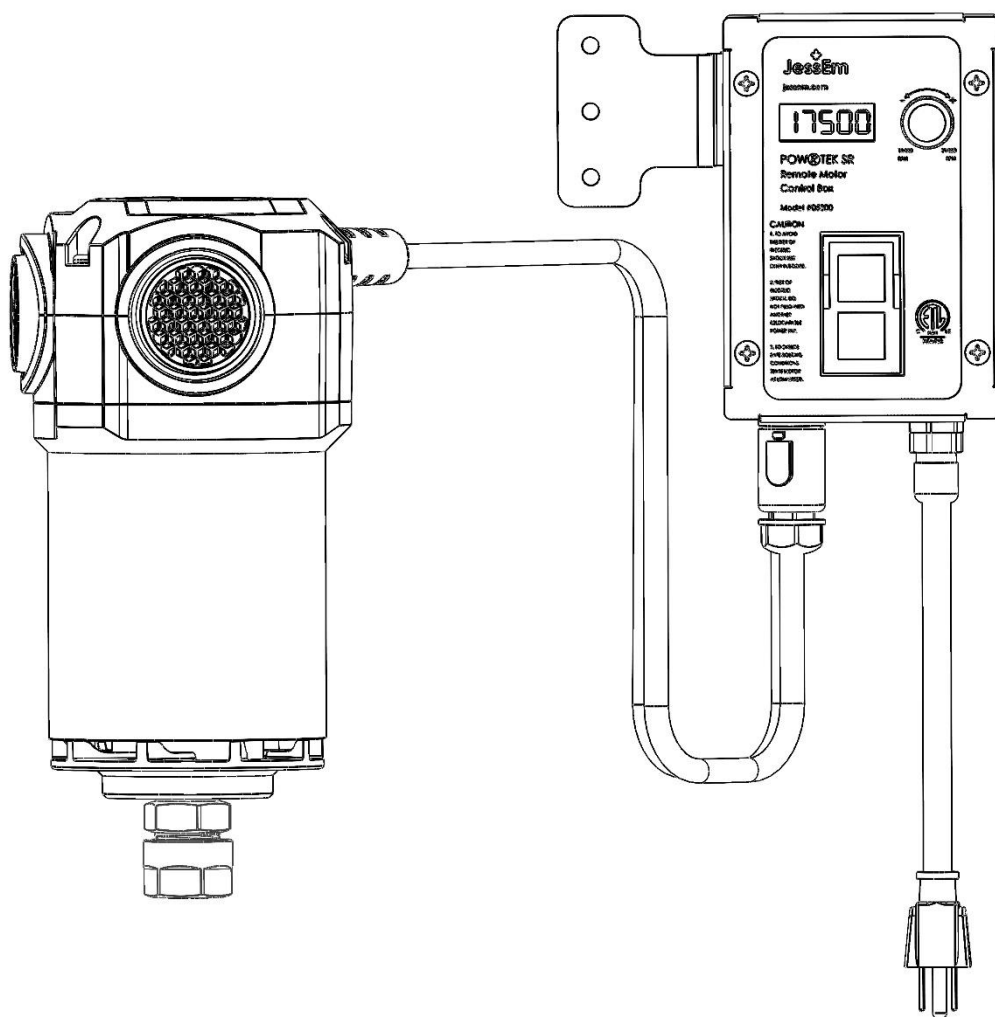




# POW<sup>R</sup>TEK SR

## ROUTER TABLE MOTOR with VARIABLE CONTROL BOX OPERATOR'S MANUAL

FOR USE IN JESSEM ROUTER LIFT AND ROUTER TABLE APPLICATIONS ONLY (NOT FOR  
HANDHELD USE)



**Model #05302**

**TO REDUCE THE RISK OF INJURY, USER MUST READ OPERATORS  
MANUAL**

# THANK YOU FOR CHOOSING



Thank you for choosing this product from JessEm Tool Company. We appreciate your support and hope that our product serves you well. This product is designed to provide many years of reliable service provided it is used as intended and taken care of.

This user manual will assist you in assembly and general operation of this product. It is not our intent to teach you about woodworking. It is assumed that you are an experienced woodworker with the basic skills and experience necessary to use this product safely. If after reading the following instructions you are unsure or uncomfortable about safely using this product, we urge you to seek additional information through widely available woodworking books or classes.

As part of our Continuous Product Improvement Policy, JessEm products are always advancing in design and function. Therefore, there may be differences between what is shown in our catalogs, website or at retail display and what is sold at time of purchase. We reserve the right to make positive changes to our products at our discretion.

If you have any questions about our products or service, please call us at **1-800-436-6799** or email us at **[customerservice@jessem.com](mailto:customerservice@jessem.com)**

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 **WARNING:** Read and understand all instructions before using. Failure to follow all instructions listed below or to use the router in a safe manner may result in electrical shock, fire and/or serious personal injury.

 **WARNING:** Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the state of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection.

 **WARNING:** This product can expose you to chemicals including lead and/or chromium, known to the State of California to cause cancer and birth defects or other reproductive harm.

 **WARNING:** The wires of this product contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

Operating a power tool can be extremely dangerous if operated incorrectly or in a manner other than what it is intended to do. Read this manual and ensure all necessary precautions are taken for safe operation. **DO NOT** operate this machine if you do not fully understand how to use it and are not aware of its limitations. **DO NOT** modify this machine in any way.

This manual is not designed to teach you about woodworking. If after reading this manual you still do not understand how to operate this machine safely, we urge you to seek additional information through widely available books and woodworking classes.

## WHATS IN THE BOX

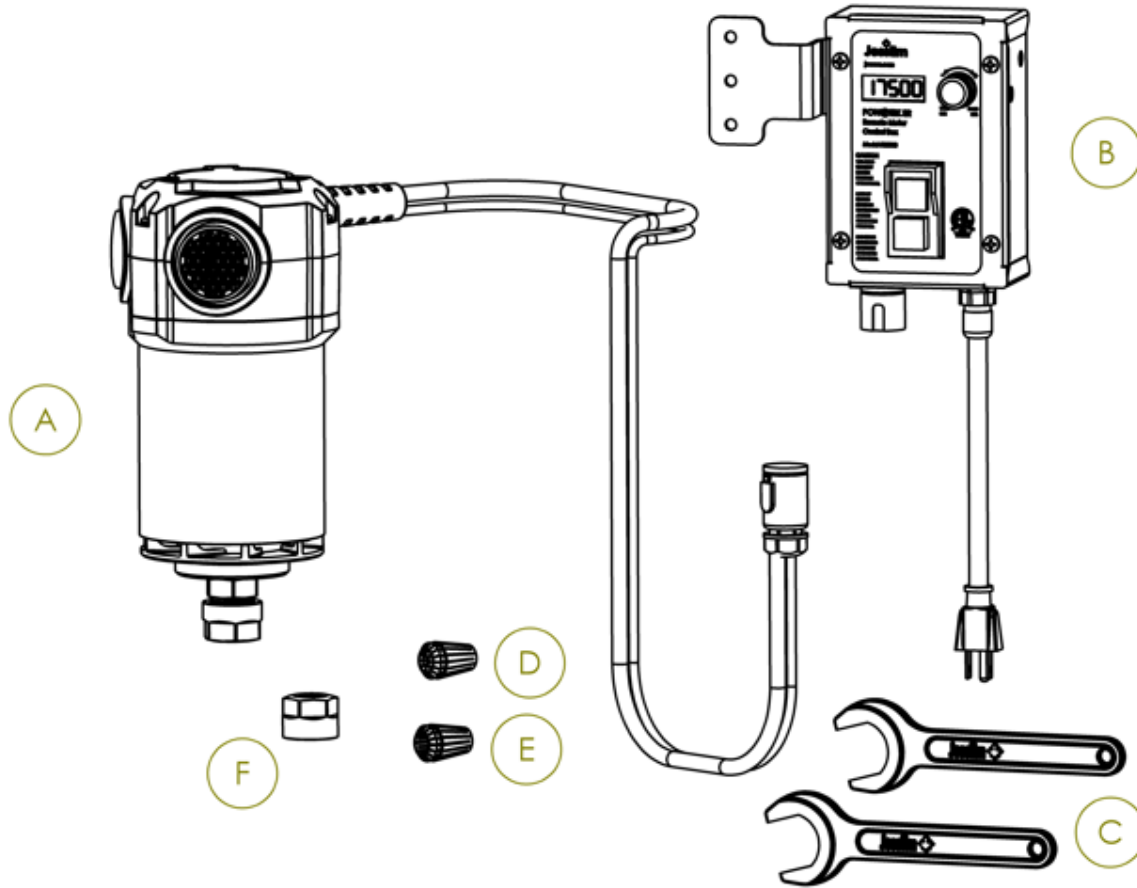


Figure 1 – What’s included with the **POW-R-TEK SR** ROUTER

A	ROUTER	D	½" ER-20 COLLET
B	SPEED CONTROL BOX	E	¼" ER-20 COLLET
C	WRENCHES	F	ER-20 COLLET NUT

## SPECIFICATIONS

<b>AC VOLTAGE</b>	<b>230 V (50 Hz)</b>
<b>POWER CONSUMPTION</b>	<b>2400 W (INPUT) 1800 W (OUTPUT)</b>
<b>NO LOAD RPM</b>	<b>10 000 – 22 000</b>

## WARRANTY

### JESSEM TOOL LIMITED WARRANTY

All JessEm products are warranted to be free from defects in material and workmanship. JessEm will repair or replace any product which upon inspection proves to be defective for a period of (1) year from dated receipt and proof of purchase. All warranty claims should be made direct to JessEm Tool Company.

Contact JessEm for a warranty claim return authorization and instructions to proceed. The consumer is responsible for shipping costs to return product to JessEm Tool Company. We will repair or replace the product at our discretion and JessEm Tool will return shipment to you at no charge.

### WARRANTY LIMITATIONS

This warranty does not cover:

- Repairs or alterations made or attempted by anyone other than JessEm Tool Company or an authorized JessEm service professional.
  - Normal wear and tear
  - Abuse, misuse or neglect.
  - Improper care or maintenance.
  - Continued use after partial failure.
  - Products that have been modified in any way.
  - Products used with improper accessories

DATE PURCHASED: \_\_\_\_\_

WHERE PURCHASED: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

## GENERAL SAFETY

### WORK AREA

- 1 Keep work area clean and well lit. Clutter and dark work areas invite accidents.
- 2 Avoid dangerous environments. Do not use your power tool in the rain, damp or wet locations or in the presence of an explosive atmosphere (gaseous fumes, dust or flammable materials). Remove materials or debris that may be ignited by sparks.
- 3 Keep bystanders away. Children and bystanders should be kept at a safe distance from the work area to avoid distracting the operator and contacting the tool or extension cord.
- 4 Protect others in the work area from debris such as chips and sparks. Provide barriers or shields as needed.
- 5 Make your workshop child proof with padlocks, master switches, or by removing starter keys.

### ELECTRICAL SAFETY

- 6 Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances.
- 7 Double insulated tools are equipped with a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. Do not change the plug in any way. Double insulation eliminates the need for the three-wire grounding power cord and grounded power supply system.
- 8 Guard against electrical shock. Prevent body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators. When making blind or plunge cuts, always check the work area for hidden wires or pipes. Hold your tool by insulated nonmetal grasping surfaces. Use a Ground Fault Circuit Interrupter (GFCI) to reduce shock hazards.
- 9 Do not expose to rain or use in damp locations.
- 10 Do not abuse the cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately. Damaged cords increase the risk of electrical shock.

### PERSONAL SAFETY

- 11 Know your power tool. Read this manual carefully to learn your power tool's applications and limitations as well as potential hazards associated with this type of tool.
- 12 Stay alert, watch what you are doing, and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating power tools may result in serious personal injury.
- 13 Dress properly. Do not wear loose clothing or jewelry. Wear a protective hair covering to contain long hair. These may be caught in moving parts. When working outdoors, wear insulated non-skid footwear. Keep hands away from moving parts. Do not wear gloves, as they can potentially get caught in rotating parts and pull your hand into the cutter.
- 14 Reduce the risk of unintentional starting. Be sure your tool is turned off before plugging it in. Do not use a tool if the power switch does not turn the tool on and off. Do not carry a plugged-in tool with your finger on the switch.
- 15 Remove all adjusting keys and wrenches. Make a habit of checking that adjusting keys, wrenches, etc. are removed from the tool before turning it on.
- 16 Do not overreach. Maintain control. Keep proper footing and balance at all times.
- 17 Use safety equipment. Everyone in the work area should wear safety goggles or glasses with side shields complying with current safety standards. Everyday eyeglasses are not safety glasses. Wear hearing protection during extended use and a dust mask for dusty operations. Hard hats, face shields, safety shoes, etc. should be used when specified or necessary. Keep a fire extinguisher nearby.
- 18 Keep guards in place and in working order.
- 19 Never stand on tool. Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.
- 20 Keep hands away from all cutting edges and moving parts.
- 21 Never touch the bit during or immediately after use. After use the bit may be hot enough to burn bare skin.

## TOOL USE AND CARE

- 22 Secure work. Use clamps or a vise to hold work when practical. It is safer than using your hand and it frees both hands to operate the tool.
- 23 Do not force tool. Your tool will perform best at the rate for which it was designed. Excessive force only causes operator fatigue, increased wear and reduced control.
- 24 Use the right tool. Do not use a tool or attachment to do a job for which it is not recommended. For example, do not use a circular saw to cut tree limbs or logs. Do not alter a tool.
- 25 Unplug tool when it is not in use, before changing accessories or performing recommended maintenance.
- 26 Store idle tools. When not in use, store your tool in a dry, secured place. Keep out of reach of children.
- 27 Never leave the tool running unattended. Turn power off. Do not leave the tool until it comes to a complete stop.
- 28 Check for damaged parts. Inspect guards and other parts before use. Check for misalignment, binding of moving parts, improper mounting, broken parts and any other conditions that may affect operation. If abnormal noise or vibration occurs, turn the tool off immediately and have the problem corrected before further use. Do not use a damaged tool.
- 29 Use proper accessories. Consult this manual for recommended accessories. Using improper accessories may be hazardous. Be sure accessories are properly installed and maintained. Do not defeat a guard or other safety device when installing an accessory or attachment.
- 30 Maintain tools carefully. Keep cutting edges sharp and clean. Follow instructions for lubricating and changing accessories. Periodically inspect tool cords and extension cords for damage. Have damaged parts repaired or replaced by a JESSEM.
- 31 Maintain labels & nameplates. These carry important information.
- 32 Read, understand, and follow the instructions packaged with the router table and router lift. Do not plug in Remote Power until Router Table Motor is fully installed
- 33 Only use the following recommended router tables and router lifts with this motor.
  - JessEm Mast-R-Lift II #02120/21/23
  - Incra Mast-R-Lift II #02121
  - JessEm Mast-R-Lift Excel #02202
  - JessEm Mast-R-Lift Excel II #02203
 Using tables and lifts that are not specifically recommended may not properly secure the Router Table Motor. An improperly secured Motor increases the risk of injury or product damage.
- 34 Do not place motor in a router base or hold motor by hand during use. Motor is designed only for use properly secured in a recommended JessEm router lift or router table. This motor is not designed for use in a router base.
- 35 Some woods contain preservatives that can be toxic. Take extra care to prevent inhalation and skin contact when working with these materials. Request, and follow, any safety information available from your material supplier.
- 36 Always make sure the workpiece is free from nails, screws and other foreign objects. Keep the working edge away from the clamping surface. Cutting these objects can cause loss of control of the workpiece and damage to the bit.
- 37 Never place hands near cutting surface.
- 38 Never use dull or damaged bits. Sharp bits must be handled with care. Damaged bits can break during use. Dull bits require more force, which could cause the bit to break. Damaged bits can throw carbide pieces and burn the workpiece.
- 39 Never use dull or damaged bits. Sharp bits must be handled with care. Damaged bits can break during use. Dull bits require more force, which could cause the bit to break. Damaged bits can throw carbide pieces and burn the workpiece.
- 40 Never start the tool when the bit is in contact with the material. The bit cutting edge may grab the material causing loss of control of the workpiece.

## SERVICE

- 41 Service or maintenance performed by unqualified personnel may result in a risk of injury.
- 42 When servicing a tool, use only identical replacement parts. Follow instructions in the maintenance section of this manual. Use of unauthorized parts or failure to follow maintenance instructions may create a risk of shock or injury.

## GROUNDING

- 43 Double insulated tools are constructed throughout with two separate "layers" of electrical insulation between you and the tool's electrical system. Tools built with this insulation system are not intended to be grounded. NOTE: Double insulation does not take the place of normal safety precautions when operating this tool, the insulation system is for added protection against injury resulting from a possible electrical insulation failure within the tool.
- 44 If the tool is supplied with a 3-prong plug, it must be plugged into a 3-contact electrical receptacle. The 3<sup>rd</sup> prong is used to ground the tool and provide protection against accidental electric shock.

## EXTENSION CORDS

- 45 Grounded tools require a three-wire extension cord. Double insulated tools can use either a two or three wire extension cord.
- 46 As the distance from the supply outlet increases, you must use a heavier gauge extension cord. Using extension cords with inadequately sized wire causes a serious drop in voltage, resulting in loss of power and possible tool damage. Refer to the table shown to determine the required minimum wire size.
- 47 The smaller the gauge number of the wire, the greater the capacity of the cord. For example, a 14-gauge cord can carry a higher current than a 16-gauge cord. When using more than one extension cord to make up the total length, be sure each cord contains at least the minimum wire size required.

- 48 If you are using one extension cord for more than one tool, add the nameplate amperes and use the sum to determine the required minimum wire size.
- 49 If using an extension cord outdoors, be sure it is rated for outdoor use (Typically marked with the suffix "W-A" or "W" in Canada).
- 50 Be sure your extension cord is properly wired and in good electrical condition. Always replace a damaged extension cord or have it repaired by a qualified person before using it
- 51 Protect your extension cords from sharp objects, excessive heat and damp or wet areas.
- 52 Avoid stepping on your extension cord.
- 53 If in Doubt about the rating or safety of an extension cord, consult an electrician or other qualified person.

**Recommended Minimum Wire Gauge for Extension Cords\***

Nameplate Amperes	Extension Cord Length				
	25'	50'	75'	100'	150'
0-2.0	18	18	18	18	16
2.1-3.4	18	18	18	16	14
3.5-5.0	18	18	16	14	12
5.1-7.0	18	16	14	12	12
7.1-12.0	16	14	12	10	
12.1-16.0	14	12	10		
16.1-20.0	12	10			

\* Based on limiting the line voltage drop of five volts at 150% of the rated amperes

**READ AND SAVE ALL  
INSTRUCTIONS FOR FUTURE USE**



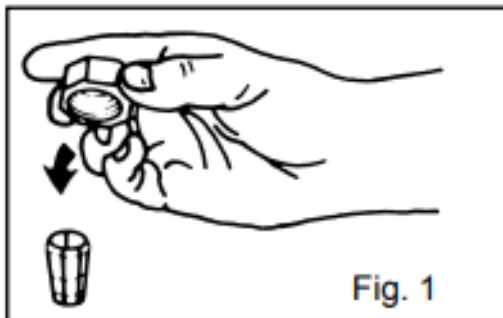
## TOOL ASSEMBLY

**⚠ WARNING:** To reduce the risk of injury, always unplug tool before attaching or removing accessories or making adjustments. Use only specifically recommended accessories. Others may be hazardous.

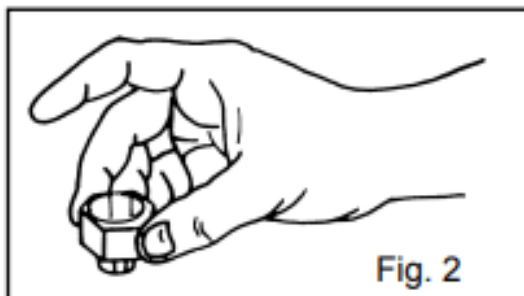
### Collets

The collet must be attached to the collet nut before it is put into the collet seat. Be sure that the size of the collet matches the size of the bit shank being used. If the wrong size bit shank is used, the collet may break. For attaching or detaching the collet nut to the collet, follow the illustrated instructions on this page.

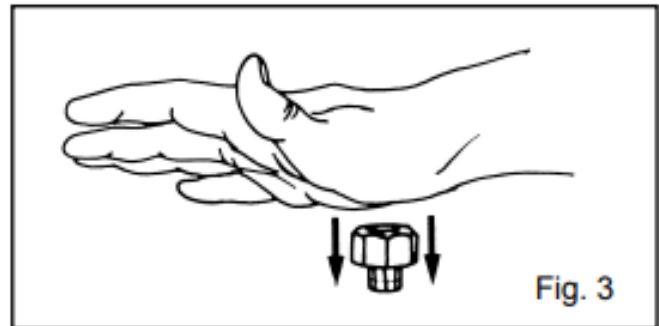
To attach the collet nut to the collet, place the narrow end of the collet on an even surface. Take the nut and place it over the collet (Fig. 1).



Position the nut squarely over the collet with the smaller opening of the nut facing up (Fig. 2).



Snap the nut and collet together by firmly applying downward pressure into the assembly with the palm of your hand (Fig. 3).



To remove the collet from the nut, hold the nut firmly with one hand and press the collet to one side with the other hand (Fig. 4).

**⚠ WARNING:** To reduce the risk of injury, always wear eye protection and all other applicable personal protective equipment when using or performing maintenance on your tools.

## INSTALLING THE MOTOR INTO A LIFT

To install the motor into a router lift, read, understand, and follow the instructions packaged with the router lift. To reduce the risk of injury, use only the following router tables and lifts with this motor.

- JessEm Mast-R-Lift II™ #02120, #02121
- JessEm Mast-R-Lift™ #02101, #02102
- JessEm Mast-R-Lift Excel II™ #02202
- JessEm Mast-R-Lift Excel™ #02201

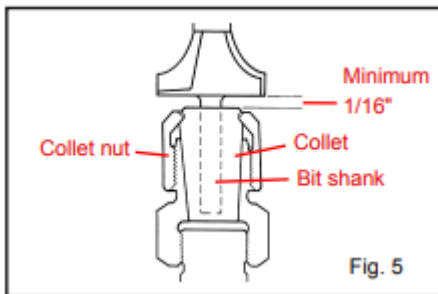
Using other tables and lifts may not properly secure the Router Motor. An improperly secured motor increases the risk of injury or product damage.

## INSTALLING THE ROUTER BIT

It is not necessary to remove the motor from the lift to install a collet assembly or a bit. (If removal of the motor is desired, see the lift instructions.) Raise the motor as high as possible. Always wipe wood chips, dust or other foreign materials from the collet shaft and collet assembly before assembling.

1. Insert the collet assembly into the collet seat.
2. Insert the bit shank into the collet as far as it will go.
3. Back the bit shank out slightly to avoid bottoming out.

Be sure there is a minimum of 1/16" between the bottom of the collet assembly and the radius to the cutting portion of the bit (Fig. 5).



4. Be sure that the collet is not clamped to a fluted section on the bit shank. The collet should be clamped to a solid part on the bit shank.
5. To tighten the bit in the collet assembly, use two wrenches (Fig. 6).

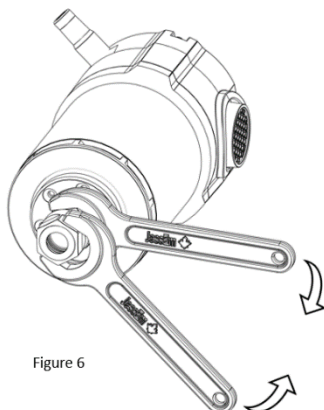


Figure 6

**NOTE:** Never tighten a collet assembly without inserting a bit shank of the proper size. This may damage the collet.



**WARNING:** To reduce the risk of injury, always check for damage on your tools and cutters before operating. Ensure collet is properly tightened to prevent the bit from moving or coming out during operation.

## REMOVING THE ROUTER BIT

6. Loosen the collet nut from the collet seat using two wrenches.
7. Once loose, unscrew the collet nut by hand until it feels tight again.
8. Return to using the wrenches until the bit shank can be pulled out.

## OPERATION



**WARNING:** Do not use this router unless it is securely installed into a recommended JessEm lift and table

### THE VARIABLE SPEED DIAL

The variable speed dial allows the user to adjust the rotating speed (RPM) of the tool. Variable speed dial settings range from 10,000 RPM to 21,000 RPM. Higher numbers correspond to higher speeds and lower number correspond to lower speeds. To change the speed, set the variable speed control dial to the desired number.

Use the following chart to determine the best speed for the bit diameter.

Speed Setting	RPM	Max Bit Diameter
Slow	10,000	3" to 3-1/2"
Slow	12,000	3" to 3-1/2"
Medium	14,000	2-1/4" to 2-1/2"
Medium	16,000	2-1/4" to 2-1/2"
Medium	18,000	1-1/4" to 2"
Fast	20,000	1"
Fast	21,000	1"

### STARTING AND STOPPING THE MOTOR

To start the motor, press the green start button. It will stay pressed until the stop button is pressed or the incoming power is lost (power outage etc.). To stop the motor, push the red stop button.

### ELECTRONIC OVERLOAD PROTECTION

Before the motor is overloaded, the electronic overload protection circuit will turn off the tool. If the motor shuts off during use, push the off button. Wait at least three (3) seconds. This will reset the electronics in the tool. Press the green start button to continue use.

### SOFT START

The Soft-Start feature reduces the amount of torque reaction to the tool. This feature gradually increases the motor speed up from zero to the speed set by the variable speed dial.

### FEEDBACK CONTROL

The electronic speed control system allows the tool to maintain constant speed between no-load and load conditions

### MAKING THE CUT

The speed and depth of cut will depend largely on the type of material being worked. Keep the cutting pressure constant but do not use excessive force so the motor speed slows excessively. It may be necessary on exceptionally hard woods or problem materials to make more than one pass to get the desired depth of cut.

Before beginning the cut on the actual workpiece, it is advisable to take a sample cut on a scrap piece of lumber. This will show you exactly how the cut will look as well as enable you to check dimensions.

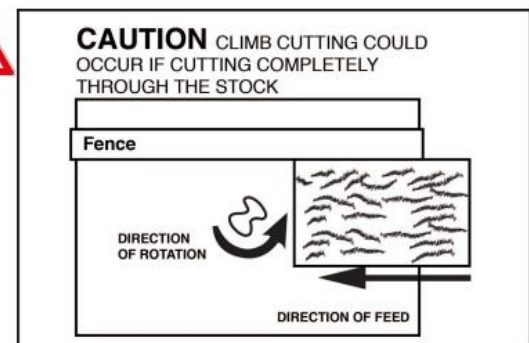
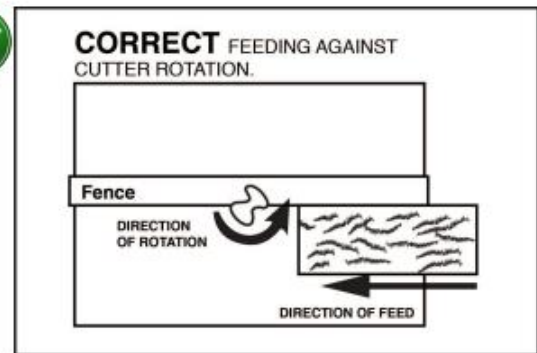
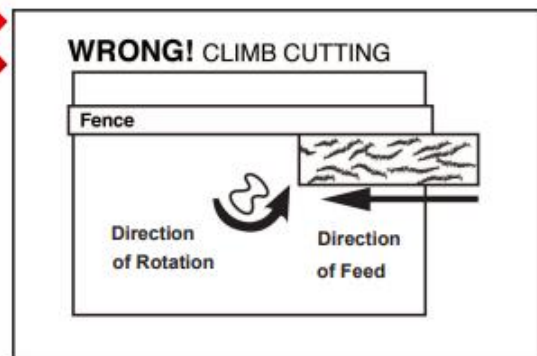
Position the fence so that the workpiece feeds against the cutter rotation. Feeding the workpiece with the cutter rotation is called climb cutting, which is very dangerous. Climb cutting can result in the workpiece being thrown violently out of your control at great speed.



**WARNING:** To reduce the risk of injury, avoid “climb cutting.” Climb cutting can cause the workpiece to be thrown violently out of your control. Even small router bits can cause in climb cutting.



**WARNING:** To reduce the risk of injury, always use feather boards, push sticks or push blocks with proper guarding. Keep hands away from moving bit. Refer to the Router Table manual for proper table setup and use.



## MAINTENANCE



**WARNING:** To reduce the risk of injury, always unplug your tool before performing any maintenance. Never disassemble the tool or try to do any rewiring on the tool's electrical system.



**WARNING:** To reduce the risk of injury, electric shock and damage to the tool, never immerse your tool in liquid or allow a liquid to flow inside the tool

### MAINTAINING TOOL

Keep your tool in good repair by adopting a regular maintenance program. Before use, examine the general condition of your tool. Inspect guards, switches, tool cord set and extension cord for damage. Check for loose screws, misalignment, binding of moving parts, improper mounting, broken parts and any other condition that may affect its safe operation. If abnormal noise or vibration occurs, turn the tool off immediately and have the problem corrected before further use. Do not use a damaged tool. Tag damaged tools "DO NOT USE" until repaired (see "Repairs").

### CLEANING

Clean dust and debris from vents. Keep the tool handles clean, dry and free of oil or grease. Use only mild soap and a damp cloth to clean your tool since certain cleaning agents and solvents are harmful to plastics and other insulated parts. Some of these include: gasoline, turpentine, lacquer thinner, paint thinner, chlorinated cleaning solvents, ammonia and household detergents containing ammonia. Never use flammable or combustible solvents around tools.

## ACCESSORIES

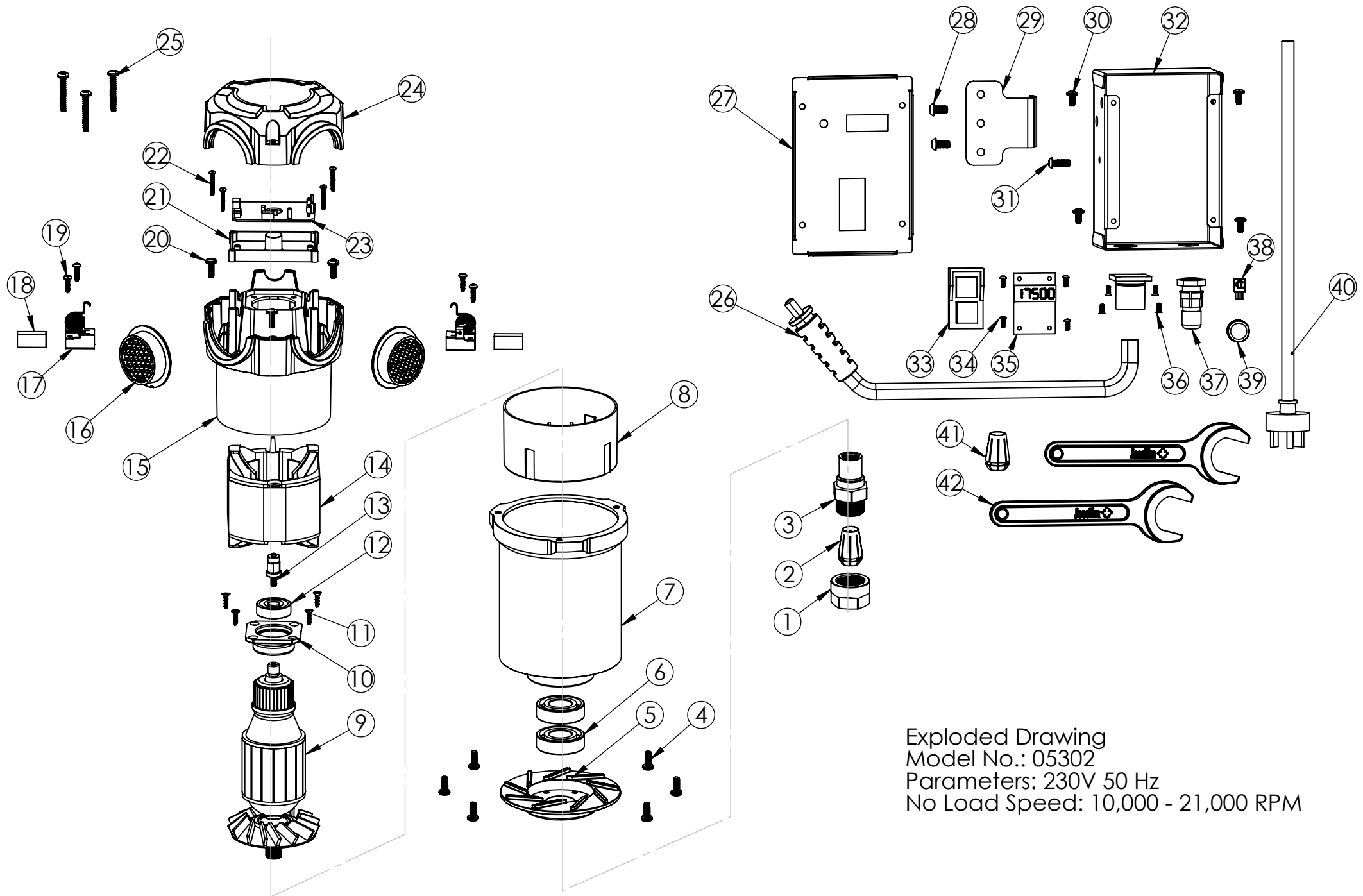


**WARNING:** To reduce the risk of injury, always unplug the tool before attaching or removing accessories. Use only specifically recommended accessories. Others may be hazardous

For a complete listing of accessories, including JessEm router tables and lifts, visit JessEm at [www.jessem.com](http://www.jessem.com) or contact a distributor near you

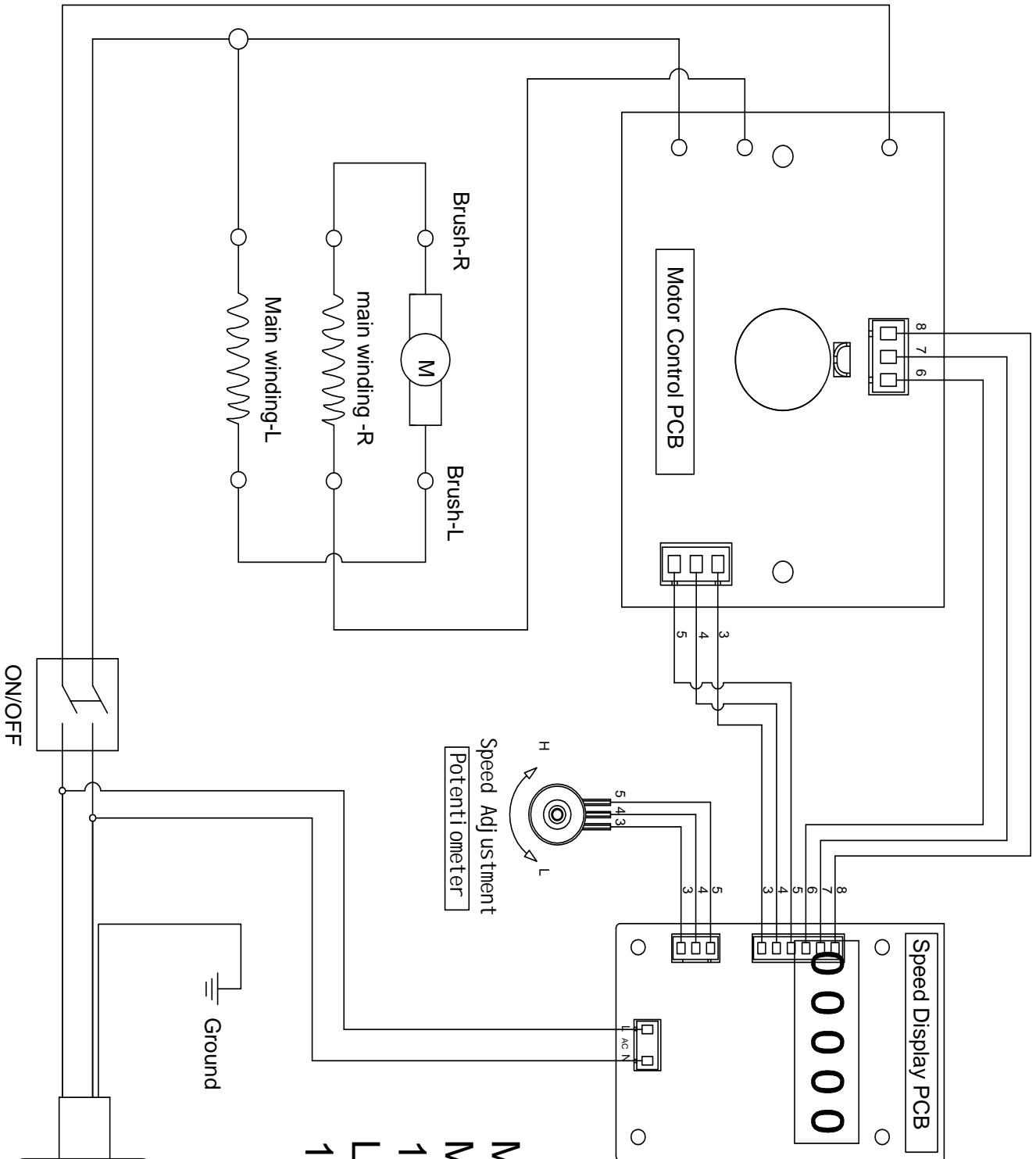
The following JessEm lifts accept the JessEm Motor with Control Box.

- JessEm Mast-R-Lift™ #02101, #02102
- JessEm Mast-R-Lift II™ #02120, #02121
- JessEm Mast-R-Lift™ Excel #02201
- JessEm Mast-R-Lift™ Excel II #02202



### 05300 Router Motor Explosion view Parts List

Part No.	Index Part No.	Part Name	QTY
1	05300-001	Collet Nut	1
2	05300-002	1/2" Collet	1
3	05300-003	Collet Seat	1
4	05300-004	Face Plate Screws	6
5	05300-005	Face Plate	1
6	05300-006	Angular contact Spindle Bearings	2
7	05300-007	Aluminum Housing	1
8	05300-008	Inner housing Sleeve	1
9	05300-009	Armature/fan assembly	1
10	05300-010	Upper Bearing Seat	1
11	05300-011	Bearing Seat Screws	4
12	05300-012	Upper Bearing	1
13	05300-013	Magnetic sensor screw	1
14	05300-014	Stator Winding Assembly	1
15	05300-015	Lower Plastic housing	1
16	05300-016	Air Intake port	2
17	05300-017	Brush Holder assembly	2
18	05300-018	Brush	2
19	05300-019	Brush Holder Screws	4
20	05300-020	Lower Plastic housing screws	3
21	05300-021	PCB Tray	1
22	05300-022	PCB tray screws	4
23	05300-023	Main PCB	1
24	05300-024	Upper Plastic Housing	1
25	05300-025	Upper Plastic housing screws	3
26	05300-026	Router to Controller Connection	1
27	05300-027	Control Box Face plate	1
28	05300-028	Mounting Bracket screws	2
29	05300-029	Mounting Bracket	1
30	05300-030	Control Box Face Plate Screws	4
31	05300-031	Ground Wire Mounting Screw	1
32	05300-032	Control Box	1
33	05300-033	Electromagnetic Saftey Switch	1
34	05300-034	Display Screws	1
35	05300-035	Speed display Board	1
36	05300-036	Plug mounting screws	4
37	05300-037	Wire mount Fitting	1
38	05300-038	Potentiometer	1
39	05300-039	Speed adjustment Knob	1
40	05300-040	Power Cord	1
41	05300-041	1/4" Collet	1
42	05300-042	Wrench	2



**Model No.:** 05300  
**Motor Parameters:**  
 120V 60Hz 15A No  
**Load Speed:**  
 10,000~21,000 RPM

