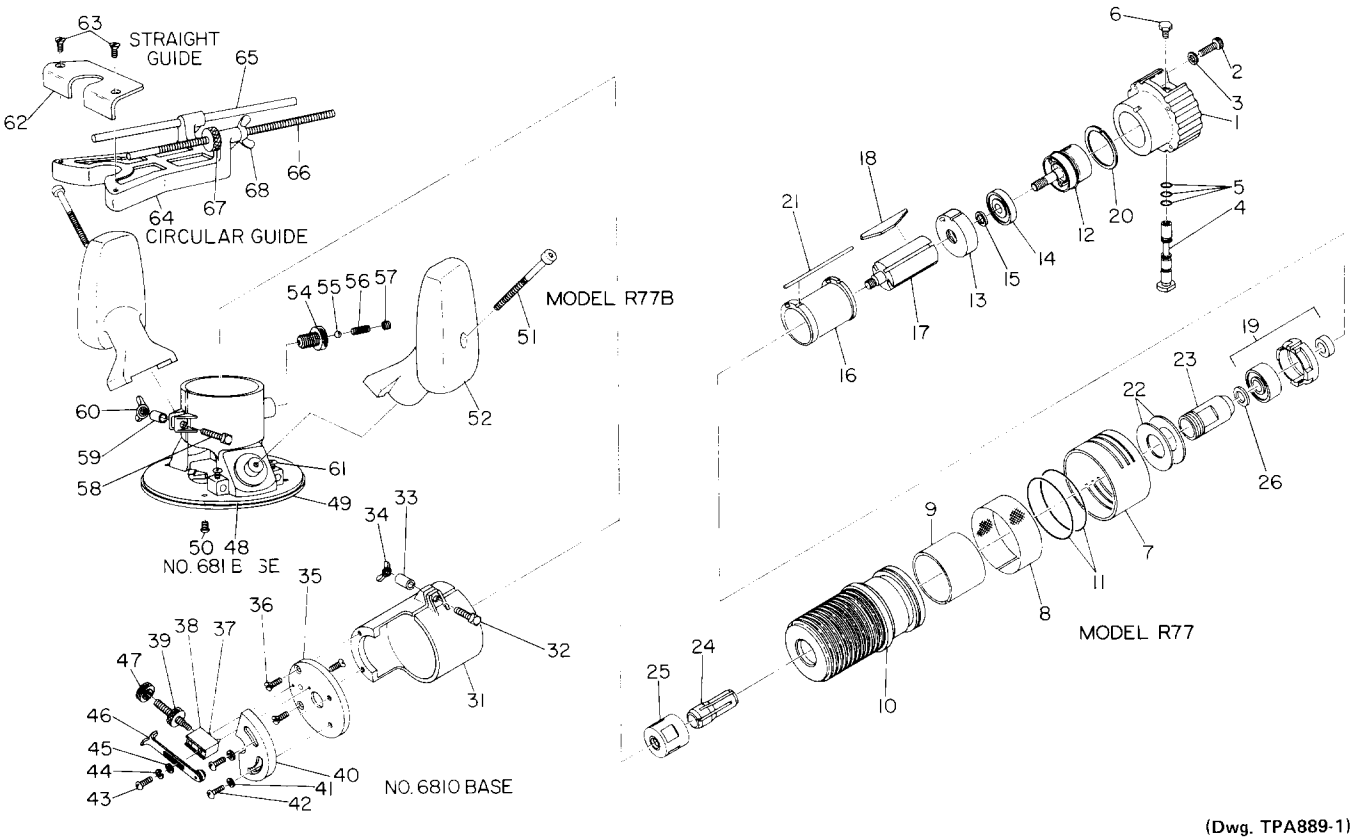
Notice: The use of other than genuine Ingersoll-Rand replacement parts may result in decreased tool performance and increased maintenance, and may invalidate all warranties.

For additional repair service information, request Service Bulletin S6596.

Refer All Communications to the Nearest Ingersoll-Rand Office or Distributor.

INGERSOLL-RAND®
PROFESSIONAL TOOLS

PARTS BULLETIN



(Dwg. TPA889-1)

Models R77 and R77B Routers

		PART NUMBER FOR ORDERING
1	Backhead Assembly	R77-A102
2	Backhead Cap Screw (4)	4E-638
3	No. 10 Lock Washer (4)	4U-58
4	Throttle Valve Assembly	R77-A302
• 5	Throttle Valve O-ring (3)	R000BR-210
6	Throttle Valve Cap	411-665
7	Exhaust Deflector	R77-23
8	Exhaust Silencer	R77-311
• 9	Exhaust Diffuser	R77-123
10	Motor Housing Assembly	R77-A40
• 11	Deflector Seal (2)	R77-103
12	Controller Assembly	77H150-A424RH
• 13	Rear End Plate	77H-12
14	Rear Rotor Bearing	77H-22
15	Rear Rotor Bearing Spacer	DG20-65-6
16	Cylinder	77H-3
† 17	Rotor	R77-53A
• 18	Vane Packet (set of 4 Vanes)	77H-42-4
• 19	Front End Plate Assembly	R77-A11
• 20	Rear End Plate Gasket	77H-739
21	Cylinder Dowel	77H-98
22	Motor Clamp Washer (2)	R77-207
	FOR TOOLS MANUFACTURED AFTER DECEMBER 1, 1983	
	Collet Body Assembly	R77-A290-G8
23	Collet Body	R77-290
24	Collet (for 1/2" diameter accessory)	R77-700-1/2
25	Collet Nut	R77-699
*	Collet (for 3/8" diameter accessory)	R77-700-3/8

		PART NUMBER FOR ORDERING
	FOR TOOLS MANUFACTURED PRIOR TO DECEMBER 1, 1983	
	Collet Body Assembly	
	for 1/4" or 6 mm dia. accessory	DG120-A290-G4
	for 3/8" dia. accessory	DG120-A290-G6
23	Collet Body	DG120-290
24	Collet	
	for 1/4" or 6 mm dia. accessory	G160HD-700-1/4
	for 3/8" dia. accessory	DG120-700-G6
25	Collet Nut	DG120-699
26	Collet Body Thrust Washer	R77-90
	Veneer and Laminate Trimmer Base	6810
31	Adapter	33933
32	Square Head Bolt	19934
33	Spacer	19711
34	Wing Nut	19077
35	Base	23968
36	# 8-32 x 1/2" flat hd. Mach. Screw (3)	12155
37	Block Pin (2)	10320
38	Block	23971
39	Block Stud	19972
40	Adjustable Base	23970
41	Washer (2)	19906
42	# 8-32 x 3/8" rd. hd. Mach. Screw (2)	R2FA-662
43	# 8-32 x 1/2" rd. hd. Mach. Screw	MF-31
44	Lock Washer for # 8 Screw	11537
45	Washer	1368-01
46	Guide	24354
47	Adjustable Nut	19870

• To keep downtime to a minimum, it is desirable to have on hand certain repair parts. We recommend that you stock one (pair or set) of each part indicated by a bullet (•) for every four tools in service.

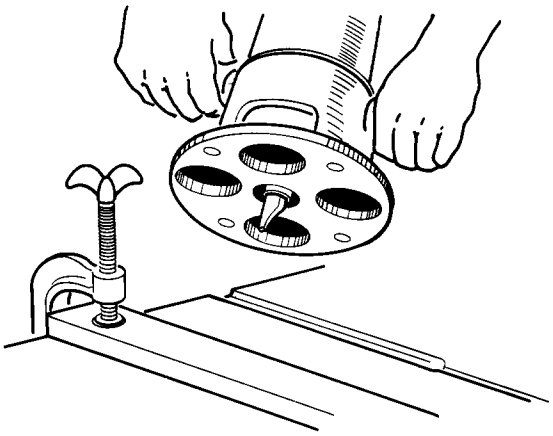
† Tools manufactured prior to December 1, 1983 have a Rotor designed for 3/8" or less capacity Collets. To replace these Rotors and continue using the smaller Collets, order a Rotor (Part Number R77-53).

		PART NUMBER FOR ORDERING			PART NUMBER FOR ORDERING
	Router Base Assembly	R77B-AR681A	*	Collet Body Wrench	
48	Router Base	R77B-R681A		for use with R77-290 Collet Body	R77-69
49	Sub-base	30451		for use with DG120-290 Collet Body	G160-69A
50	Sub-base Screw (4)	19216	*	Collet Nut Wrench	
51	Handle Screw (2)	R77-436		for use with R77-699 Collet Nut	R15-169
52	Handle (2)	R77-435		for use with DG120-699 Collet Nut	DG120-69
54	Ball Retainer	23706	*	Tune-up Kit (includes illustrated parts 2, 5, 8, 9, 11, 18, 20, 21, 22, 26 and non-illustrated parts 77H-950, 77H-LT271 Loctite®+, and 5R-VT06 Vibra-Tite®▲)	R77-TK1
55	1/4" diameter Steel Ball	4U-722	*	Controller Wrench	77H-950
56	Retainer Spring	19932	*	Bearing Clamp Assembly	77H-A952
57	Ball Retainer Set Screw	R2J-561			
58	Square Head Bolt	19934			
59	Spacer	19711			
60	Wing Nut	19077			
61	Rod Guide Screw (2)	12514			
	Straight and Circular Guide (for use with No. 681 Base)	684			
62	Straight Guide	201685			
63	Guide Screw (2)	13083			
64	Circular Guide	30452			
65	Plain Rod	19800			
66	Threaded Rod	19869			
67	Adjusting Nut	19870			
68	Wing Nut	103576			

* Not illustrated.
+ Registered trademark of Loctite Corporation.
▲ Registered trademark of ND Industries.

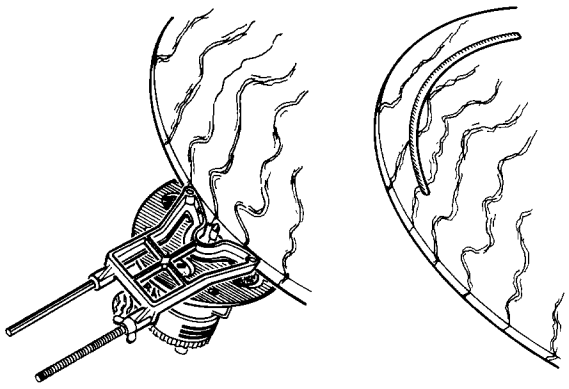
OPERATION (Continued)

When it is desired to make a cut beyond the range of the guide, a straight edge can be clamped to the work as a guide for the tool (see Figure 2).



(Figure 2)

(Dwg. TPD732)

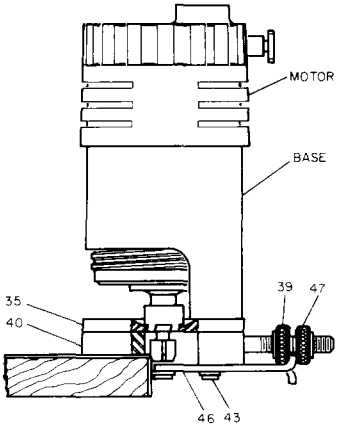


(Figure 3)

(Dwg. TPD733)

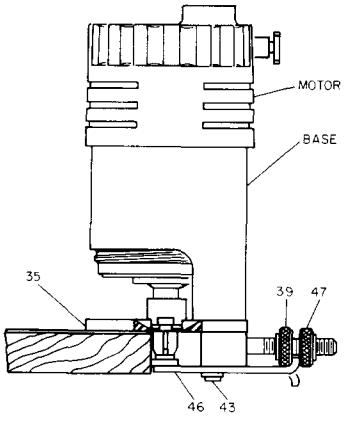
When cutting a blind circular or straight groove, as shown in Figure 3, the Router is set on the work with the motor unit raised so that the bit is clear of the work. The guide is positioned firmly to the work, the motor is started and the bit is fed into the work to the desired depth. The Wing Nut (60) is then securely tightened and the cut made.

When performing a trimming operation, slide the motor unit into Base No. 6810 until the bit touches the guide. **Note**: The tool can be used with the Adjustable Base (40) Figure 4, or without the Base (Figure 5). Removal of the Adjustable Base allows full use of the straight cutting edge of the bit.



(Figure 4)

(Dwg. TPD734)



(Figure 5)

(Dwg. TPD735)

While holding the tool bottom side up, loosen Screw (43), Adjustable Nut (47) and Block Stud (39). Turning the Nut and Stud clockwise or counterclockwise will indicate the direction the Guide (46) can be adjusted. After selecting the proper position, tighten the Screw, Adjustable Nut and Block Stud.