

Get to Know Your Saw

The major components of your saw are identified below. Make sure you can identify these components in order to follow the instructions in this manual.

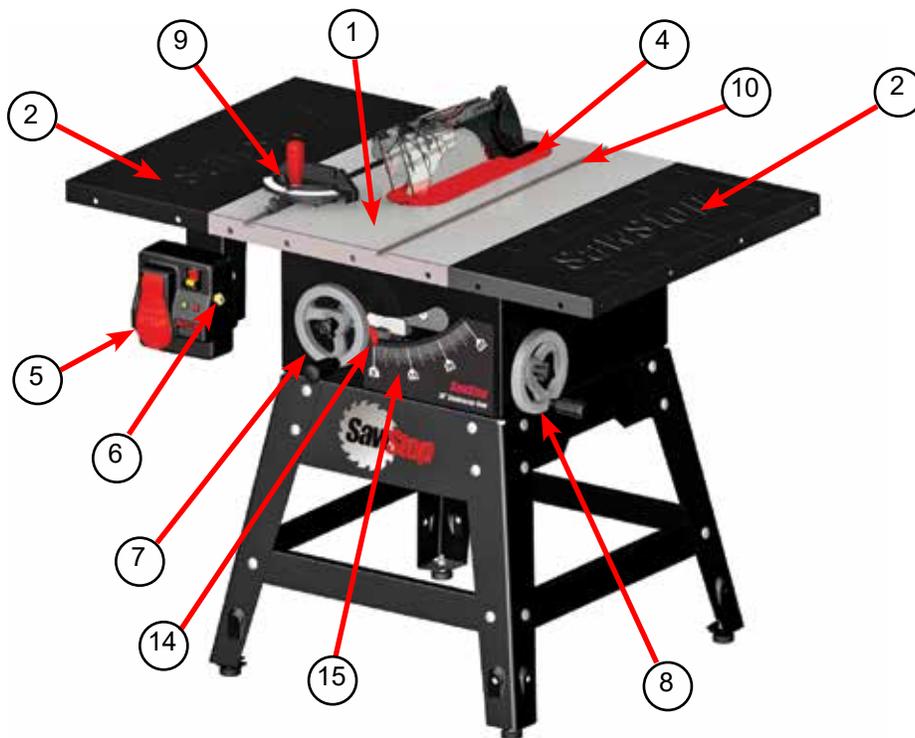


Fig. 23

External Components

1. Table Top
2. Extension Wings
3. Blade Guard Assembly
4. Standard Table Insert
5. Switch Box
6. Bypass Key
7. Elevation Handwheel
8. Tilt Handwheel
9. Miter Gauge
10. Miter Gauge Slots
11. Spreader / Riving Knife Storage Pins (2)
12. Blade Wrenches (2)
13. Riving Knife
14. Tilt Angle Indicator
15. Tilt Angle Scale
16. Stand
17. Thermal Overload Switch
18. Push Stick

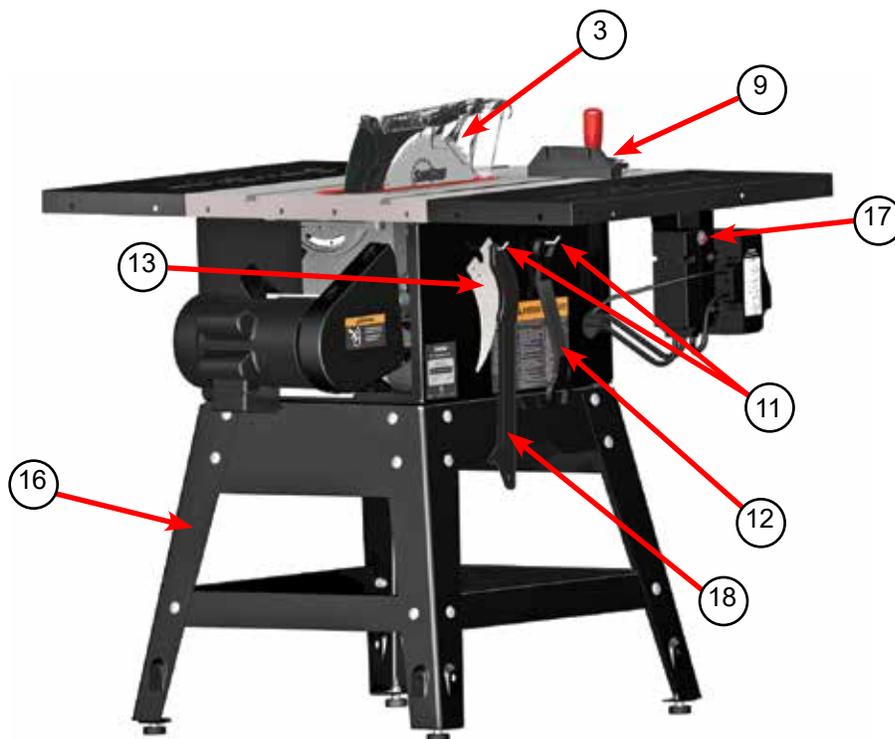


Fig. 24

Get to Know Your Saw

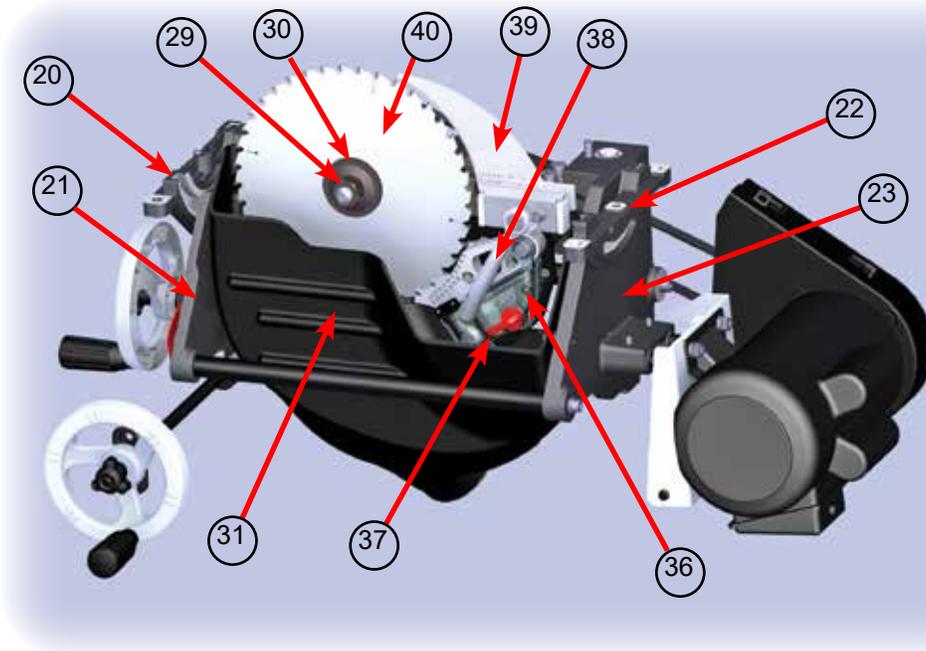


Fig. 25

Internal Components

- 20. Front Trunnion Bracket
- 21. Front Trunnion
- 22. Rear Trunnion Bracket
- 23. Rear Trunnion
- 24. Elevation Plate
- 25. Motor
- 26. Motor Belt
- 27. Belt Guard
- 28. Arbor Block
- 29. Arbor Nut
- 30. Arbor Washer
- 31. Dust Shroud
- 32. Dust Port
- 33. Upper Elevation Limit Stop
- 34. Lower Elevation Limit Stop
- 35. Brake Positioning Bolt
- 36. Brake Cartridge
- 37. Cartridge Key
- 38. Quick-Release Clamp Handle
- 39. Riving Knife
- 40. Saw Blade

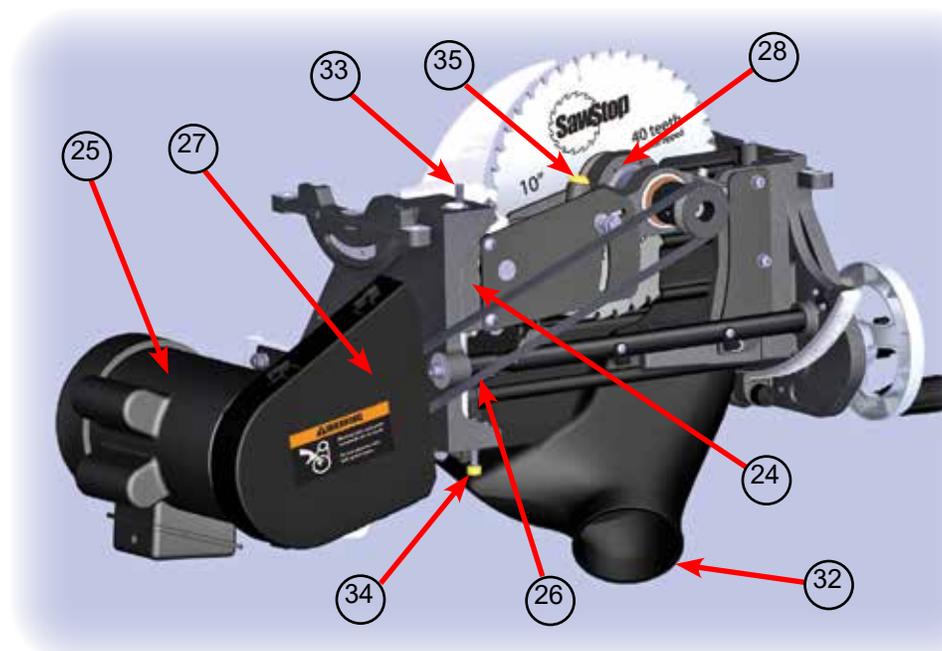


Fig. 26

Preparing Your Saw for Use

Saw Placement

Position the saw on a level surface away from sources of moisture and electrical noise. Make sure there is sufficient room to allow free access to all sides of the saw.

Table Insert Removal and Installation

Your saw is shipped with a high-quality, zero-clearance table insert. The insert is factory-adjusted to fit securely in the table opening and below the table surface. If you wish to perform additional adjustment on the insert, see page 68 for instructions.

WARNING! Always turn off the main power switch and unplug the power cord before removing or installing the table insert on your saw.

The rear of the table insert is held in place by two lock down screws in the bottom rear of the insert and two lock down screws in the table opening. It is held down in the front by latches formed at the ends of a rotating lock-down lever. The lock-down lever allows you to easily remove the insert without the use of tools.

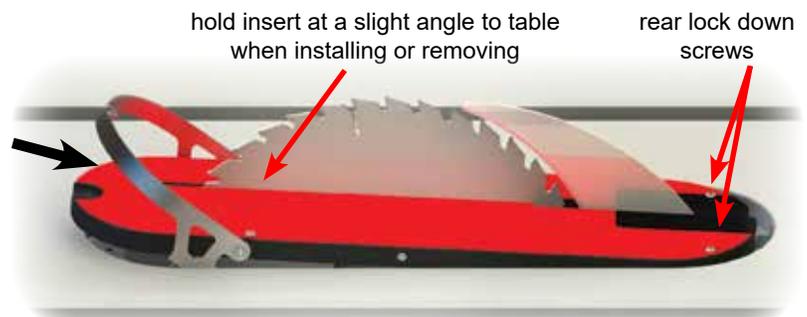


Fig. 27

To install the table insert, hold it at a slight angle, with the lock-down lever rotated upwards and the rear of the insert lower than the front (see Fig. 27). Slide the rear of the insert around the spreader or riving knife and against the back of the table opening so that the heads of the rear lock down screws in the bottom of the insert slide under the heads of the lock down screws in the table opening (see Fig. 28). Then, with the lock-down lever rotated upwards, lower the front end of the insert into the table opening until the insert lies flat. Finally, rotate the lock-down lever all the way down so that it fits along the edge of the table insert. Be certain that no part of the table insert extends up beyond the table surface; it should be flush or just below the table surface.

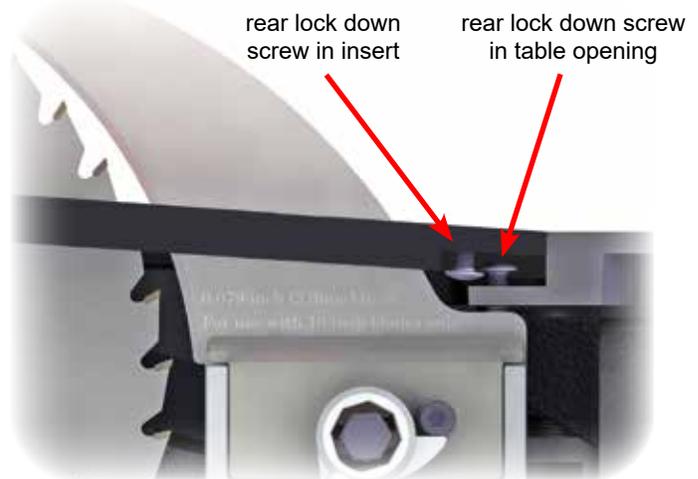


Fig. 28

Do not attempt to make a dado cut through the standard table insert because the dado set will hit the steel frame on the inside of the insert and activate the brake cartridge. There is an optional zero-clearance table insert accessory specifically designed for dado cuts (see page 103).

WARNING! Never operate the saw without the table insert in place.

CAUTION! Do not use table inserts with metal or other electrically-conductive parts that could contact the blade. This can cause the brake to be activated unnecessarily.

Preparing Your Saw for Use

Blade or Dado Installation

The SawStop® contractor saw is designed to be used with a 10 inch saw blade or an 8 inch dado set. A dado set is made up of two circular saw blades on either side of a set of removable knives or chippers. You can use a dado set to cut a groove or slot in a workpiece. Other sizes or types of blades are not compatible with a SawStop saw. If you attempt to use an incompatible blade, the safety system will display an error code and prevent the motor from starting.

WARNING! Always turn off the main power switch and unplug the power cord before removing or installing a blade or dado set on your saw.

WARNING! Only install 10 inch blades or 8 inch dado sets (with optional dado cartridge and optional dado table insert). Do not install other size blades or dado sets. Do not install molding heads or other non-standard cutters. Use of these non-standard blades or cutters may cause serious injury.

The contractor saw comes with a 40 tooth, 10 inch combination saw blade. The blade may be lightly coated in oil to prevent rusting. Clean the blade thoroughly before you use it for the first time. If you wish to install a different blade, use a high quality blade that does not have anti-rust coatings on the teeth (e.g., lacquer, wax, etc.). Such coatings can interfere with (or potentially defeat) the ability of the system to detect contact. **Blades with depth-limiting shoulders** may take longer to stop in the event of an accident than standard blades, and you could receive a more serious injury. Therefore, SawStop recommends using blades without depth-limiting shoulders.

The SawStop safety system is designed for use with standard 10 inch blades with kerfs from $\frac{3}{32}$ inch to $\frac{3}{16}$ inch. Blades with kerfs much thinner than $\frac{3}{32}$ inch should not be used because those blades might not be strong enough to withstand the force applied by the brake when it activates. As a result, those blades might deform and stop more slowly in the event of an accident, resulting in a more serious injury. Blades with kerfs much thicker than $\frac{3}{16}$ inch are heavier than standard $\frac{1}{8}$ inch kerf blades. Therefore, those blades should not be used because they may stop more slowly than standard blades in the event of an accident, resulting in a more serious injury.

To install the blade or dado set, use the open end of one of the blade wrenches included with the saw to hold the arbor behind the arbor flange, and use the closed end of the other blade wrench to loosen the arbor nut (see Fig. 29). The arbor nut is right-hand threaded so turn the nut counter-clockwise to loosen it and clockwise to tighten it. After removing the arbor nut and arbor washer, install the blade or dado set and reinstall the arbor washer and arbor nut. The saw is designed for use with 8 inch dado sets up to $\frac{13}{16}$ inch wide. For dado widths larger than about $\frac{3}{8}$ inch, do not use the arbor washer. Instead, tighten the arbor nut directly against the dado set. Use the blade wrenches to tighten the arbor nut securely.

If you install a dado set, you will also need to install an optional dado brake cartridge and an optional dado table insert (see pages 58 and 103). A dado set cannot be used with the standard SawStop® brake cartridge or table insert.



Fig. 29

WARNING! Do not attempt to use saw blades made of materials that are electrically non-conductive (e.g., abrasive blades, blades with plastic hubs, etc.). The SawStop® safety system will not allow the saw to operate if these blades are installed.

WARNING! Never install the blade backwards. The brake might not stop a blade that is installed backwards and you may receive a serious injury.

Preparing Your Saw for Use

Brake Position Adjustment

It is important to accurately adjust the spacing between the brake cartridge and the blade (see Fig. 30). If the brake is too far from the blade, the safety system will take longer than necessary to stop the blade. On the other hand, if the brake is too close to the blade, a portion of the blade might contact the brake and cause it to activate.

WARNING! Always turn off the main power switch and unplug the power cord before removing, installing or adjusting the brake cartridge on your saw.

The exact diameters of 10 inch blades will vary. In addition, blades that have been resharpened one or more times will usually be under 10 inches. **Therefore, always check the spacing between the blade and the brake when installing a different blade or brake cartridge.**

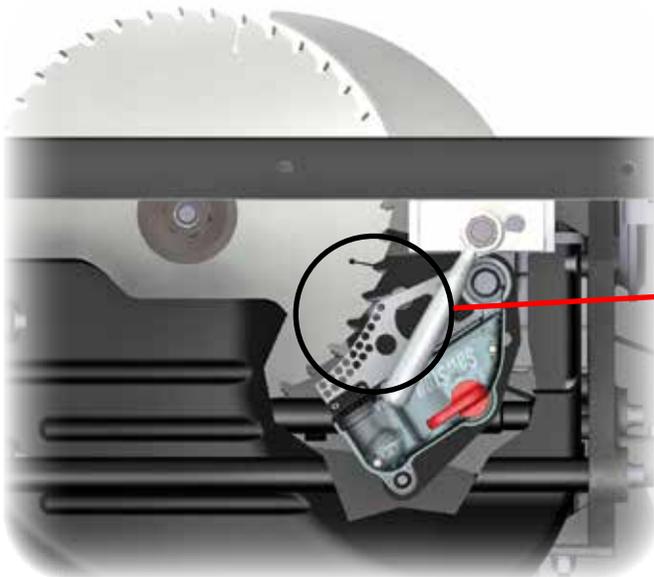


Fig. 30

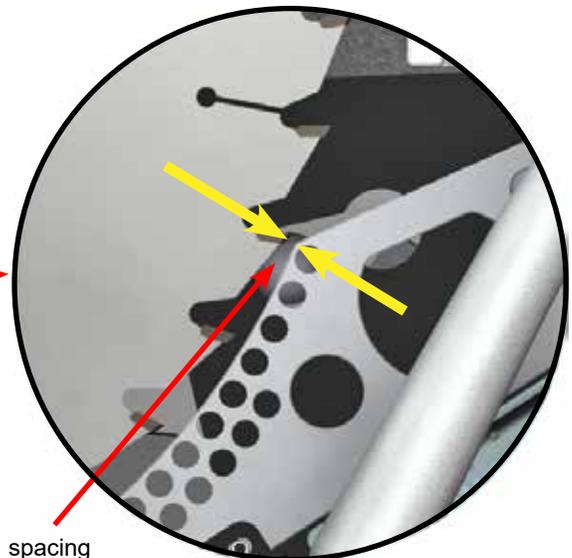


Fig. 31

The spacing between the brake cartridge and the blade is adjusted by the yellow brake positioning bolt mounted in the top of the arbor block (see Fig. 32). To access the brake positioning bolt, set the tilt angle to 0° and adjust the blade elevation to approximately 1½ inches above the table top. The bolt will be accessible through the opening in the table top.

Using the 8 mm hex key included with the saw, turn the brake positioning bolt clockwise to decrease the spacing between the brake cartridge and the edge of the blade, or counter-clockwise to increase the spacing. Adjust the brake position as needed to set the spacing between the teeth of the blade and the closest point on the brake cartridge to between 1/16 and 3/32 inch (see Fig. 31).

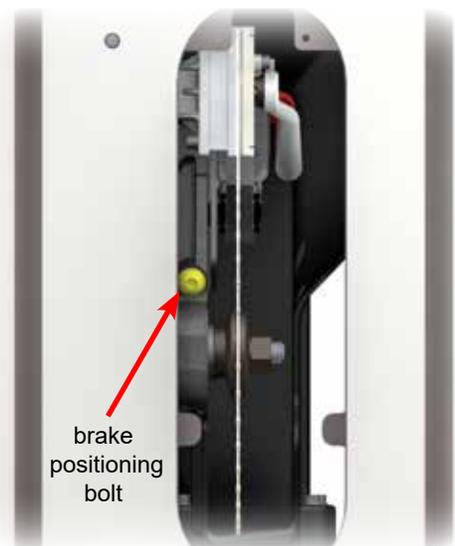


Fig. 32

Preparing Your Saw for Use

A blade spacing adjustment gauge is included with the tools on hardware pack #2 and can be placed between the closest points on the blade and brake cartridge to set the appropriate spacing (see Fig. 33). The two slots on the blade spacing adjustment gauge can be used to store the 8 mm hex key that is used to adjust the brake position. The blade spacing adjustment gauge also contains magnets so it can be attached to the side of the contractor saw housing.

Alternatively, you can place a U.S. nickel between the brake cartridge and the edge of the blade to set the correct spacing.

use the tip of the blade spacing adjustment gauge to set the correct spacing between the blade and the brake



Fig. 33

After adjusting the brake position and before starting the saw, spin the blade by hand at least one full revolution to verify that the blade does not hit the brake (see Fig. 34).

spin the blade by hand to make sure the blade does not touch the brake

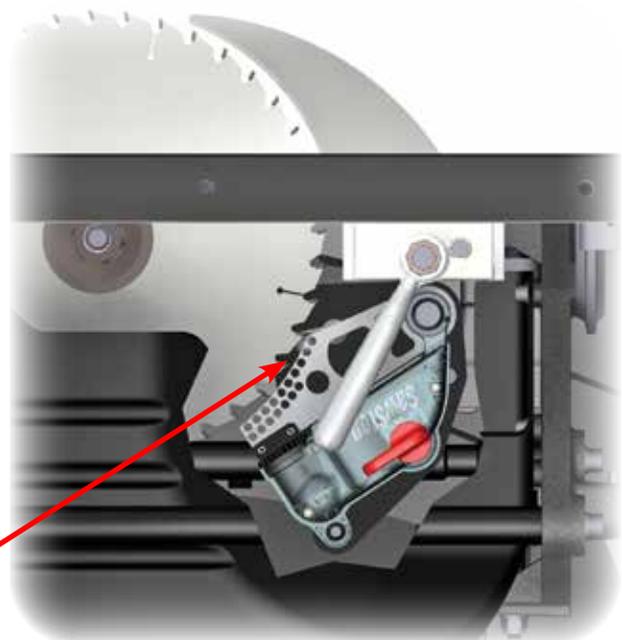


Fig. 34

Preparing Your Saw for Use

Blade Guard and Riving Knife Installation

Your SawStop® saw includes a unique, quick-release blade guard mounting system. This mounting system was developed to allow you to quickly remove and install the blade guard and riving knife without the use of tools and without the need for realignment. The mounting system is factory-aligned to the arbor flange and should not require adjustment. If you wish to change the alignment, see page 70 for instructions.

The saw is shipped with the riving knife installed. The riving knife is an extremely important tool for reducing the potential for kickback when the blade guard cannot be used. The riving knife should always be used whenever you need to make rabet or other non-through cuts (where the blade does not cut through the top of the wood) and narrow cuts where the guard would interfere with the rip fence.

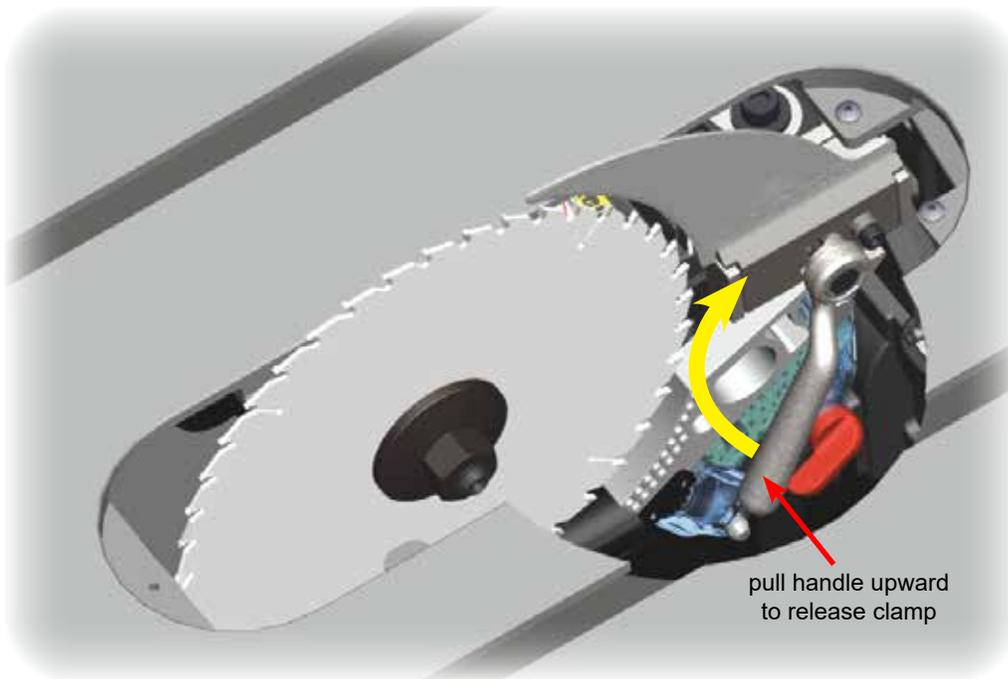


Fig. 35

WARNING! Always turn off the main power switch and unplug the power cord before removing or installing the blade guard or riving knife on your saw.

For the majority of cuts, the blade guard should be used. To install the blade guard, first remove the riving knife by lifting the clamping handle fully upward until the clamping plate moves away from the riving knife (see Fig. 35). Then move the riving knife slightly toward the right to clear the positioning pins, and lift it out of the clamp.

WARNING! Use the blade guard and spreader for every operation for which it can be used, including all through-sawing.

Preparing Your Saw for Use

To install the blade guard, position the spreader in the clamp and flat against the base plate. The positioning pins will align the spreader in the correct position. Lower the clamping handle completely to lock the spreader in place (see Fig. 36). If the clamping handle is difficult to lower, make sure the spreader is positioned flat against the base plate.

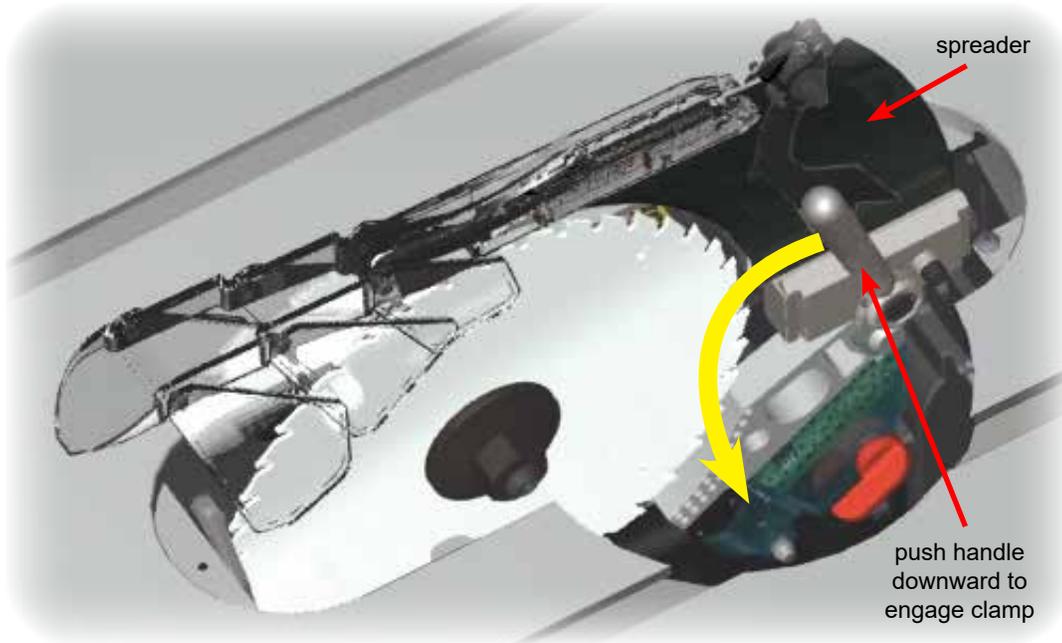


Fig. 36

To remove the guard, use the same procedure as removing the riving knife. Similarly, to install the riving knife, use the same procedure as installing the guard.

The clamping force used to hold the spreader and riving knife in place can be increased if the spreader and riving knife are not held securely, or decreased if too much force is required to lower the clamping handle. See page 73 for instructions on adjusting the clamping force.

See pages 47 and 49 for instructions on the operation and use of the blade guard and the riving knife.

Note: when using a dado set, neither the blade guard nor the riving knife may be used. Instead, use other protective devices such as push sticks, push blocks and featherboards (see page 54, 82, 84 and 85).

Preparing Your Saw for Use

Dust Collection

Your SawStop® saw includes a dust shroud around the blade to provide better dust collection than ordinary contractor saws (see Fig. 25). Connect a suitable dust collection system to the dust port on the bottom of the dust shroud and always use the dust collection system when making a cut.

SawStop recommends the use of a dust collection system that provides at least 350 CFM of flow at the dust port. Attach a 4 inch diameter flexible hose between the inlet port on your dust collector and the port on the dust shroud (see Fig. 37). Use hose clamps to secure the hose to the port on the dust shroud. If you power your dust collector and SawStop® saw from the same electrical circuit, ensure the circuit and breaker have sufficient capacity for both machines.

For more information on dust control and installing a dust collection system, see *Woodshop Dust Control*, by Sandor Nagyszalanczy, Taunton Press, 2002.



Fig. 37

WARNING! Do not remove the dust shroud because the blade will be exposed. If you contact the blade under the table, the blade may retract toward you and cause a severe injury.

WARNING! Some types of dust created by sawing, power sanding, grinding, drilling, and other construction activities contain chemicals known to cause cancer, birth defects or other reproductive toxicity or harm. Some examples of these chemicals are lead from lead-based paints, crystalline silica from bricks, cement, and other masonry products, and arsenic and chromium from chemically treated lumber. In addition, wood dust has been listed as a known human carcinogen by the U.S. government. The risk from exposure to these chemicals and to dust varies depending on how often you do this type of work. To reduce your exposure, work in a well ventilated area and work with approved safety equipment including dust masks or respirators designed to filter out such dust and chemicals.

Preparing Your Saw for Use

Electrical Power Connection

WARNING! Do not connect the saw to electrical power until the saw is completely assembled and you have read and understood this entire manual.

The A-C motor that comes with your saw is rated at 1.75 hp and operates at 60 Hz. It can be used with 110-120V or 208-240V power. It comes from the factory pre-wired for 115V, which means it will work with 110-120V power. Instructions to re-wire the saw for 208-240V power can be found on page 36. If you plan on re-wiring the saw for 208-240V power you must purchase a 230V contactor box assembly (CNS-WA-014), because the contactor box assembly that comes with your saw is only rated for 110-120V power.

The motor draws 14 amps when it is wired for 110-120V power, and 7 amps when it is wired for 208-240V power. Do not use any other motor to power your saw. Connect the saw to an electrical circuit that is protected by a 20 amp breaker.

Note: The A-C motor that comes with contractor saw model CNS175-AU (sold in Australia) is pre-wired for 208-240V power and operates at 50 Hz. The contactor box assembly that comes with CNS175-AU is designed for 240V / 50Hz power.

If you use an extension cord to supply power to your saw, use only extension cords that have three-prongs (including one grounded prong). Also, the extension cord must be heavy enough to carry enough current for the motor. An extension cord that is undersized or too long can cause a voltage drop that will decrease the power supplied to the motor and could result in overheating. See Table 1 for the minimum recommended extension cord length and gauge for 110-120V power. For best performance, use the shortest and heaviest (lowest numbered) extension cord gauge possible.

Minimum Extension Cord Gauge for 110-120V	
Length	Gauge
0 - 25 Feet	12 AWG
25 - 50 Feet	10 AWG
over 50 Feet	Not Recommended

Table 1

Attempting to operate the saw with power other than 110-120V, or 208-240V if the motor is re-wired, will void all warranties and may result in serious injury as well as damage to, or a malfunction of, the saw or safety system.

Re-Wiring the Saw for 208-240V



Fig. 38

WARNING! This saw must be connected to a grounded wiring system, or to a system having an equipment-grounding conductor. Failure to connect this saw to an adequate electrical ground may cause the safety system to malfunction and could result in a serious injury or electric shock.

Preparing Your Saw for Use

Power

Before you re-wire the motor for 208-240V power you must first install a 230V contactor box assembly (CNS-WA-014). The contactor box assembly that comes with your saw is only rated for 110-120V power and it is not compatible with the motor in the 208-240V configuration. To use 208-240V power, you must purchase a SawStop 230V contactor box assembly and follow the installation instructions that are provided with it.

Only after the 230V contactor box assembly has been installed on your saw should you begin re-wiring the motor. The motor that came with your saw is pre-wired for 110-120V power. The following procedure describes how to re-wire the motor for 208-240V power.

- There are two cords that extend out from the back of the saw cabinet: a long cord with a 110-120V male plug to connect to a power outlet, and a short cord with a female plug to connect to the motor. Unplug both cords so the saw is disconnected from power and from the motor.
- Remove the motor belt by opening the belt guard and lifting the motor upward to release tension in the belt.
- Remove the motor from the saw by loosening the two lock down set screws that hold the motor in place (use the included 3 mm hex key), and then slide the mounting pins out of the corresponding holes in the rear trunnion (see Fig. 17 on page 23).
- Locate the junction box underneath the motor (see Fig. 38 on page 35) and remove the cover by loosening the Phillips-head screw.
- Inside the junction box are wires connected by two wire nuts. One wire nut connects two black wires and one white wire. The other wire nut connects red, yellow and white wires. Remove any electrical tape from the two wire nuts and then remove the two wire nuts.
- Re-wire the leads as shown in the 208-240V wiring diagram on page 37. Connect the black wire coming from the power cord to the white wire coming from the motor. Connect the white wire coming from the power cord to the red wire coming from the motor. Finally, connect the black wire coming from the motor to the yellow wire coming from the motor.
- Locate the additional wire nut that is included with the 230V contactor box assembly. Use the three wire nuts to connect the wires and then wrap each wire nut with two layers of new electrical tape.
- Double check the wiring to make sure it matches exactly the 208-240V schematic on page 37, and then re-attach the junction box cover.
- Reinstall the motor and motor belt as described on pages 23 and 24.
- Plug the male end of the motor cord into the female plug on the matching short cord that extends out from the back of the saw cabinet.
- The 230V contactor box assembly comes with a NEMA 6-15P plug attached to the end of the main power cable. If you need to replace this plug or replace the power cord with a longer one, follow the instructions on page 38.
- Your saw is now ready to use with 208-240V power.

Preparing Your Saw for Use

Changing the Plug or Power Cord on a 208-240V Saw

Replacing the Power Cord Plug

The 230V contactor box assembly (CNS-WA-014) which enables the contractor saw to be used with 230V power comes with a NEMA 6-15P plug attached to the end of a 9 ft power cord. If you need to replace the plug with a different style plug, replace it with a 3-prong, 208-240V, UL-listed plug. There are numerous styles of 208-240V plugs, so select a plug that matches the single phase 208-240V power outlet from which you intend to power the saw. Connect the white and black wires to the two “hot” plug terminals. Connect the green wire to the ground plug terminal. Follow the manufacturer’s specific wiring instructions that come with your 208-240V plug.

Replacing the 230V Power Cord

You may replace the 9 ft power cord that came attached to your 230V contactor box assembly with a longer cord. If you replace the cord, use a 3-conductor cable heavy enough to carry enough current for the motor. A cord that is undersized or too long can cause a voltage drop that will decrease the power supplied to the motor and could result in overheating. See Table 2 for the minimum recommended cord length and gauge for 208-240V power.

Minimum Cord Gauge for 208-240V	
Length	Gauge
0 - 50 Feet	16 AWG
50 - 100 Feet	14 AWG
100 - 200 Feet	12 AWG

Table 2

Prepare your new power cord by cutting about 6 ½ inches of the cable housing off of one end of the cord so that you have access to the three insulated wires in the power cord. Strip off the insulation at the tips of each of the three wires and secure terminal forks at the end of the white and black wires and a ring terminal on the green wire (see Fig. 39). Make sure the connections are secure and not loose and that none of the wires are left uninsulated below the terminal fork or ring.

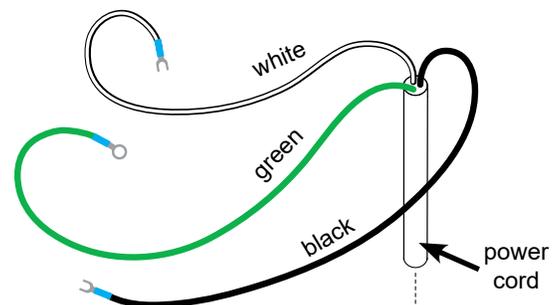


Fig. 39

WARNING! Loose electrical connections can cause fires.

WARNING! Make sure the saw is unplugged from the wall outlet before proceeding with the following instructions.

Locate the contactor box which is mounted to the back side of the switch box bracket (see Fig. 40).

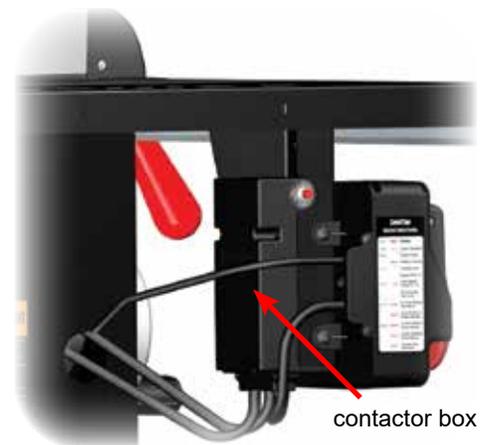


Fig. 40

Preparing Your Saw for Use

With the saw unplugged, use a Phillips screwdriver to remove the four screws on the cover of the contactor box and remove the contactor box cover (see Fig. 41). Locate the contactor to which the black and white wires from the power cord are attached and the ground connection to which the green wire from the power cord is attached (see Fig. 42).

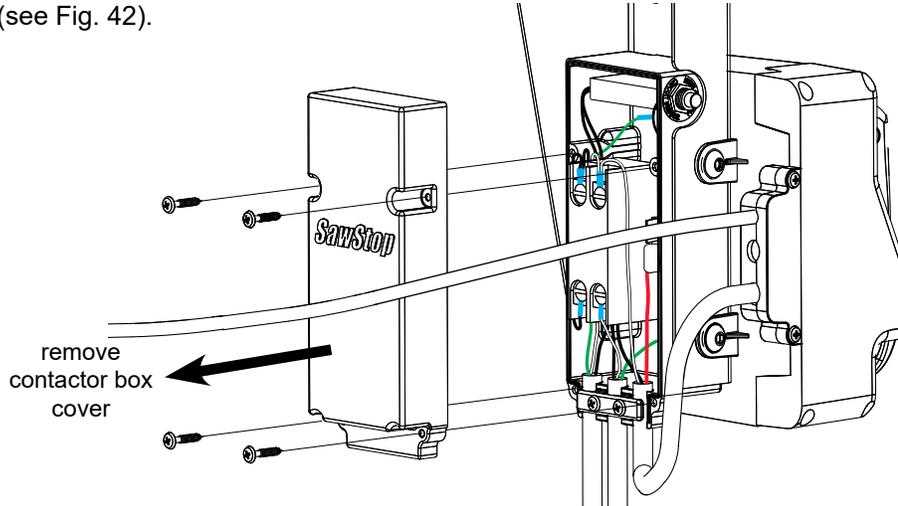


Fig. 41

Disconnect the power cord from the contactor box by using a Phillips screwdriver to loosen the two screws at the top of the contactor and removing the ends of the black and white power cord wires from the screws and then removing the end of the green power cord wire from the ground connection (see Fig. 42 and 43).

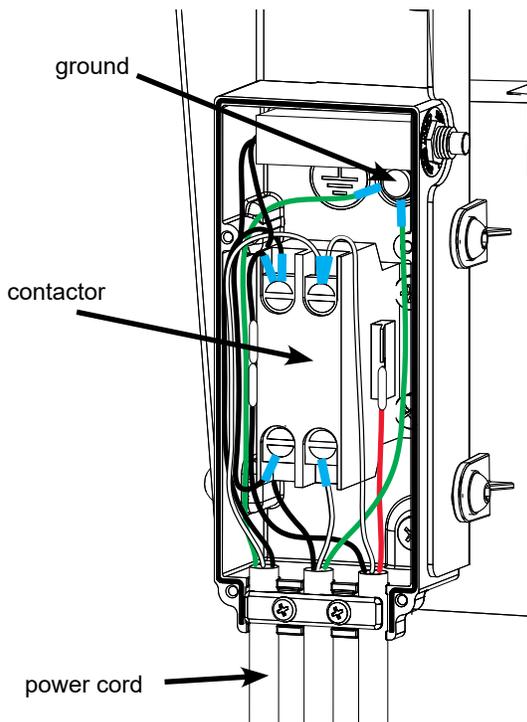


Fig. 42

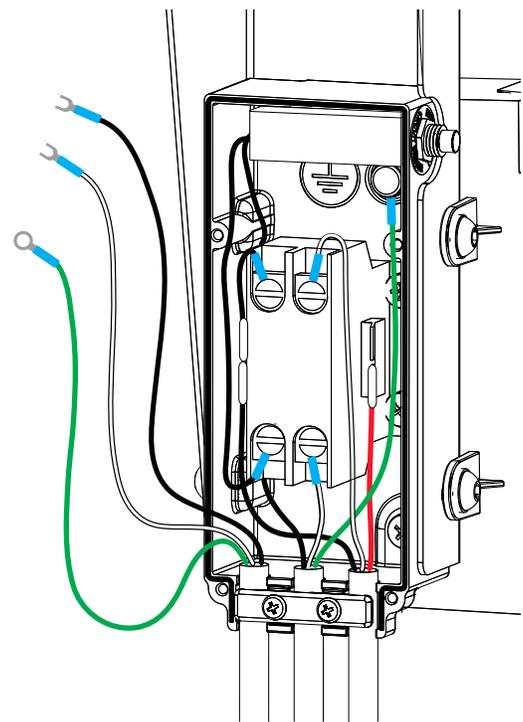


Fig. 43

Preparing Your Saw for Use

Using a Phillips screwdriver, remove the left screw that attaches the bar across the cords entering the contactor box and loosen the right screw. Then rotate the bar downwards far enough to remove the power cord (see Fig. 44).

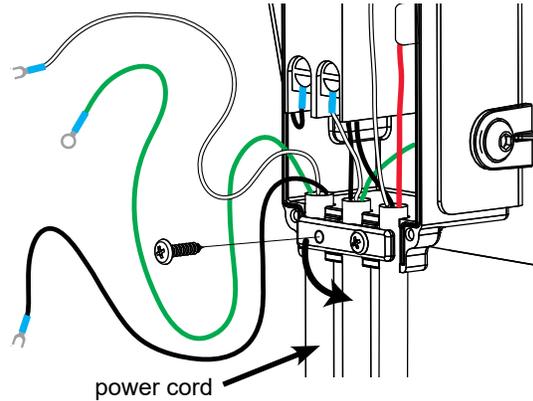


Fig. 44

Now install the new power cord in the contactor box. Connect the ground wire (the green wire) to the ground, the white wire to the right, top terminal connection on the contactor, and the black wire to the left, top terminal connection on the contactor (see Fig. 45). A wiring diagram is shown in Fig. 46.

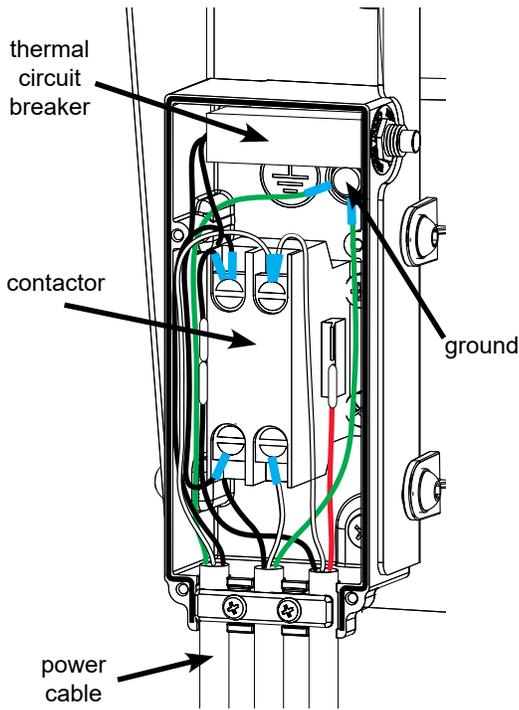


Fig. 45

230V Contactor Box Wiring Diagram:

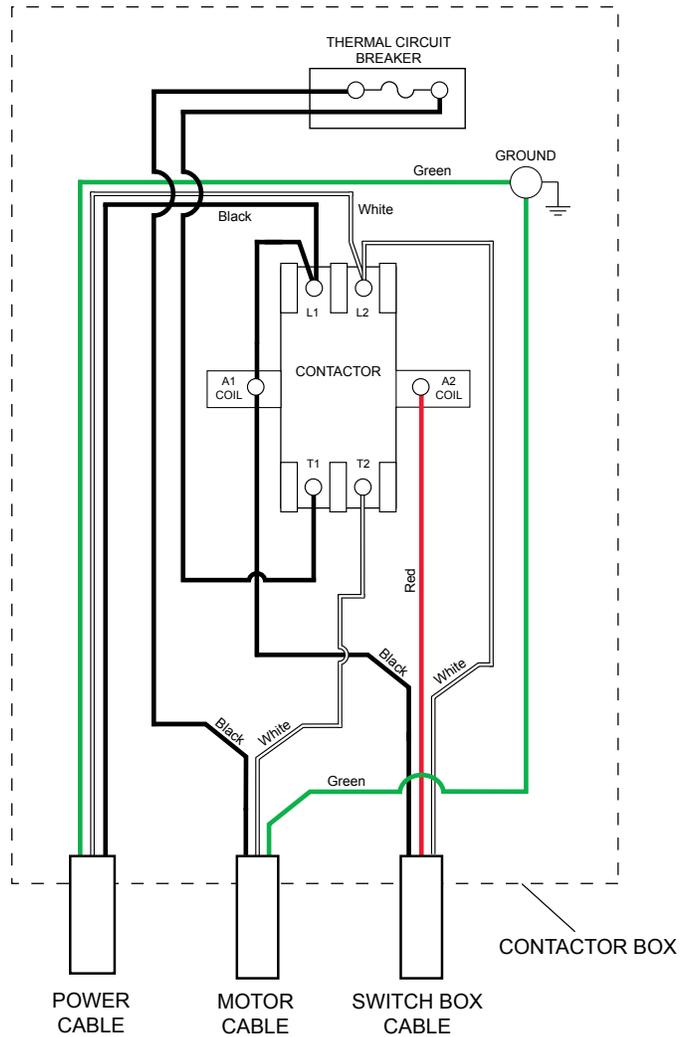


Fig. 46

Using Your Saw

Adjusting the Blade Height

To maximize safety, the height of the saw blade above the table should be as low as possible while still allowing a complete and precise cut. For through-cuts (i.e., cuts where the wood is cut through its entire thickness), the blade height should be adjusted so that the top of the blade is no more than $\frac{1}{8}$ inch to $\frac{1}{2}$ inch above the workpiece.

The blade can be adjusted from $\frac{1}{8}$ inch below the table top to $3\frac{1}{8}$ inch above the table top. To adjust the height of the blade, loosen the elevation lock knob and turn the elevation handwheel until the blade is at the desired height (see Fig. 47). Turn the handwheel clockwise to raise the blade, and counter-clockwise to lower the blade. Lock the blade height by tightening the elevation lock knob.

The saw includes limit stops to prevent the height of the blade from being adjusted past the maximum and minimum setpoints. These limit stops are pre-set at the factory and should not need adjustment. If you decide to adjust the blade elevation limit stops, see page 64 for instructions.



Fig. 47

CAUTION! When adjusting the height or tilt angle of the blade, reverse the handwheel slightly to release tension after reaching the limit stops. This prevents any slight twisting of the cast iron assembly that might affect blade alignment.

Adjusting the Blade Tilt Angle

The tilt (bevel) angle of the blade can be adjusted between 0° and 45° . To adjust the tilt angle of the blade, loosen the tilt lock knob and turn the tilt handwheel until the blade is at the desired angle (see Fig. 48). The tilt angle of the blade is indicated by the position of the tilt angle indicator on the tilt angle scale. Turn the tilt handwheel clockwise to increase the tilt angle, and counter-clockwise to decrease the tilt angle. Lock the tilt angle by tightening the tilt lock knob.

The saw includes limit stops to prevent the tilt angle from being adjusted past the 0° and 45° set points. These limit stops are pre-set at the factory and should not need adjustment. If you decide to adjust the blade tilt limit stops, see page 66 for instructions.

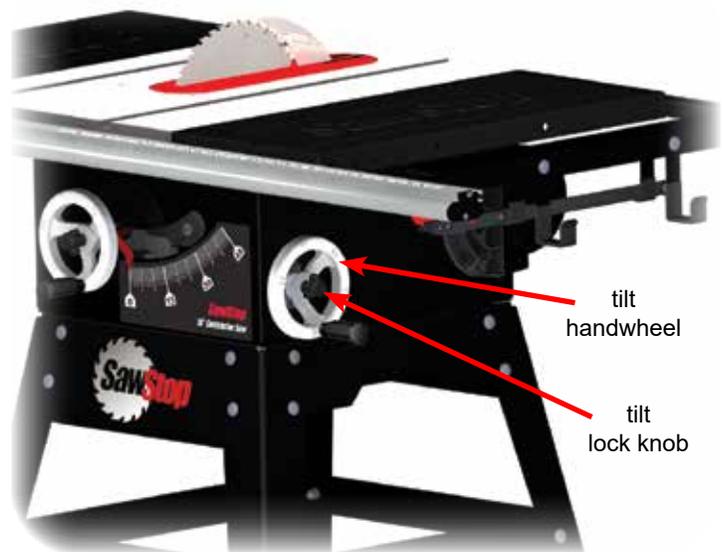


Fig. 48

Using Your Saw

Turning on Main Power and Starting the Motor

Your SawStop® saw is equipped with a main power switch to supply power to the SawStop® safety system and a Start/Stop paddle to turn the motor on and off. Both the main power switch and the Start/Stop paddle are mounted on the switch box (see Fig. 49).

WARNING! Never start the saw when the blade is in contact with the workpiece or any other object.

To start your saw, first make sure the Start/Stop paddle is in the “OFF” position (i.e., pushed in) and then turn the main power switch to the “ON” position by flipping the toggle upward. This will turn on power to the SawStop® safety system, and the system will run through a brief initialization routine to test whether the system is operating properly. During this initialization period (approximately 5–10 seconds), red and green lights on the switch box may blink in different patterns as the safety system runs through various self-check steps. These lights are light-emitting diodes (LEDs) and they display the current status of the safety system and saw. Once the safety system completes the initialization routine, the LEDs will display the “READY” status display (green LED on solid, red LED off). The saw is now ready for use.

To start the motor, pull the Start/Stop paddle out. To stop the motor, push the Start/Stop paddle in. The paddle is designed so that it can be pushed in by the operator’s upper leg or knee in an emergency.

If the READY status is not displayed after 15 seconds, the safety system has detected an error that must be corrected before the saw can be used. See page 44 for a key to the LED status codes and an explanation of the error detected for each code. A label describing the LED displays is also positioned on the side of the switch box.



Fig. 49

WARNING! Do not unplug or disconnect the saw from electrical power before the blade has stopped spinning. If the power is interrupted while the blade is moving, the safety system will not be active and therefore the brake will not activate in the event of accidental contact. You may receive a serious injury if you contact the spinning blade while the electrical power has been interrupted.

Using Your Saw

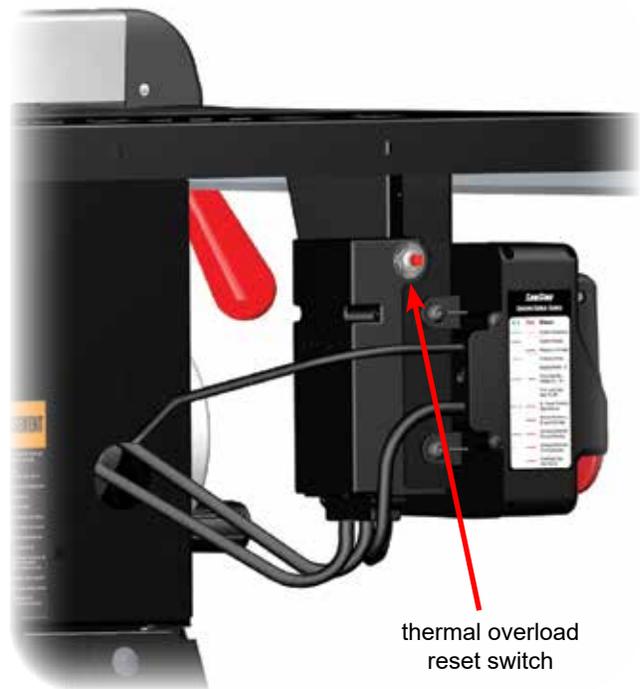
It is not necessary to turn off the main power switch after pushing in the Start/Stop paddle to turn off the motor. If you plan to make several cuts with the saw, you can leave the main power switch in the **ON** position between cuts to eliminate the delay due to the initialization routine. Once you have finished using the saw, turn the main power switch to **OFF** to reduce the likelihood of inadvertent start-up.

In addition, the main power switch has a lockout key that you can remove to prevent children or other non-authorized users from turning the saw on. To remove the key, pull it out, away from the switch. To replace the key, press it back into the socket until it snaps into place (see Fig. 50). When the key is removed, the main power switch can be turned **OFF**, but it cannot be turned **ON**.



main power switch
lockout key

Fig. 50



thermal overload
reset switch

Fig. 51

Your saw also comes equipped with a thermal overload switch that will cut power to the motor if the motor starts to overheat (see Fig. 51). The motor could overheat, for example, if it is overloaded or if a workpiece is fed too rapidly into the blade.

If the thermal overload switch cuts power to the motor, wait a minute or two for the motor to cool down to a safe operating temperature and then push the red thermal overload reset button on the contactor box behind the left side of the switch box. An audible click will indicate that the thermal overload switch has been reset and the saw is ready to use. Double check the electrical circuit and all electrical connections and always use an appropriate feed rate for the material that you are cutting.

Using Your Saw

System Status Codes

In the event the safety system detects an error, the LEDs on the switch box will display a status code to indicate what error has been detected. Figure 52 shows the different possible status codes which can be displayed. A description of each status code and the necessary corrective action is provided on the following pages.

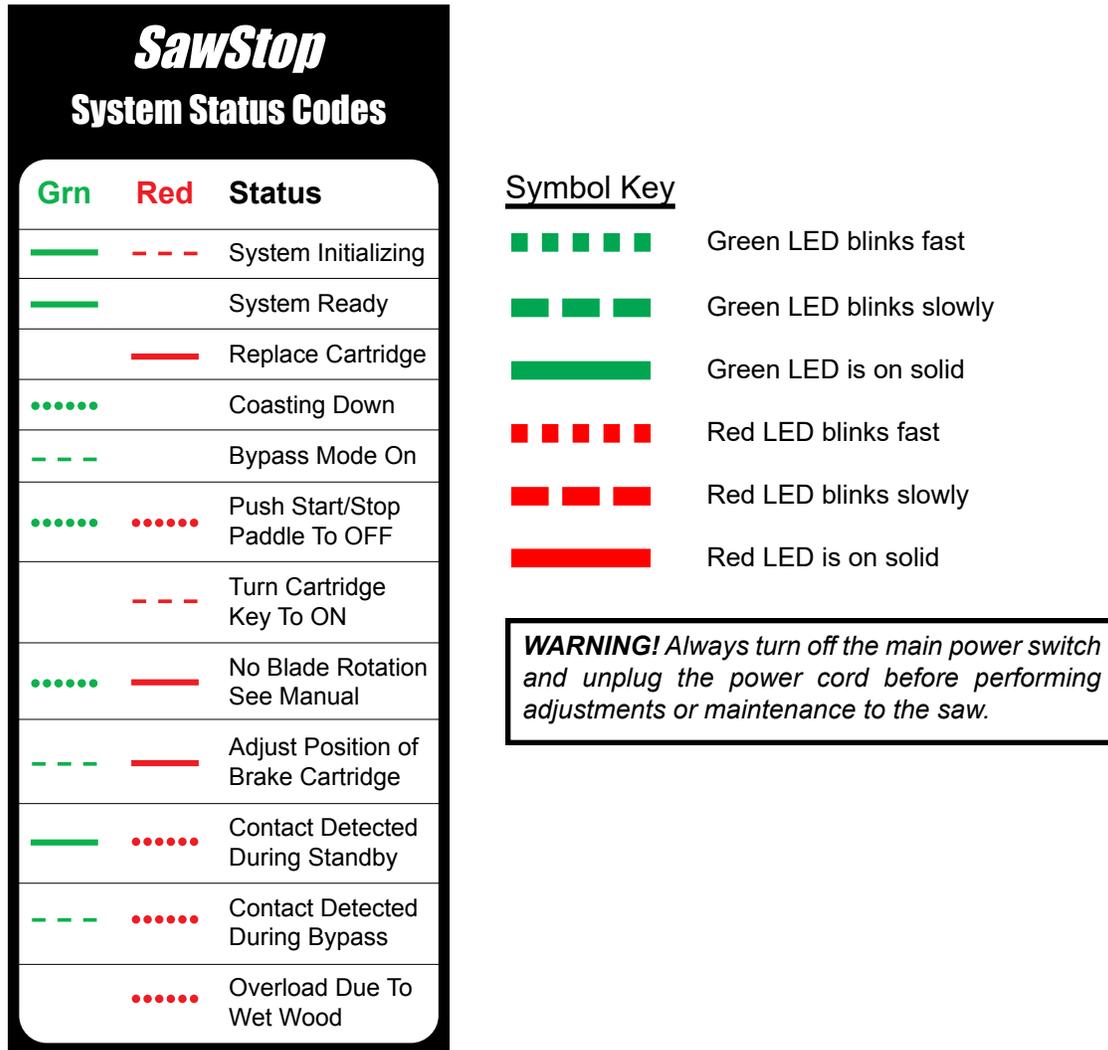


Fig. 52

System Initializing — this code indicates that the system is performing self-checks and energizing the brake system to activate in the case of an accident. This condition should clear within 15 seconds after the main power switch is turned on. If the ambient temperature is very low (below about 0° F), this code may take longer to clear. The safety system detects such low temperatures within the brake cartridge. If necessary, the system turns on a heater inside the cartridge to raise the temperature of the electronics. This code will continue until the temperature inside the brake cartridge is within the normal operating range.

System Ready — this code indicates that all self-checks have been completed, the safety system is operating properly, and the saw is in Standby Mode ready to run.

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Replace Cartridge — this code indicates that the brake cartridge has fired or there is some other permanent defect that cannot be corrected. If the cartridge has not been fired, turn off the main power and turn it back on. If the error continues, install a new cartridge.

Coasting Down — this code indicates that the blade is coasting down and that the safety system is ready to activate the brake if contact is detected. The safety system monitors the rotation of the blade while it is coasting down. If you touch the blade while this code is flashing, the brake will activate.

ALWAYS MAKE SURE THE BLADE HAS COME TO A COMPLETE STOP AND THE COAST DOWN STATUS CODE HAS CLEARED BEFORE TOUCHING THE BLADE!

Bypass Mode ON — this code indicates that the saw is running in Bypass Mode and **will not** activate the brake in the event of accidental contact with the blade. Bypass Mode allows you to cut electrically conductive materials such as aluminum without activating the brake. When the saw is in Bypass Mode, the safety system disables the brake. See page 55 for instructions on how to use the saw in Bypass Mode.

Push the Start/Stop Paddle to OFF — this code indicates that the Start/Stop paddle was in the *ON* position (i.e., pulled out) before the main power switch was turned on. Push the paddle in to the *OFF* position to clear this error. This is a safety feature to prevent the saw from restarting after a power loss or after the safety system has turned the saw off due to an error detected during use.

Turn Cartridge Key to ON — this code indicates that the cartridge locking key is not turned to *ON*. To clear this error first turn the main power switch to *OFF*, and then make sure the cartridge locking key is correctly installed and turned to *ON*. See page 62 for instructions on how to install and turn on the cartridge key.

No Blade Rotation — this code indicates that the motor is not able to spin the blade as expected. In most cases this is because the thermal overload switch has cut power to the motor to prevent overheating. If the thermal overload switch cut power to the motor, wait a minute or two for the motor to cool down to a safe operating temperature and then push the red thermal overload reset button on the contactor box behind the left side of the switch box. An audible click will indicate that the thermal overload switch has been reset and the saw is ready to use. This error code may also indicate that the motor is unplugged from the saw, in which case it should be plugged in, or that the motor belt is broken and must be replaced.

Adjust Position of Brake Cartridge — this code indicates that the blade is either too far from or too close to the brake cartridge. To clear this error first turn the main power switch to *OFF*, and then adjust the position of the brake cartridge as described on page 30. This error code will also be displayed if there is no blade installed, if a blade smaller than 10 inches is installed, or if a non-conductive blade (e.g. abrasive blade) is installed.

Contact Detected During Standby — this code indicates that the safety system detected contact with the blade (or a portion of the arbor) when the blade was not spinning. This code will be displayed if you come into contact with the blade or arbor while the system is in Standby Mode. The brake will not be activated and the code will automatically clear within 5 seconds after contact is ended. The system will not allow the motor to start while this code is displayed.

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Contact Detected During Bypass — this code indicates that contact was detected while the saw was running in Bypass Mode. As described above, the brake will not activate while in Bypass Mode but the safety system will continue to monitor for contact. If this code is displayed, then it indicates that the brake would have activated if the system had not been in Bypass Mode. This error will automatically clear once the blade has finished coasting down.

Material Conductivity Test

The “Contact Detected During Bypass” code also allows you to test a particular material to see if it is too conductive to cut during normal operation. For example, if you have a new material you need to cut and are not sure if it is conductive, you can make several cuts in Bypass Mode. If the “Contact Detected During Bypass” error code is displayed, it means the material is too conductive and must be cut in Bypass Mode to prevent the brake from activating. If the error code is not displayed after several trial runs, then it is likely that the material is not conductive and you can make future cuts in normal mode. (See page 55 for instructions on how to operate the saw in Bypass Mode.)

Overload Due to Wet Wood — this code indicates that the wood being cut is too wet or too green. You can cut most wet or green wood with the safety system active. However, extremely wet or green wood can interfere with the safety system’s ability to detect contact. Accordingly, the system monitors for wet and green wood and, if the wood is too wet or too green, the system will shut off the motor and display this error code. To clear this error, turn the Start/Stop paddle to *OFF* and turn the main power switch to *OFF* and then back to *ON*.

In addition, wet pressure-treated wood may cause an overload error or even cause the brake to activate. The chemicals used to pressure treat wood often contain large amounts of copper, which is conductive. When pressure-treated wood is wet, the combination of copper and water substantially increase the conductivity of the wood. Therefore, allow wet pressure-treated wood to fully dry before cutting. Typically, the wood will be sufficiently dry if left unstacked in a dry location for 24 hours. If you must cut wet pressure-treated wood, you can use the Material Conductivity Test described above to test whether the wood is too wet. If the test indicated the wood is too wet to cut with the safety system active, you must either allow the wood to dry or make the remaining cuts in Bypass Mode.

Note: if the saw shuts down due to an overload error, do not attempt to finish cutting that piece of wood until it has dried. The overload error indicates that the system was close to firing the brake before it went into overload. Therefore, repeatedly attempting to cut a wet piece of wood could result in an unnecessary activation of the brake.