

CASTLE INC



# Owner's Manual

The Castle-100



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**Note:** Do not attempt to perform maintenance or operate this machine until you have read and understand the information contained in this manual.

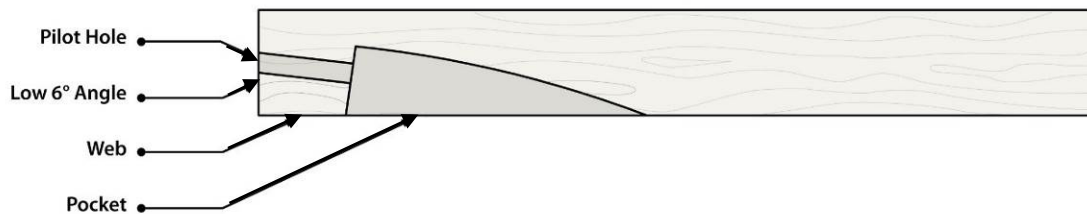
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# 1 Introduction

Castle tool invented the Professional Pocket in 1985 to meet the needs of cabinetmakers and woodworkers who require a fast, strong joint in wood, plywood, and other structural materials for cabinet making, furniture construction, and other carpentry tasks. With this system, the screws are driven into the side grain of the wood, creating a strong joint that is not prone to splitting and holds firmly for the life of the structure. The exclusive 6° degree screw angle minimizes the problem of component shifting (misalignment caused by tightening the screw) that is commonly associated with high-angle drilled pocket joinery. With the Castle 100, it is now possible to create the same fully machined Castle Professional Pocket used by cabinetmakers in your own workshop or on the jobsite.

## THE ANATOMY OF THE PROFESSIONAL POCKET



**Pilot Hole:** The pilot hole is drilled from the edge of the stock creating a clean, chip-free hole for the pocket screw which eliminates end-grain pop-out (common on drilled pockets) that can interfere with a tight joint.

**Low 6° Angle:** The low 6° degree angle reduces shifting forces that can result in uneven joints.

**Web:** The web easily adjusts from 5/8" to 7/8" to suit a variety of screw lengths from 1-1/4" to 1 5/8".

**Pocket:** The routed pocket leaves a clean slot without tear out typical of a drilled pocket.

Below are sample of applications for Castle screw pockets.



This instruction manual should be kept available for immediate reference so that all operations can be performed with maximum safety and efficiency.

**⚠ WARNING** Read all safety warnings and instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

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## 2 Packing List

Within your Castle-100 shipment, you should receive the following:



THE CASTLE-100 PORTABLE POCKET MACHINE PACKING LIST		
Part #	Part Description	Qty
A00100	The Castle-100 Router Motor with Bosch Colt 1.0hp #PR10E	1
---	The Castle-100 Operator Manual with Warranty Activation Card	1
B06964	5/32" Drill Bit, 6"	1
B00516	5/16" Router Bit (Installed and factory adjusted for 3/4" stock)	1
B02622	#2 Square Driver Bit, 6" Round Shaft	1
---	Bosch Collet Wrenches (for Bosch Colt 1.0hp #PR10E)	2
C10010	Bit Set-up Block	1
---	3" Clamp	1

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## 3 Safety and Initial Operating Instructions

The Castle-100 was designed with operator safety as a priority. This machine was carefully packaged for shipment at our factory. Upon receipt of the machine, inspect for shipping damage. Report any damage **IMMEDIATELY** to the shipping company and to Castle, Inc. DO NOT attempt to operate the machine if you observe any physical damage. Contact Castle, Inc. at 800.282.8338 for instructions.

### General Instructions

1. Do not plug the Castle-100 in until ready to operate.
2. Familiarize yourself with the stock clamping action and pocket routing function before plugging the machine into an electrical power supply. Push the pocket cutting lever to its stop several times and observe the router bit travel above the work deck. Note that a properly-adjusted bit will retract completely below the work surface when the lever is released. For this reason, it is not necessary to turn the router on and off when machining multiple pocket holes in a workpiece.

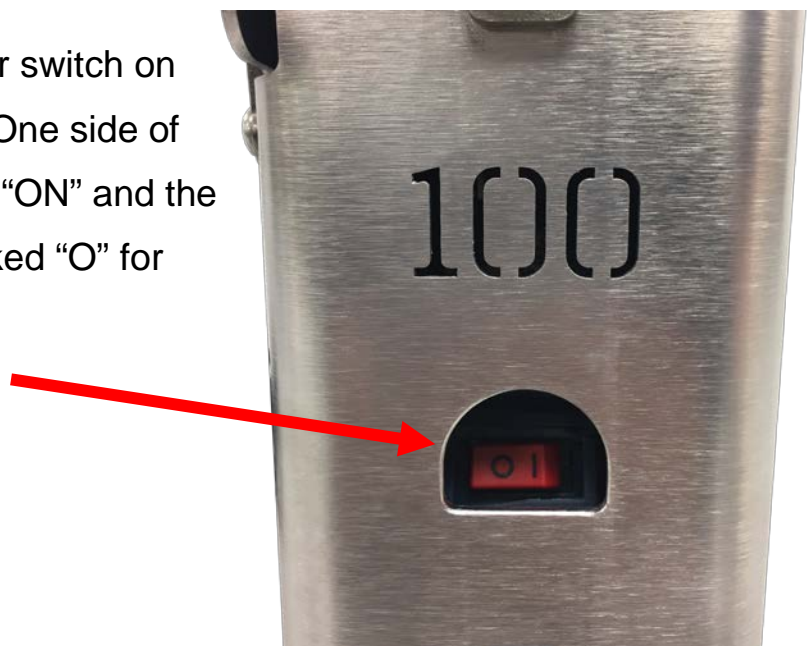
**⚠ WARNING – DO NOT AT ANY TIME PUT YOUR HAND UNDER THE CLAMP OR IN THE PATH OF THE ROUTER BIT. Serious injury can result!**

3. Always verify that the router bit is securely tightened and properly adjusted for the desired stock thickness. The bit is adjusted and tested at the factory for 3/4" stock. To adjust for other stock dimensions, see section 4:1.
4. Always wear eye protection when operating or servicing mechanical equipment.
5. Always wear hearing protection when the machine is in operation.
6. Never allow the machine to get wet or be used in a wet environment.
7. Check to be sure the switch on the motor is in the OFF ("O" for "OFF") position and then plug the Castle-100 into a 120 volt -15 AMP standard power supply.





8. Place stock to be pocketed on the work deck under the clamp and squarely against the rear face.
9. Turn the clamp handle clockwise to clamp your stock. Confirm that the stock is held securely in place, test by manually pulling on the stock. If the stock is loose, adjust the clamp as necessary to assure that the stock is held securely. No tools are needed to adjust the clamp foot, simply use the knob to adjust the clamp tension.
10. **Do not at any time put your hand under the clamp, in the path of router bit.**
11. The Castle-100 dust extraction port is 1 1/4 inch diameter to fit most universal shop vacuum hose adapters. Select the dust collection hose adapter that will work with your system.
12. To operate, push the power switch on motor to the ON position. One side of the switch is marked "I" for "ON" and the other side of switch is marked "O" for "OFF".







13. Push the pocket cutting lever down smoothly until it hits the stop. This routes the pocket. By releasing the lever, the bit will retract to the lowered position. When routing in wood, the best finishes will result if the depth of cut and feed rate are regulated to keep the motor operating at high speed. Feed the bit at a moderate rate. Soft stocks

require a faster feed rate than hard stocks.

14. To drill a pilot hole into your pocket, place the provided 5/32" bit into the drill guide and push the drill bit into the stock.



**Caution:** Always wear safety goggles and hearing protection when operating power tools.

## Operating Instructions

Your Castle 100 has been designed for maximum efficiency and can be operated in two modes: Stationary or Freehand. In the Stationary mode, the tool is clamped to a work surface and the stock is clamped in place on the work deck. In the Freehand mode, the tool is clamped directly to the stock on heavy or cumbersome parts such as panels, partitions, or large drawer fronts. This exclusive freehand feature eliminates the need to vertically support heavy items for drilling, as well as the tedious and time-consuming task of clamping a guide to drill each pocket hole on larger work.

When operating your Castle 100 without dust extraction connected we recommend removing the dust cover to prevent excessive dust build up inside the housing. Additionally inspect the router motor to ensure excessive chips and dust are not obstructing the air intake vents.



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## 4 Machine Adjustments

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### 4.1 Adjusting for Thicker or Thinner Stock

The Castle-100 is factory adjusted for 3/4" stock and for a 1-1/4" screw. It can be adjusted to work in stock 13/16" down to 1/2" for either the pocket or thread side of the joint. Use the set-up block to adjust pocket depth and web width.



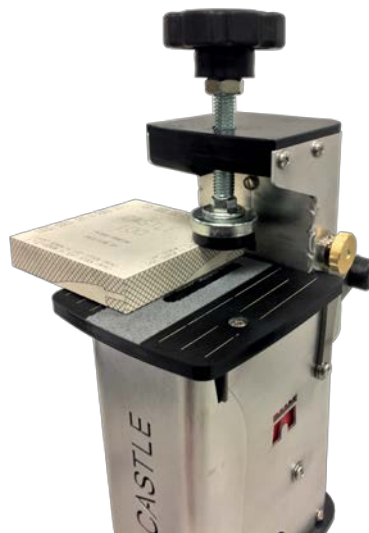
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- *Before making any adjustments, please sure that the machine is disconnected from the electrical power outlet.*
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### 4.2 Installing and Adjusting Router Bit

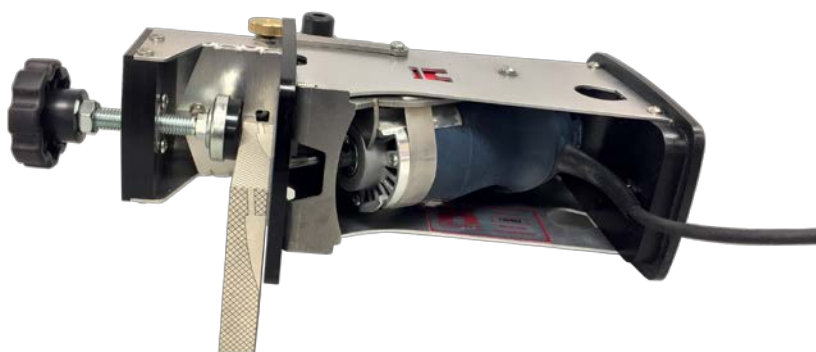
**! WARNING** To prevent personal injury, always remove the plug from the power source before removing, installing or adjusting router bits.

1. Secure the bit set-up block with the desired template facing the outside edge of the router bit slot on the work deck. **Do not** cover the bit slot with the set-up block.



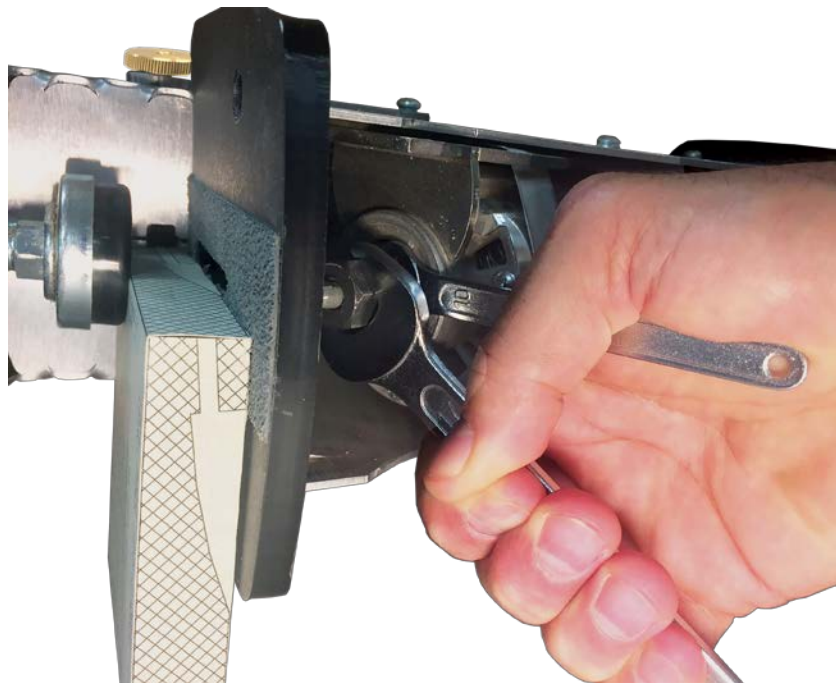
2. Remove the dust cover from the front of The Castle-100 by placing a finger inside the power cord opening and firmly pull away from the main housing.

3. Place the Castle-100 on its side with the outside edge of the bit set-up block resting on the bench.





4. Use the 10mm wrench to secure the spindle by sliding the wrench over the spindle flats until it is fully engaged.
5. Next, while holding the spindle secure with the 10mm wrench, use the 17mm collet



wrench to loosen the collet chuck assembly in a counter-clockwise direction (plate removed for clarity).

6. With the collet chuck assembly loose you can remove, replace or adjust the router bit to your desired height.



**CAUTION** Router bits are extremely sharp and if handled improperly may result in personal injury.



7. To adjust the router bit using the bit set-up block pull the pocket cutting lever down and slide the bit up or down until it matches the set-up block template. Slowly release the router cutting lever until it stops.



8. Finally use the 10mm spindle wrench and the 17mm collet wrench to firmly tighten the collet chuck assembly in a clockwise direction. (plate removed for clarity).

**To prevent damage to the tool, do not tighten the collet without a bit inserted.**

***Bit “burning” is caused by either dull tooling, too slow of a movement of the pocket cutting lever or both.***

## 4.3 Web Adjustment



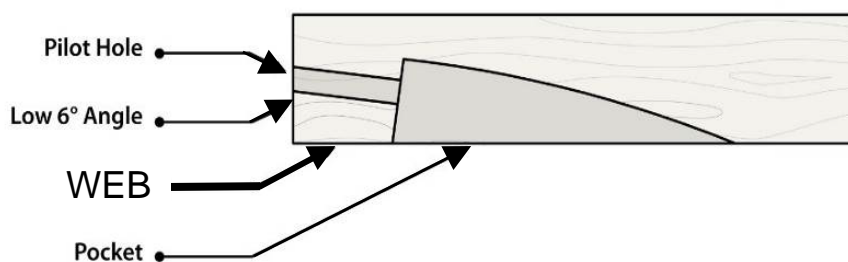
The distance between the edge of the stock and the end of the pocket is referred to as the web.

To adjust the web closer to (narrow web), or further from (wide web) the edge of the stock, loosen the brass web adjustment knob next to the pocket cutting lever. Moving the web adjustment stop plate away from the work deck will narrow the web pushing the web adjustment stop plate toward the work deck will widen the web.

Tighten the brass web adjustment knob each time before testing. Testing should include cutting a pocket and joining two pieces together with the intended screw to confirm proper

thread engagement. This is a trial and error method until you get the pocket where it suits you best.

THE ANATOMY OF THE PROFESSIONAL POCKET



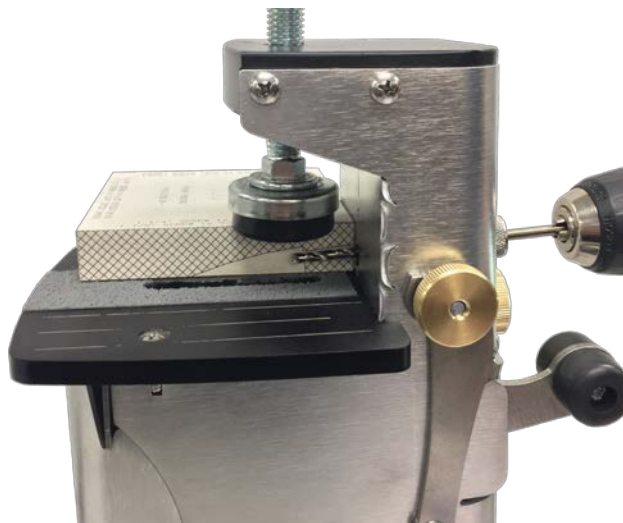


## 4.4 Pilot Hole Height Adjustment



1. Secure the set-up block with the desired template facing the outside edge of the router bit slot on the work deck. **Do not** cover the bit slot with the set-up block.

2. Use the brass pilot hole adjustment knob directly below the pilot hole drill guide on the back of the main housing.



3. Place the 5/32" drill bit provided through the pilot hole drill guide until it appears on the other side of the housing.

4. Slide the pilot hole adjustment plate up or down until the drill bit matched the desired location on the bit set-up block template.
5. Tighten the brass pilot hole adjustment knob to secure the pilot hole adjustment plate in place.

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## 5 Clamping To A Work Bench

Included with your Castle-100 is a Wilton clamp. To use the clamp to secure your Castle-100 to a work bench simply insert the top of the clamp in the opening provided at the base of the main housing and tighten the clamp to your work surface.



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### 5.1 Dust Extraction Port

The Castle-100 dust extraction port is 1 ¼ inch diameter to fit most universal shop vacuum hose adapters. Select the dust extraction hose adapter that will work with your system.



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## 6 Motor, Bits, and General Information

Because the motor is enclosed, it is important that the maintenance guidelines provided in the manufacturer's instruction manual are strictly observed.

- Use dust extraction for clearing sawdust out of your machine case and creating air flow through the case to aid in cooling the motor.
- The pocket is made with a 5/16" router bit, B00516 and the pilot hole is made with a 5/32" drill bit, B06924.
- Contact our Castle Parts Department at 800-282-8338 for information and pricing on tooling for The Castle-100, or shop our convenient Web Store for online ordering. <http://store.castleusa.com/>

### Bosch Router Motor General Safety Rules & Instructions

#### General Safety Rules



**WARNING** Read all safety warnings and instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. The term "power tool" all of the warnings listed below refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

## SAVE THESE INSTRUCTIONS

### Work Area Safety

**Keep work area clean and well lit.**

Cluttered or dark areas invite accidents.

**Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.**

Power tools create sparks which may ignite the dust or fumes.

**Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

### Electrical Safety

**Power tool plugs must match the outlet.**

**Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.

**Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.**

There is an increased risk of electric shock if your body is earthed or grounded.

**Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.

**Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.

**When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.

**Do not use AC only rated tools with a DC power supply.** While the tool may appear to work, the electrical components of the AC rated tool are likely to fail and create a hazard to the operator.

**If operating the power tool in damp locations is unavoidable a Ground Fault Circuit Interrupter (GFCI) must be used to supply the power to your tool.** GFCI and personal protection devices like electrician's rubber gloves and footwear will further enhance your personal safety.

## **Personal Safety**

**Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.

**Use safety equipment. Always wear eye protection.** Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

**Avoid accidental starting. Ensure the switch is in the off-position before plugging in.** Carrying power tools with your finger on the switch or plugging in power tools that have the switch on invites accidents.

**Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.

**Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.

**Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.**

**If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of these devices can reduce dust-related hazards.

**Keep handles dry, clean and free from oil and grease.** Slippery hands cannot safely control the power tool.

### **Power Tool Use and Care**

**Do not force the power tool. Use the correct power tool for your application.**

The correct power tool will do the job better and safer at the rate for which it was designed.

**Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.

**Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.

**Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.

**Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tools operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.

**Keep cutting tools sharp and clean.**

Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.

**Use the power tool, accessories and tool bits etc., in accordance with these instructions and in the manner intended for the particular type of power tool, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.

**Use clamps or other practical way to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.

## Service

**Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.

**Develop a periodic maintenance schedule for your tool. When cleaning a tool be careful not to disassemble any portion of the tool since internal wires may be misplaced or pinched or safety guard return springs may be improperly mounted.**

Certain cleaning agents such as gasoline, carbon tetrachloride, ammonia, etc. may damage plastic parts.

## Safety Rules for Routers

**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.

**Use clamps or other practical way to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.

**If cutting into existing walls or other blind areas where electrical wiring may exist is unavoidable, disconnect all fuses or circuit breakers feeding this worksite.**

**Always make sure the work surface is free from nails and other foreign objects.** Cutting into a nail can cause the bit and the tool to jump and damage the bit.

**Never hold the workpiece in one hand and the tool in the other hand when in use.**

**Never place hands near or below cutting surface.** Clamping the stock and guiding the tool with both hands is safer.

**Never lay workpiece on top of hard surfaces, like concrete, stone, etc...**

Protruding cutting bit may cause tool to jump.


**Always wear safety goggles and dust mask. Use only in well ventilated area.**



**Never touch the bit during or immediately after the use.** After use the bit is too hot to be touched by bare hands.

**Never lay the tool down until the motor has come to a complete standstill.** The spinning bit can grab the surface and pull the tool out of your control.

**Never use bits that have a cutting diameter greater than the opening in the base.**

 **WARNING** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known 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 and other masonry products, and
- 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.

Using personal safety devices and working in safe environment reduces risk of injury.

**After changing the bits or making any adjustments, make sure the collet nut and any other adjustment devices are securely tightened.** Loose adjustment device can unexpectedly shift, causing loss of control, loose rotating components will be violently thrown.

**Never start the tool when the bit is engaged in the stock.** The bit cutting edge may grab the stock causing loss of control of the cutter.

**The direction of feeding the bit into the stock is very important and it relates to the direction of bit rotation. When viewing the tool from the top, the bit rotates clockwise.**

**Feed direction of cutting must be counter-clockwise.** NOTE: inside and outside cuts will require different feed direction, refer to section on feeding the router. Feeding the tool in the wrong direction, causes the cutting edge of the bit to climb out of the work and pull the tool in the direction of this feed.

**Never use dull or damaged bits. Sharp bits must be handled with care.** Damaged bits can snap during use. Dull bits require more force to push the tool, possibly causing the bit to break.

## ROUTER MAINTENANCE



### **WARNING** Preventive

maintenance performed by unauthorized personnel may result in misplacing of internal wires and components which could cause serious hazard. We recommend that all tool service be performed by a Bosch Factory Service Center or Authorized Bosch Service Station.

### **TOOL LUBRICATION**

Your Bosch tool has been properly lubricated and is ready to use. It is recommended that tools with gears be re-greased with a special gear lubricant at every brush change.

### **CARBON BRUSHES**

The brushes and commutator in your tool have been engineered for many hours of dependable service. To maintain peak efficiency of the motor, we recommend every two to six months the brushes be examined. Only genuine Bosch replacement brushes specially designed for your tool should be used.

### **BEARINGS**

After about 300-400 hours of operation, or at every second brush change, the bearings should be replaced at Bosch Factory Service Center or Authorized Bosch Service Station. Bearings which become noisy (due to heavy load or very abrasive stock cutting) should be replaced at once to avoid overheating or motor failure.

## CLEANING



**WARNING** To avoid accidents always disconnect the tool from the power supply before cleaning or performing any maintenance. The tool may be cleaned most effectively with compressed dry air. **Always wear safety goggles when cleaning tools with compressed air.**

Ventilation openings and switch levers must be kept clean and free of foreign matter. Do not attempt to clean by inserting pointed objects through openings.

## CLEANING



**CAUTION** Certain cleaning agents and solvents damage to plastic parts. Some of these are: gasoline, carbon tetrachloride, chlorinated cleaning solvents, ammonia and household detergents that contain ammonia.

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## 7 Warranty Information

Castle, Inc. uses only the highest quality stocks available for the construction of our machines. The Castle-100 is warranted for one (1) full year from the date of purchase against workmanship or stock defects under normal use and service. Castle, Inc. is not responsible for failures or injuries due to negligence, misuse, alteration, unauthorized service, or accidents.

Owners of new machines are obligated to contact Castle before contracting for, or attempting warranty repairs or service.

If Castle technicians determine that reasonably simple adjustments or tests are necessary in delivering remedy to a failed machine, owners of warrantied machines are obligated to exercise due diligence while assisting in the execution of these simple adjustments or tests.

When a problem cannot be resolved via telephone support, Castle Inc. will, at its expense, send replacement parts and instructions to the purchaser necessary to cure the defect. Castle will not be responsible for providing labor on repairs that are deemed reasonable for the owner to accomplish. Castle, Inc., at its sole discretion, will elect to either repair (by a Castle technician) or replace a machine in the case of warranty issues that exceed reasonable owner repair expectations. Alternatively, Castle will factory repair any machine provided the machine is returned to Castle, shipping prepaid, within the warranty period.

**Castle Inc. will not, under any circumstances, be liable for consequential, incidental, special or exemplary damages, or for loss of time, revenue or production. Further, Castle Inc. disclaims any warranty, expressed or implied, as to the merchantability or fitness of a Castle product for any particular purpose.**

## 30 Day Refund Policy

Any Castle machine that is un-altered and in almost new condition may be returned by the purchaser, for any reason, within 30 days of the purchase date for a full refund.

Please contact your Castle authorized dealer for more information.

Bosch warrants their router motors for one (1) year from date of purchase. We recommend that you keep your bill of sale and motor serial numbers. You will need this information for verification should there be any issues covered by the machine. or motor warranty.

For Technical Assistance, Parts & Tooling contact your local Castle Dealer or Castle Inc. at 800-282-8338 Monday through Friday, 7:30am – 3:30pm, Pacific Time.



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**1.800.282.8338 · [www.castleusa.com](http://www.castleusa.com)**