

**IMPORTANT**  
Read Before Using

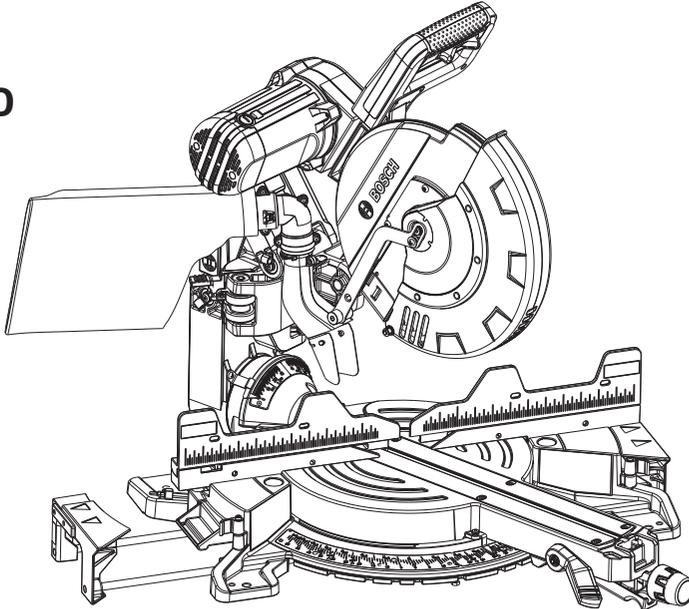
**IMPORTANT**  
Lire avant usage

**IMPORTANTE**  
Leer antes de usar



**Operating / Safety Instructions**  
**Consignes d'utilisation/de sécurité**  
**Instrucciones de funcionamiento y seguridad**

**GCM12SD**



**BOSCH**

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**For English Version**  
See page 2

**Version française**  
Voir page 62

**Versión en español**  
Ver la página 122

## Safety Symbols

The definitions below describe the level of severity for each signal word. Please read the manual and pay attention to these symbols.

	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
	DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.
	WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.
	CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

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## General Power Tool Safety Warnings

**⚠ WARNING** Read all safety warnings instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

### SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

The term “power tool” in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

#### ► 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.

**If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply.** Use of an GFCI reduces the risk of electric shock.

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

**Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or BATTERY pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energizing 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 dust collection can reduce dust-related hazards.

**Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

## General Power Tool Safety Warnings

### ► 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 remove the BATTERY pack, if detachable, 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 and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's**

**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, 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.

**Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

### ► 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.

## Safety Instructions for Miter Saws

**Miter saws are intended to cut wood or wood-like products, they cannot be used with abrasive cut-off wheels for cutting ferrous material such as bars, rods, studs, etc.** Abrasive dust causes moving parts such as the lower guard to jam. Sparks from abrasive cutting will burn the lower guard, the kerf insert and other plastic parts.

**Use clamps to support the workpiece whenever possible. If supporting the workpiece by hand, you must always keep your hand at least 100 mm (4") from either side of the saw blade. Do not use this saw to cut pieces that are too small to be securely clamped or held by hand.** If your hand is placed too close to the saw blade, there is an increased risk of injury from blade contact.

**The workpiece must be stationary and clamped or held against both the fence and the table. Do not feed the workpiece**

**into the blade or cut "freehand" in any way.** Unrestrained or moving workpieces could be thrown at high speeds, causing injury.

**Push the saw through the workpiece. Do not pull the saw through the workpiece. To make a cut, raise the saw head and pull it out over the workpiece without cutting, start the motor, press the saw head down and push the saw through the workpiece.** Cutting on the pull stroke is likely to cause the saw blade to climb on top of the workpiece and violently throw the blade assembly towards the operator.

**Never cross your hand over the intended line of cutting either in front or behind the saw blade.** Supporting the workpiece "cross handed" i.e. holding the workpiece to the right of the saw blade with your left hand or vice versa is very dangerous.

## Safety Instructions for Miter Saws

**Do not reach behind the fence with either hand closer than 100 mm (4") from either side of the saw blade, to remove wood scraps, or for any other reason while the blade is spinning.** The proximity of the spinning saw blade to your hand may not be obvious and you may be seriously injured.

**Inspect your workpiece before cutting. If the workpiece is bowed or warped, clamp it with the outside bowed face toward the fence. Always make certain that there is no gap between the workpiece, fence and table along the line of the cut.** Bent or warped workpieces can twist or shift and may cause binding on the spinning saw blade while cutting. There should be no nails or foreign objects in the workpiece.

**Do not use the saw until the table is clear of all tools, wood scraps, etc., except for the workpiece.** Small debris or loose pieces of wood or other objects that contact the revolving blade can be thrown with high speed.

**Cut only one workpiece at a time.** Stacked multiple workpieces cannot be adequately clamped or braced and may bind on the blade or shift during cutting.

**Ensure the miter saw is mounted or placed on a level, firm work surface before use.** A level and firm work surface reduces the risk of the miter saw becoming unstable.

**Plan your work. Every time you change the bevel or miter angle setting, make sure the adjustable fence is set correctly to support the workpiece and will not interfere with the blade or the guarding system.** Without turning the tool "ON" and with no workpiece on the table, move the saw blade through a complete simulated cut to assure there will be no interference or danger of cutting the fence.

**Provide adequate support such as table extensions, saw horses, etc. for a workpiece that is wider or longer than the table top.** Workpieces longer or wider than the miter saw table can tip if not securely supported. If the cut-off piece or workpiece tips, it can lift the lower guard or be thrown by the spinning blade.

**Do not use another person as a substitute for a table extension or as additional support.** Unstable support for the workpiece can cause the blade to bind or the workpiece to shift during the cutting operation pulling you and the helper into the spinning blade.

**The cut-off piece must not be jammed or pressed by any means against the spinning saw blade.** If confined, i.e. using length stops, the cut-off piece could get wedged against the blade and thrown violently.

**Always use a clamp or a fixture designed to properly support round material such as rods or tubing.** Rods have a tendency to roll while being cut, causing the blade to "bite" and pull the work with your hand into the blade.

**Let the blade reach full speed before contacting the workpiece.** This will reduce the risk of the workpiece being thrown.

**If the workpiece or blade becomes jammed, turn the miter saw off. Wait for all moving parts to stop and disconnect the plug from the power source and/or remove the battery pack. Then work to free the jammed material.** Continued sawing with a jammed workpiece could cause loss of control or damage to the miter saw.

**After finishing the cut, release the switch, hold the saw head down and wait for the blade to stop before removing the cut-off piece.** Reaching with your hand near the coasting blade is dangerous.

**Hold the handle firmly when making an incomplete cut or when releasing the switch before the saw head is completely in the down position.** The braking action of the saw may cause the saw head to be suddenly pulled downward, causing a risk of injury.

**Avoid overheating the saw blade tips.**

## Additional Safety Rules

GFCI and personal protection devices like electrician’s rubber gloves and footwear will further enhance your personal safety.

**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.

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

**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.

**⚠️ 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.

**⚠️ WARNING** Do not use the Bosch GCM12SD miter saw to cut fiber cement board. Cutting materials containing crystalline silica may create exposures to respirable silica dust.

**⚠️ WARNING** Before each use, review all warnings located on the miter saw.



The operation of any power tool can result in foreign objects being thrown into the eyes, which can result in severe eye damage. Always wear safety goggles that comply with ANSI Z87.1 (shown on package) before commencing power tool operation.

<b>DESIGNATED DANGER ZONES</b>	<b>DESIGNATED PINCH POINT AREA</b>	<b>DESIGNATED NO-CARRY AREA</b>
Avoid positioning hands, fingers or arms	A danger zone – avoid placing hands, fingers or arms in these areas. never attempt to move or lift the saw in these areas.	A danger zone – never lift or carry saw by the main switch handle.

## Double Insulated Tools

Double insulation  is a design concept used in electric power tools which eliminates the need for the three wire grounded power cord and grounded power supply system. It is a recognized and approved system by Underwriter's Laboratories, CSA and Federal OSHA authorities.

**IMPORTANT:** Servicing of a tool with double insulation requires care and knowledge of the system and should be performed only by a qualified service technician.

WHEN SERVICING, USE ONLY IDENTICAL REPLACEMENT PARTS.

**POLARIZED PLUGS.** To reduce the risk of electrical shock, your tool is 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 the proper outlet. To reduce the risk of electrical shock, do not change the plug in any way.

### Extension Cords

Replace damaged cords immediately. Use of damaged cords can shock, burn or electrocute.

If an extension cord is necessary, a cord with adequate size conductors should be used to prevent excessive voltage drop, loss of power or overheating. The table shows the correct size to use, depending on cord length and nameplate amperage rating of tool. If in doubt, use the next heavier gauge. Always use U.L. and CSA listed extension cords.

### RECOMMENDED SIZES OF EXTENSION CORDS

Tool's Ampere Rating	Cord Size in A.W.G.				Wire Sizes in mm <sup>2</sup>			
	Cord Length in Feet				Cord Length in Meters			
	25	50	100	150	15	30	60	120
3-6	18	16	16	14	0.75	0.75	1.5	2.5
6-8	18	16	14	12	0.75	1.0	2.5	4.0
8-10	18	16	14	12	0.75	1.0	2.5	4.0
10-12	16	16	14	12	1.0	2.5	4.0	–
12-16	14	12	–	–	–	–	–	–

### 120 VOLT ALTERNATING CURRENT TOOLS

**NOTE:** The smaller the gauge number, the higher the cord capacity.

## Electrical Requirements

Connect this saw to a 120V, 15-amp branch circuit with a 15-amp fuse or circuit breaker. Using the wrong size fuse can damage the motor.

Fuses may "blow" or circuit breakers may trip frequently if motor is overloaded. Overloading can occur if you feed the blade into the workpiece too rapidly or start and stop too often in a short time.

Most motor troubles may be traced to loose or incorrect connections, overload or low voltage (such as small size wire in the supply circuit or overly long supply circuit wire). Always check the connections, the load and the supply circuit whenever motor does not work well.

### Electric Brake

Your saw is equipped with an automatic electric brake which is designed to stop the blade from spinning in about five (5) seconds after you release the trigger switch. It is useful when making certain cuts in wood where a coasting blade would result in a wide, imprecise cut.

**⚠ WARNING** When electrical power is lost due to blown fuse or

**other causes, the motor will gradually slow down and the braking action is initiated ONLY by the release of the trigger switch.**

The electric blade brake of your miter saw has been designed for highest degree of reliability, but unexpected circumstances such as contamination on the commutator and brushes or failure of motor's components can cause the brake not to activate. If this condition occurs, turn the saw "ON" and "OFF" four to five times without contacting the workpiece. If the tool operates but the brake does not consistently stop the blade in about five seconds, DO NOT use saw and have it serviced immediately.

**⚠ WARNING** The brake action of this saw is not intended as a safety feature. Remember to let the saw blade come to a complete stop before raising the blade from the workpiece. As always, the guard system is your best protection against unintentional contact with a spinning saw blade. NEVER wedge open or defeat the closing action of the lower guard.

## Symbols

**Important:** Some of the following symbols may be used on your tool. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the tool better and safer.

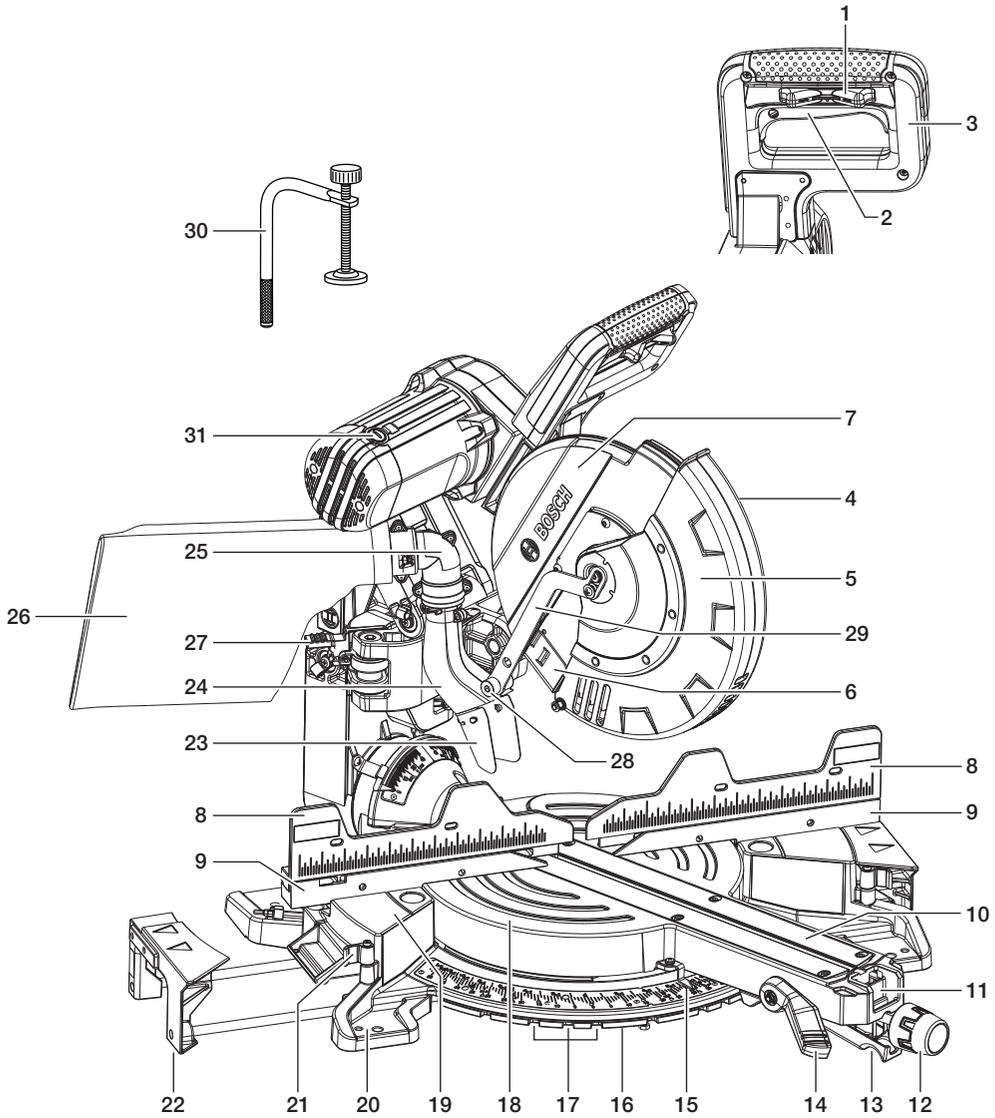
Symbol	Designation / Explanation
V	Volts (voltage)
A	Amperes (current)
Hz	Hertz (frequency, cycles per second)
W	Watt (power)
kg	Kilograms (weight)
min	Minutes (time)
s	Seconds (time)
CFM	Cubic feet per minute [or ft <sup>3</sup> /min] (air flow rate)
∅	Diameter (size of drill bits, grinding wheels, etc.)
n <sub>0</sub>	No load speed (rotational speed at no load)
n	Rated speed (maximum attainable speed)
.../min	Revolutions or reciprocation per minute (revolutions, strokes, surface speed, orbits etc. per minute)
0	Off position (zero speed, zero torque...)
1, 2, 3, ... I, II, III,	Selector settings (speed, torque or position settings. Higher number means greater speed)
	Infinitely variable selector with off (speed is increasing from 0 setting)
	Arrow (action in the direction of arrow)
	Alternating current (type or a characteristic of current)
	Direct current (type or a characteristic of current)
	Alternating or direct current (type or a characteristic of current)
	Class II construction (designates double insulated construction tools)
	Earthing terminal (grounding terminal)

## Symbols

**Important:** Some of the following symbols may be used on your tool. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the tool better and safer.

Symbol	Designation / Explanation
	Designates Li-ion battery recycling program
	Designates Ni-Cad battery recycling program
	Alerts user to read manual
	Alerts user to wear eye protection
	This symbol designates that this tool is listed by Underwriters Laboratories.
	This symbol designates that this component is recognized by Underwriters Laboratories.
	This symbol designates that this tool is listed by Underwriters Laboratories, to United States and Canadian Standards.
	This symbol designates that this tool is listed by the Canadian Standards Association.
	This symbol designates that this tool is listed by the Canadian Standards Association, to United States and Canadian Standards.
	This symbol designates that this tool is listed by the Intertek Testing Services, to United States and Canadian Standards.
	This symbol designates that this tool complies to NOM Mexican Standards.

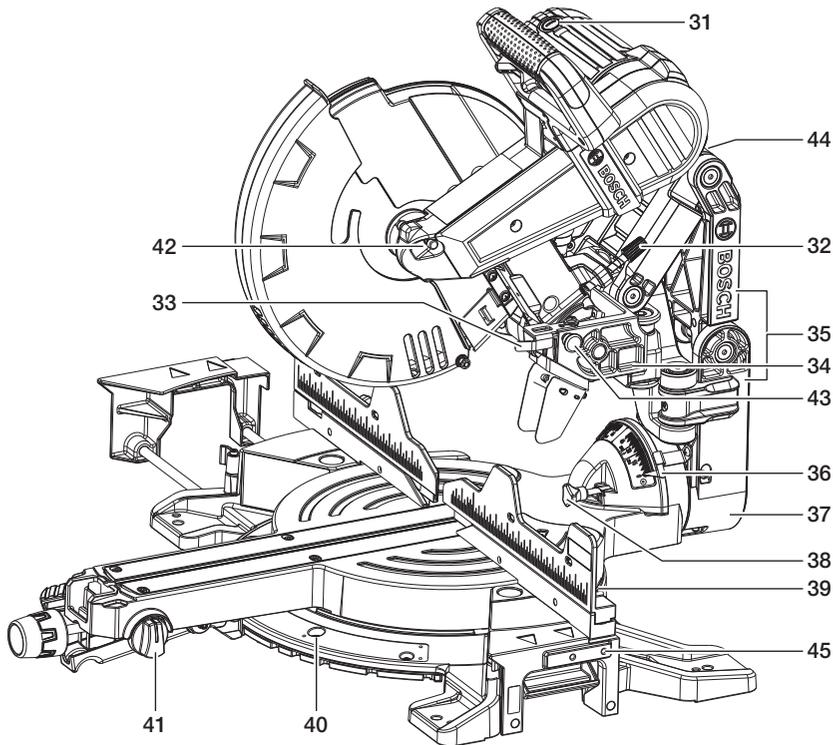
## Getting To Know Your Miter Saw



## Getting To Know Your Miter Saw

1. **Switch Lock-OFF Release Buttons** – One of these two buttons must be pressed before the power switch can be pressed.
2. **Power Switch** – The power switch used with the “Lock-OFF” button energizes the unit.
3. **Main Handle** – This handle contains the power switch. Pulling this handle down lowers the blade into the workpiece.
4. **Lower Blade Guard/Lower Guard Lip** – The lower blade guard helps protect your hands from the spinning blade. It retracts as the blade is lowered. Lip can be used to raise the lower guard in the event that the guard becomes jammed on a workpiece.
5. **Blade** – Use only 12" (308 mm) diameter blades with 1" (25.4 mm) diameter arbor holes.
6. **Chip Deflector** – Deflects cut-off workpieces from entering the upper guard.
7. **Upper Guard** – Covers upper portion of the blade.
8. **Sliding Fences** – Support for the workpiece. The fences have a cast-in scale to make repetitive cuts easy. The fences also have holes to secure an auxiliary fences if desired.
9. **Stationary Fence** – Stationary fence is bolted to the base and will support the workpiece when the sliding fence is removed.
10. **Kerf Inserts** – Kerf inserts can be adjusted to different blade widths to minimize workpiece tear-out.
11. **Miter Detent Override** – Allows detent action to be locked out, allowing for micro-adjustments to any miter angle.
12. **Miter Lock Knob** – The miter lock knob locks the miter saw table at any desired miter angle.
13. **Miter Detent Lever** – The lever releases the table from the detent.
14. **Bevel Lock Lever** – The front-positioned bevel lock lever locks the head assembly at the desired bevel angle.
15. **Miter Scale/Miter Pointer** – The pointer rotates with the table and blade. It points to the miter scale to indicate the angle setting before a cut is made.
16. **Miter Detent Plate** – The position of the plate can be adjusted to set the accuracy of its detent locations.
17. **Miter Detents** – There are ten (10) miter detent slots for fast and accurate miter cuts of common miter angles.
18. **Table** – Provides workpiece support, rotates for desired miter cuts and rotates the head assembly. The front extended part of the table is called the miter arm.
19. **Base** – Provides working surface to support workpiece.
20. **Tool Mounting Pads** – The four corners of the saw provide areas to clamp, bolt or nail the saw to a flat work surface.
21. **Base Extension Clamping Levers** – Lock the base extensions at the desired positions.
22. **Sliding Base Extensions** – Provide extra work support. Useful when cutting long workpieces.
23. **Rubber Deflector** – Attaches to bottom of chute. Deflects dust into the chute.
24. **Dust Chute** – Directs sawdust up and through the elbow and to the bag.
25. **Elbow** – Connects the dust chute to the dust bag. Can be rotated to direct dust.
26. **Dust Bag** – Has a zipper at the bottom. Bag can be uncoupled from elbow for emptying (sold separately).
27. **Mechanism Lock Lever** – Holds saw in full back position for chop cuts or fully extended for transporting.
28. **Link Knob** – Attaches guard link to the pivot post.
29. **Lower Guard Link** – Allows for smooth movement of the lower guard.
30. **Clamp** – Use to hold the workpiece to the table and base – insert into clamp post location (item 39).
31. **Brush Cap** – Keeps motor brushes in position. Provides access for inspecting and replacing brushes.

## Getting To Know Your Table Saw



- 32. Depth Stop Screw** – Turn the knob end to adjust the blade depth for cutting grooves.
- 33. Depth Stop Plate** – Plate can be swung out to limit the depth of the blade travel.
- 34. Pivot Post** – Provides support for the saw head, dust collection system and other functional parts.
- 35. Axial Glide Mechanism** – Allows saw to smoothly slide in and out. Can be locked in full rear or fully extended positions.
- 36. Bevel Scale and Pointers** – Scale is large and angled - allows user to easily read bevel angles. Pointer indicates what the current angle is.
- 37. Bevel Post** – Provides rotating support for all miter saw parts above the table.
- 38. Bevel Detent Pin (Crown Molding Setting)** – When engaged, it locks the head assembly to the bevel angle of 33.9° to the left or right.
- 39. Clamp Post Locations** – Two vertical post holes in the base – provided to insert the clamp (item 30).
- 40. Miter Detent Plate Screws** – Four screws accessible through holes in the miter scale. These screws are loosened when adjusting position of the detent plate.
- 41. Bevel Range Selector Knob** – Allows selection of 3 bevel ranges: “0-45° Left”, “0-45° Right” or “Max. Bevel Angle to 47°.”
- 42. Arbor Lock** – Press arbor lock button to keep blade from rotating when loosening or tightening arbor bolt during blade removal or installation.
- 43. Head Assembly Lock Pin** – Used to lock the head assembly in the lower position for transporting.
- 44. Glide Movement Controller** – Adjusts to regulate movement of the glide mechanism.
- 45. Mounting Holes for Optional Crown Stop or Length Stop.**

## Cutting Capacities

Key Moldings / Positioning	Maximum Size
Base Molding Against Fence*	3-7/8" (6-3/4" from 0° to 47° Left)
38° Crown Molding Angled Against Fence*	5-1/4" (5-1/2" from 0° to 47° Left)
45° Crown Molding Angled Against Fence*	6"
Crown Molding Flat on Table	11-1/2"
* Within miter range of 0° to 47° Left	
Miter / Bevel	Maximum Height x Width
0°/ 0°	3-1/2" x 13-1/2"
0°/ 0° with 3/4" table spacer	2-7/8" x 16"
45°/ 0°	3-1/2" x 9-1/2"
0°/ 45° (Left)	2" x 13-1/2"
0°/ 45° (Right)	1-1/2" x 13-1/2"
45°/ 45° (Left)	2" x 9-1/2"
45°/ 45° (Right)	1-1/2" x 9-1/2"

## Unpacking And Checking Contents

**Unpacking the Miter Saw** – When removing this tool from packaging materials, reach down to the two side carry-handle locations and slowly lift until it clears the package.

**⚠ WARNING** To avoid severe pinching, never lift or move this saw by gripping any component of the mechanism support system.



This symbol is placed at various locations on the tool to warn the user of pinch-point areas.

**Checking Contents in Package** – Open the top of the package and look for the included loose parts. Refer to the diagram below.

Some small parts such as the bevel lock lever and miter lock knob require attachment to the tool before it is ready for use – See “Attaching Loose Parts” on page 15.

**⚠ WARNING** To avoid possible injury, always disconnect plug from power source before performing any assembly, adjustments or repairs.

### Loose Parts - 1 of each shown Check off for each part

6/4mm Hex Key



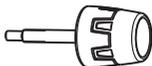
Workpiece Clamp



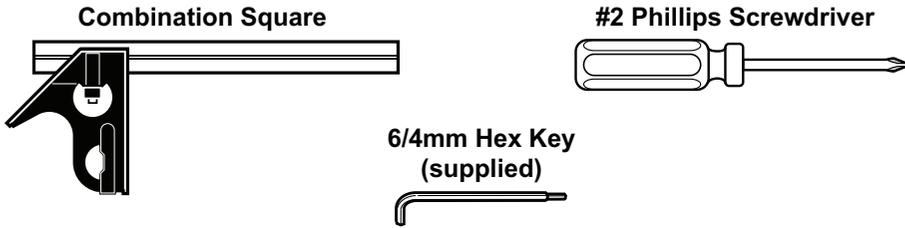
Manual



Miter Lock Knob

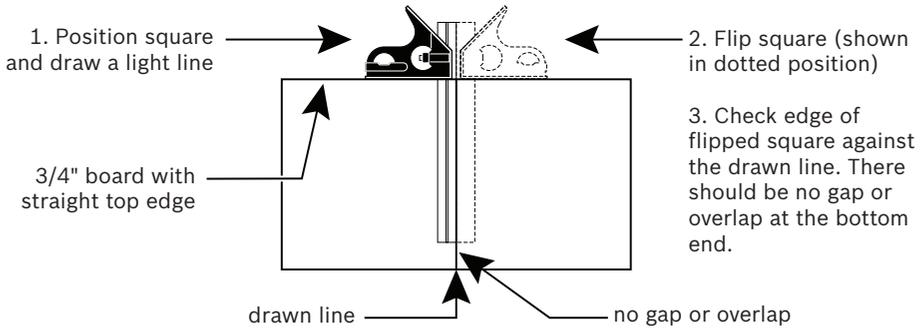


## Tools Needed For Assembly



**NOTE: A 6mm and a 4mm hex key can be substituted for the supplied 6/4mm hex key.**

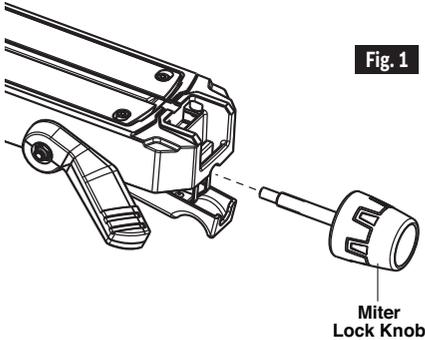
### Combination Square Must Be True - Checking Combination Square



## Assembly

### Attaching Loose Parts

**⚠ WARNING** To avoid possible injury, disconnect plug from power source before performing any assembly, adjustments or repairs.



**Attaching the Miter Lock Knob** – Locate the miter lock knob from among the loose parts.

1. Look under the turntable's front arm above the lock lever and locate the 10mm hole (see Figure 1).
2. Insert the long shaft of the miter lock knob through this hole until it stops.
3. Turn the knob clockwise (about 10 full revolutions) until it is tight or "locked."
4. Loosen the knob 1/2 turn to unlock it. The table is now free to be moved on the base.

**Using the Miter Lock Knob** –

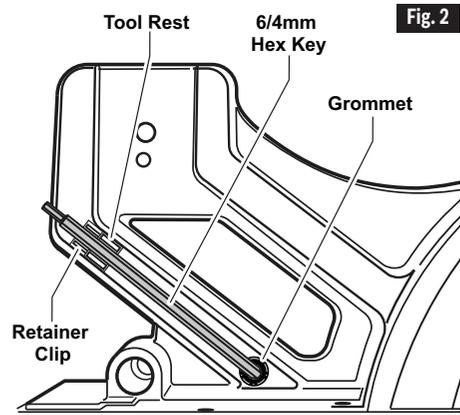
1. Loosen the miter lock knob.
2. While holding the knob in your palm, reach down with your index or middle finger and pull up the detent lever. While gripping knob, rotate table left or right to needed miter angle and release the lever.

3. Tighten the knob once you are at the correct angle.

**NOTE:** It is recommended to tighten the miter lock knob before all cuts. It is required to tighten the knob before cutting at any angle between detent engagements or when the miter detent override system is in use.

**Storing the 6/4mm Hex Key** – There is a storage location on the saw to store the 6/4mm hex key. Insert the short leg of the hex key through the rubber grommet as shown. Place the long leg into the tool rest and press down into the retainer clip (see Figure 2).

**NOTE:** The 6/4mm hex key is needed to change the blade and to make tool adjustments. If lost, two separate hex keys may be substituted: a 4mm hex key and a 6mm hex key.



## Assembly

### Removing and Installing Blades

**⚠ WARNING** To avoid possible injury, disconnect plug from power source before performing any assembly, adjustments or repairs.

#### Moving Guard Assembly

1. Position the saw in the UP position and at 0° bevel. If in the DOWN position, press down slightly on the saw head assembly and pull out the head assembly lock pin (item 43, page 12); then allow the saw head to come up (see Figure 3).
2. Unscrew the link knob (item 28, page 11) by hand from the pivot post and allow the link assembly to hang. The link knob will stay on the link.
3. Loosen front cover plate screw two turns using the 6/4mm hex key. Do not remove screw. A 4mm hex key may be used as an alternate.
4. Loosen rear plate screw six full turns using the 6/4mm hex key. Do not remove screw.
5. Slide the cover plate down and out from the rear screw. Rotate the cover plate and lower guard counterclockwise around the front screw. While holding the lower guard up against the upper guard, move the link so its round hole can go over the rear screw – let go and the lower guard assembly will be held out of the way (see Figure 4).

#### Removing Blade

1. Press and hold the arbor lock (red button on opposite side of upper guard – item 42, page 12). Rotate the blade slowly while pressing the arbor lock until it fully seats into its lock position.
2. Using the 6/4mm hex key, loosen the blade bolt by firmly turning it **clockwise**. NOTE: This bolt has left-hand threads.
3. Remove the blade bolt and outer washer. Carefully grab the blade. Slide the blade away from the inner washer and off the arbor shaft, then down and away from the saw. Leave the inner washer on the arbor shaft (see Fig. 5).

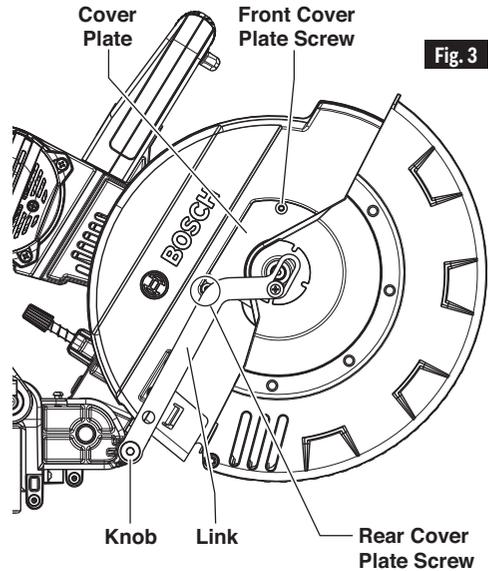


Fig. 3

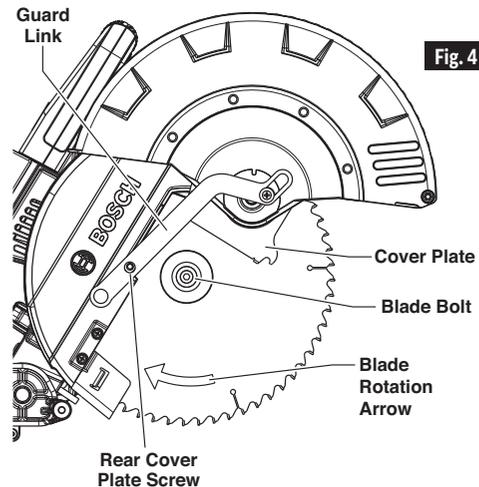


Fig. 4

## Assembly

### Removing and Installing Blades

**⚠ WARNING** To avoid possible injury, disconnect plug from power source before performing any assembly, adjustments or repairs.

#### Installing 12" Blade

**⚠ WARNING** To avoid injury, do not use a blade larger or smaller than 12" diameter and 1" arbor. The blade's maximum plate thickness is 0.100".

**⚠ WARNING** To reduce risk of injury, use saw blade rated 3800/min (RPM) or greater.

1. Follow all "Moving Guard Assembly" and "Removing Blade" steps.
2. Carefully handle the new blade. Check that the rotation arrow on the blade matches the rotation arrow on the lower guard. Slide the blade up and between the sides of the chip deflector and over the arbor shaft. Move the blade so its arbor hole goes around the support ring of the inner washer (see Figures 4 and 5).
3. Place the outer washer over the arbor shaft and finger-tighten the blade bolt (counterclockwise). Check that the blade remained on the inner washer's support ring.
4. Rotate the blade slowly while pressing the arbor lock until it fully seats into its lock position.
5. Using the 6/4mm hex key, firmly tighten the blade bolt **counterclockwise**. NOTE: This bolt has left-hand threads. Do not over tighten. A 6mm hex key may be used as an alternate.
6. Remove the lower guard link from the rear cover plate screw. Rotate the lower guard and cover plate around the front cover plate screw until the cover plate's slot slides under the rear cover plate screw head. Fully tighten both cover plate screws using the 6/4mm hex key.

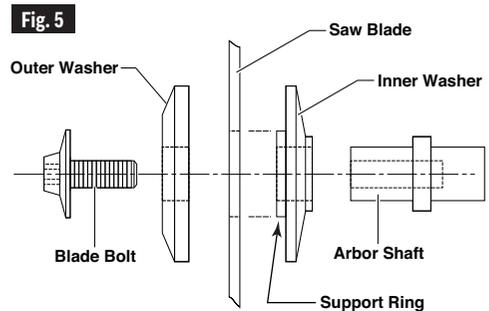
7. Place the lower guard link back to the original position, then firmly finger-tighten the link knob to the pivot post. It may be necessary to retract the lower guard while tightening the link knob.

8. Be sure the arbor lock is released so the blade turns freely.

9. Place the 6/4mm hex key back in storage area.

**⚠ WARNING** Tighten the cover plate screws. Loose cover plate screws may interfere with and hang up lower blade guard. Never use saw without cover plate securely in place. Lower guard will not function properly.

**⚠ WARNING** After installing a new blade, make sure the blade does not interfere with the table insert at 0° and 45° bevel positions. Lower the blade into the blade slot and check for any contact with the base or turntable structure. If the blade contacts base or table, seek authorized service.



## Assembly

### Assembling Dust Collection System

**⚠ WARNING** To avoid possible injury, disconnect plug from power source before performing any assembly, adjustments or repairs.

The dust collection system used on this tool is unique because it is not attached to the upper guard. This placement provides superior dust collection for the majority of cuts. When adjusting or removing any dust collection components, be sure the saw is unplugged.

#### Attaching and Adjusting the Dust Bag (sold separately)

**Attaching (and Removing) Dust Bag** – To attach the dust bag, squeeze the two red tabs together and slide the dust bag into the dust port rib (see figure 6).

**Adjusting Dust Bag** – After attaching the bag, it is recommended to do a “dry cut” before cutting with the saw – this means: unplug the tool, preset it for intended cut and practice the cut. For some bevel cuts, the sliding fence may have to be moved or removed to avoid being cut or making contact with the dust bag. The bag’s position may also need a rotating adjustment if it contacts the workpiece during a slide cut.

#### Using and Cleaning the Dust Bag

**Using Dust Bag** – Attach the clean bag to the elbow. Adjust the elbow and dust bag, if necessary, so they do not interfere with the tool during the intended cutting operation.

**Cleaning Dust Bag** – After the dust bag is 2/3 to 3/4 full, remove it from the saw. Bring the bag to a proper container and pull open the zipper located on the bottom of the bag. Hold the bag by the coupler end and shake it vigorously until all the dust and debris fall from it. Close zipper and reattach the bag. NOTE: Clean the bag at the end of the cutting session and before transporting or storing the saw (see Figure 7).

**⚠ WARNING** Be extremely careful when disposing of dust. Materials in fine particle form may be explosive. Do not throw sawdust on an open fire. Spontaneous combustion, in time, may result from the mixture of oil or water with dust particles.

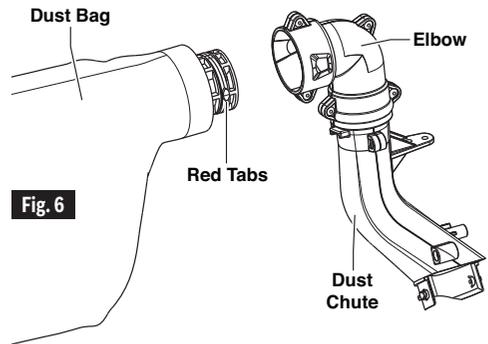


Fig. 6

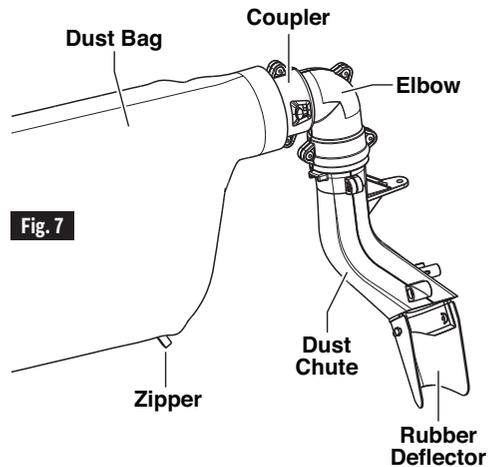


Fig. 7

## Assembly

### Assembling Dust Collection System

**⚠ WARNING** To avoid possible injury, disconnect plug from power source before performing any assembly, adjustments or repairs.

#### Attaching a Vacuum Hose

The saw's dust port will accept the typical nozzles from 35 mm vacuum cleaner hoses, such as the VX120 that is included with the Bosch VH-Series hoses. (For the most-secure connection, the VX120 can be removed from the Bosch VH-Series hoses and the hose will "click" into the saw's dust port.)

To connect the saw with a 1-1/4" or 1-1/2" hose, the Bosch VAC002 or VAC024 (both sold separately) can be used. To connect the saw with a 2-1/2" hose, the Bosch VAC020 (sold separately) can be used.

**Attaching to Vacuum** – Insert the vacuum fitting or tube into the exit port as far as it will go, (figure 8). Check to see that the vacuum hose is free from the mechanism and cutting path before plugging saw into power source.

#### Repositioning or Removing the Rubber Deflector

The rubber deflector extends the range of dust and debris collection and should be left on the tool for maximum dust pickup efficiency. When slide cutting extra-tall materials (more than 2-13/16" high), the rubber deflector will contact and flex over these materials. It will also contact and flex when the saw is pulled back before the cut. It will return to its original shape after the cut.

**Repositioning Deflector** – If the operator wants to avoid the contact of the rubber deflector with the material, the deflector can be temporarily folded up and over the back of the dust chute. If the operator permanently wants no contact of the deflector with the material being cut, the deflector may be removed.

**Removing Deflector** – Pull one of the deflector's tabs to the front and then sideways until it comes off one of the dust chute's side hooks (see Figure 9). Unhook the opposite side. Then unhook the deflector from the rear post of the chute by pulling and stretching until it is free. NOTE: Removing the deflector lowers dust collection capability.

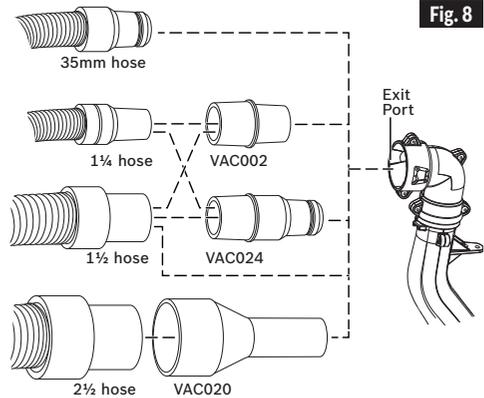


Fig. 8

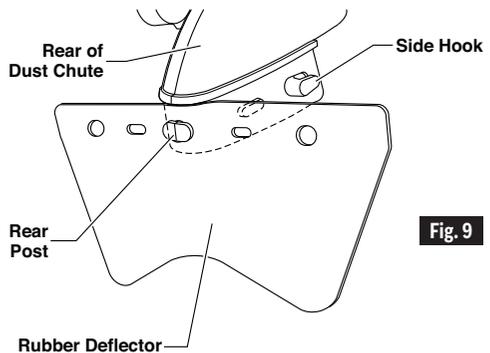


Fig. 9

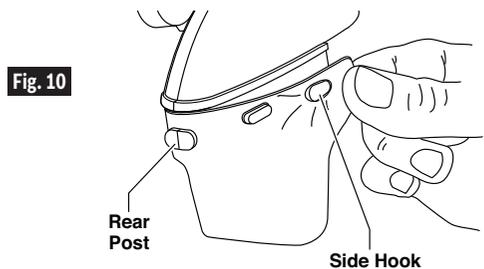


Fig. 10

**Attaching Deflector** – Start by stretching and hooking the deflector over the rear post, followed by hooking over each side hook (see Figure 10).

## Adjustments

### Using the Head Assembly Lock Pin

**⚠ WARNING** To avoid possible injury, disconnect plug from power source before performing any assembly, adjustments or repairs.

#### Head Assembly Lock Pin

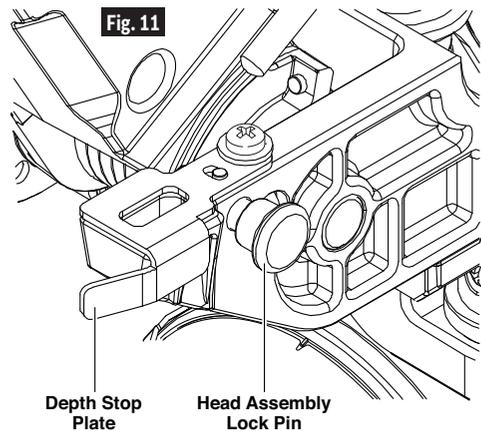
The head assembly lock pin (item 43 - page 12) is located on the right side of the pivot post (item 34 - page 12). It is used to hold the saw's head assembly in the DOWN position. This position prevents the head from bouncing up and down during transportation. This also makes the saw more compact for lifting and storage. This position is also required for some calibrating procedures.

#### To Engage the Head Assembly Lock Pin

1. Check that the depth stop plate (item 33 - page 12) is disengaged, or pressed in to the left position.
2. Grasp the saw's main handle (item 3 - page 11) and press down on the head assembly.
3. While pressing the saw head down, push in on the head assembly lock pin. Release the head assembly. The head will be locked in the DOWN position (see Fig. 11).

#### To Disengage the Head Assembly Lock Pin

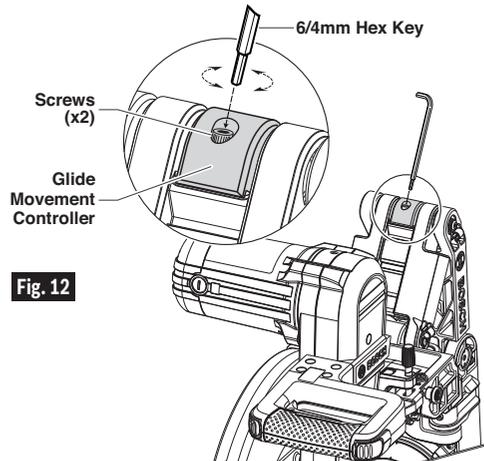
1. Grasp the main handle and press down on the head assembly.
2. While pressing the head down, pull out the head assembly lock pin. Release the lock pin, but maintain your grip on the main handle. Slowly allow the spring-loaded saw head to come up to the top of its travel and then release the handle.



### Using the Glide Movement Controller

#### To Adjust the Glide Movement Controller

The glide movement controller is attached to the upper joint of the glide mechanism; it is designed to control the smoothness of the saw's glide action. When assembled at the factory, the controller is not adjusted; therefore, the movement is very smooth. To adjust the glide mechanism's smoothness, slightly tighten or loosen the two screws at the top by using the 6/4mm hex key or a 4mm hex key (see Fig. 12).



## Adjustments

### Using the Mechanism Lock Lever

**⚠ WARNING** To avoid possible injury, disconnect plug from power source before performing any assembly, adjustments or repairs.

#### Mechanism Lock Lever

The lock lever (item 27 - page 11) is located on the rear left side of the mechanism.

When engaged, it locks the system (item 35 - page 12) in either the full forward or the full back position and prevents movement while transporting the saw. When held in the full back position, the saw is more compact for lifting and storage. The full back position is often used while performing chop cuts.

#### To Engage the Lock Lever

##### Saw in the Full Back Position - (Fig. 13)

1. Grasp the saw's main handle (item 3 - page 11) and push (slide) the head assembly back as far as it goes. The upper housings will be upright and closed.
2. Lift the tab on the lock lever to engage its wedge into the joint area between the two lower housings. Release the lock lever tab and the main handle. The head assembly will be locked in the full back position.

Fig. 13

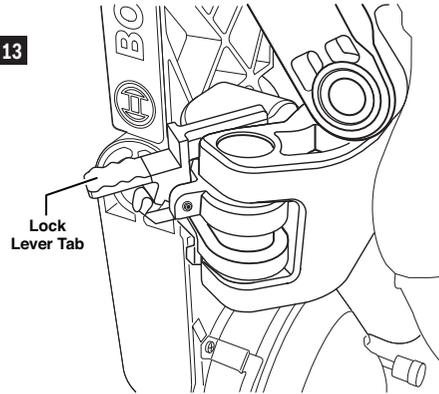
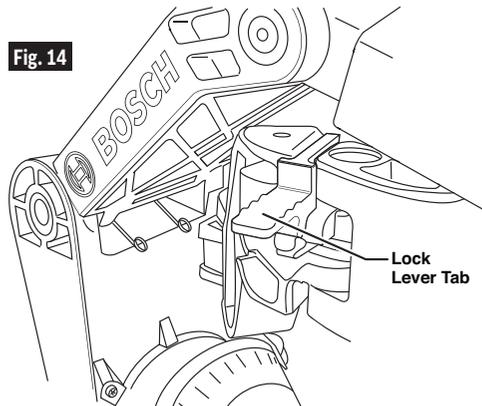


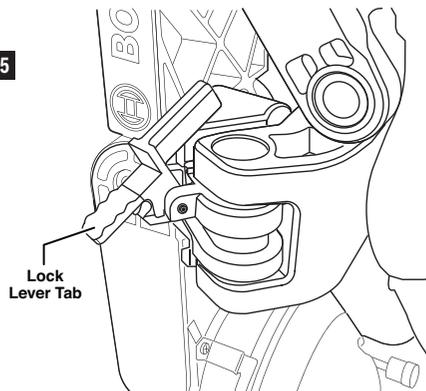
Fig. 14



##### Saw in the Full Forward Position - (Fig. 14)

1. Grasp the main handle (item 3 - page 11) and pull (slide) the head assembly toward you as far as it goes. The mechanism will be fully extended.
2. Lift the tab on the lock lever to engage its wedge into the joint area between the two lower housings. Release the lock lever tab and the main handle. The head assembly will be locked in the full forward position.

Fig. 15



##### From Back or Forward Positions - (Fig. 15)

1. Grip the tab on the lock lever and press down until its wedge comes out from between the two lower housings. Release your grip; the mechanism is now free to slide forward and back.

## Adjustments

### Depth of Cut Adjustment

**⚠ WARNING** To avoid possible injury, disconnect plug from power source before performing any assembly, adjustments or repairs.

When a new blade is installed, it may be necessary to check the clearance of the blade to the turntable structure. The depth stop plate is a feature provided to allow for (normal) full-depth cuts or non-through cuts used to cut grooves.

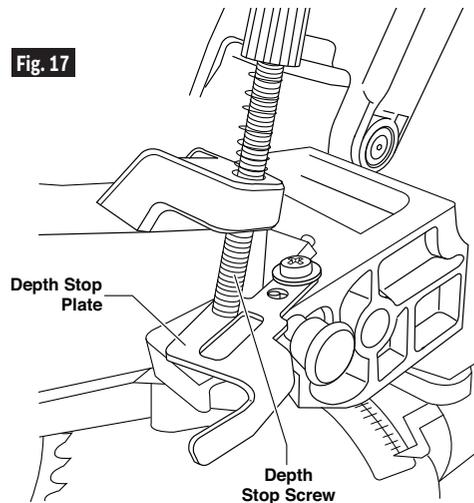
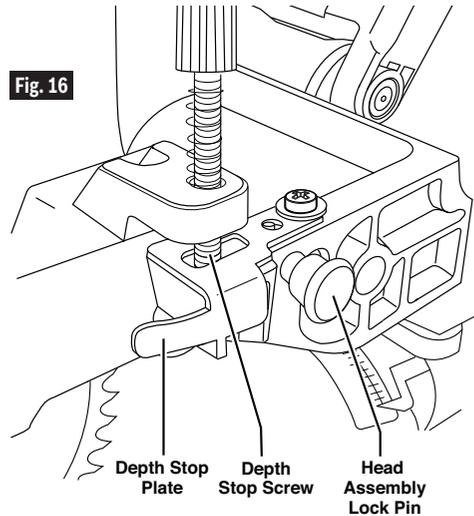
#### Setting Blade Depth for Normal Full-Depth Cuts

1. When making normal full-depth cuts, push the depth stop plate in toward the saw head (see Figure 16). This will allow the depth stop screw to pass through the hole in the plate.
2. Check for full depth of cut:
  - Set table at 0° miter and push saw fully back.
  - Pull out head assembly lock pin to the release position.
  - Push down saw head and watch the depth stop screw pass through the stop plate without any binding or contact with the plate.

#### Setting Blade Depth for Non-Through Cuts for Cutting Grooves

NOTE: For best results, Bosch recommends the use of a table saw with an optional dado blade set for cutting grooves and non-through cuts. In the event this is not available, the feature described below is a convenient alternative.

1. Release (pull out) the head assembly lock pin and allow the saw head to move fully up. Slide saw head to the full back position.
2. Pull the depth stop plate out away from the saw head (see Figure 17).
3. Grip the main handle (item 3, page 11) and push down the saw head while watching the depth stop screw contact the top surface of the depth stop plate. The screw will not pass through the hole in the plate.



4. Turn the knob at the end of the depth stop screw (while the threaded end is in contact with stop plate) and watch the bottom of the saw blade move. This adjustment sets the depth of cut.

See page 49 for “Cutting Grooves” instructions.

## Adjustments

### Miter Detent System – Adjustment Procedure

**⚠ WARNING** To avoid possible injury, disconnect plug from power source before performing any assembly, adjustments or repairs.

#### Calibrating Miter Detent System

1. Engage the miter detent at the 0° position. Loosen the miter lock knob 1/2 turn.
2. Look for four round holes in the miter scale plate. In each hole is a screw. Use the small end of the 6/4mm hex key or a 4mm hex key to loosen all four screws 1 to 2 turns. This will loosen the miter detent plate (see Figure 18).
3. Lock saw down using the head assembly lock pin (item 43 – page 12).
4. Hold one side of a 90° combination square against the fence and rotate the table (and detent plate) until the side of the saw blade is in full contact with the other side of the square.
5. Tighten all four screws – loosen and reset the miter scale pointer to the “0” position.

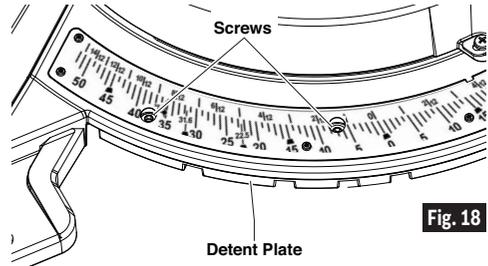


Fig. 18

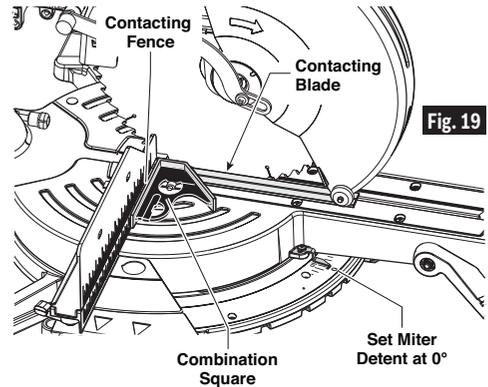


Fig. 19

#### Miter Scale Pointer Adjustment

1. Rotate table to 0° position and lock in place.
2. Raise the head assembly to the full UP position.
3. Loosen the pointer adjust screw that holds the miter scale pointer in place (see Figure 20).
4. Position the pointer to align with the 0° line. Tighten the screw.

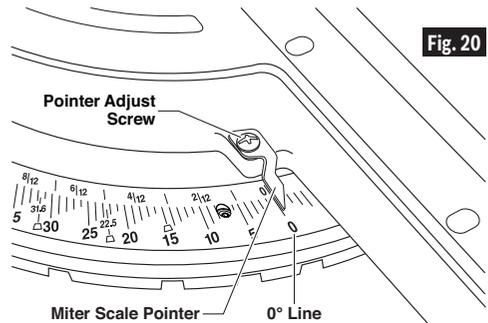


Fig. 20

## Adjustments

### Kerf Insert Adjustment

The kerf inserts should be adjusted close to the blade, but without touching the blade, to avoid tear-out on the bottom of the workpiece.

1. Hold the saw head assembly down and push in the head assembly lock pin (item 43 – page 12) to keep the saw in the DOWN position.
2. Loosen the six kerf screws using the 6/4mm hex key (supplied).
3. Adjust the kerf inserts as close to the blade (teeth) as possible without touching the blade.
4. Tighten the kerf screws.

NOTE: At extreme bevel angles, the saw blade may slightly cut into kerf insert.

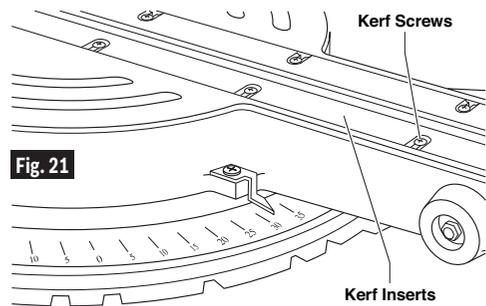


Fig. 21

### 0° Bevel Stop – Adjustment Procedure

**⚠ WARNING** To avoid possible injury, disconnect plug from power source before performing any assembly, adjustment or repair.

#### Checking 0° Bevel Stop Setting

1. Hold the saw head assembly down and push in the head assembly lock pin (item 43 – page 12) to keep the saw in the DOWN position.
2. Slide the head assembly completely to the back and engage the lock lever (item 27 – page 11) by lifting up the finger tab.
3. Rotate the table to the 0° miter position.
4. Pull up the bevel lock lever to loosen.
5. Check the position of the bevel range selector knob; it should be at the “0-45° Left” position.
6. Tilt the saw assembly to the left (counterclockwise), then rotate to the right (clockwise) until it hits the stop in the vertical position – this is where the saw is currently set to make a 0° cut.
7. Push down the bevel lock lever to lock the angle position.

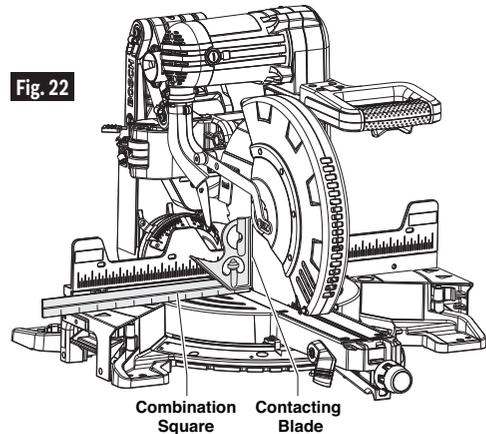


Fig. 22

8. Use a combination square to check that the blade is 90° (square) to the table. Place the square's ruler edge against the table and slide it to contact the blade with the vertical side of the square's head (see Figure 22).
9. Check that the saw blade's plate (not teeth) is touching the square's 90° side. If the saw blade's plate is not in full contact with the square's body 90° side, follow the “Adjusting 0° Bevel Stop” procedures.

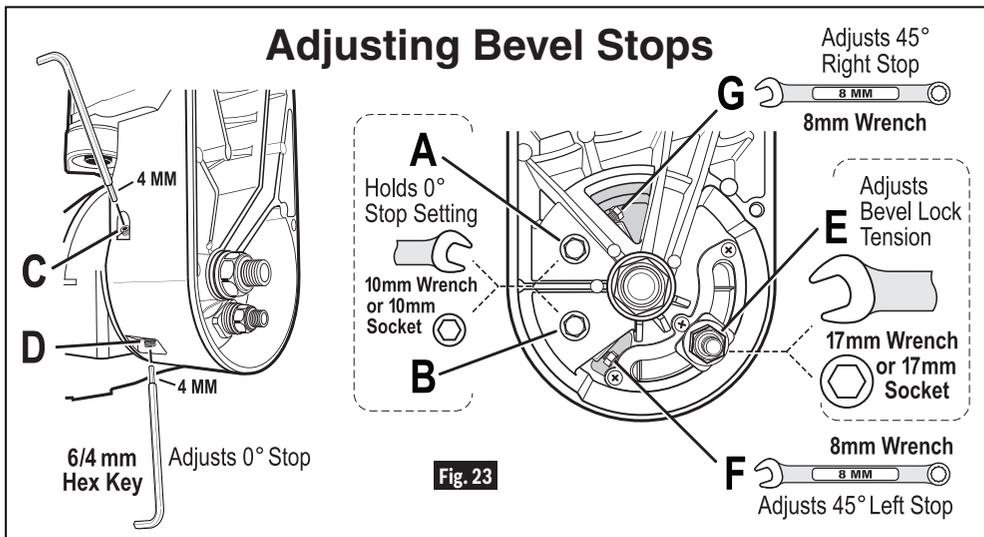
## Adjustments

### 0° Bevel Stop – Adjustment Procedure

**⚠ WARNING** To avoid possible injury, disconnect plug from power source before performing any assembly, adjustment or repair.

#### Adjusting 0° Bevel Stop (Blade 90° to Table)

1. Pull up the bevel lock lever to loosen.
2. Loosen bolt heads “A” and “B” using a 10mm open end wrench or socket (with socket wrench). Loosen bolts at least one full turn (see Figure 23).
3. Loosen set screw “D” using the 4mm end of the 6/4mm hex key (provided with tool, but may also use a standard 4mm hex key). Loosen screw at least three full turns.
4. Place combination square on table and against blade (see Figure 22).
5. Using the 4mm end of hex key, turn set screw “C” and watch the saw blade tilt. Turn screw “C” until the blade is aligned (full contact) with the square’s body’s edge. After aligning, remove hex key.
6. Tighten set screw “D” using 4mm hex key.
7. Tighten bolt heads “A” and “B” using 10mm open end wrench.
8. Adjust bevel scale pointers (item 36 – page 12) to be in line with the bevel scale’s 0° lines.
9. Push down the bevel lock lever to lock.



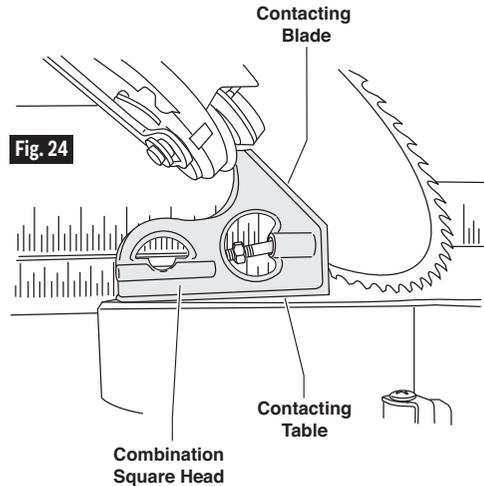
## Adjustments

### 45° Bevel Stop – Adjustment Procedure

**⚠ WARNING** To avoid possible injury, disconnect plug from power source before performing any assembly, adjustment or repair.

#### Checking 45° Bevel Stop Setting

1. Hold the saw head assembly down and push in the head assembly lock pin (item 43 – page 12) to keep the saw in the DOWN position.
2. Slide the head assembly completely to the back and engage the lock lever (item 27 – page 11) by lifting up the finger tab.
3. Rotate the table to the 0° miter position.
4. Pull up the bevel lock lever to unlock. Move the left sliding fence fully to the left.
5. Check the position of the bevel range selector knob; it should be at the “0-45° Left” position.
6. Tilt the saw assembly to the left (counter-clockwise) until it hits the 45° stop – this is where the saw’s 45° stop is set to make a 45° left bevel cut.
7. Use a combination square to check that the blade is 45° to the table. Remove the rule blade from the combination square. Place only the combination square’s head on the saw’s table with its long flat side resting on the table and its 45° side against the tilted blade (see Figure 24).
8. Check that only the saw blade’s plate (not teeth) is touching the square’s 45° side. If the saw blade’s plate is not in full contact with the square’s head 45° side, follow the “Adjusting 45° Bevel Stop” procedures.



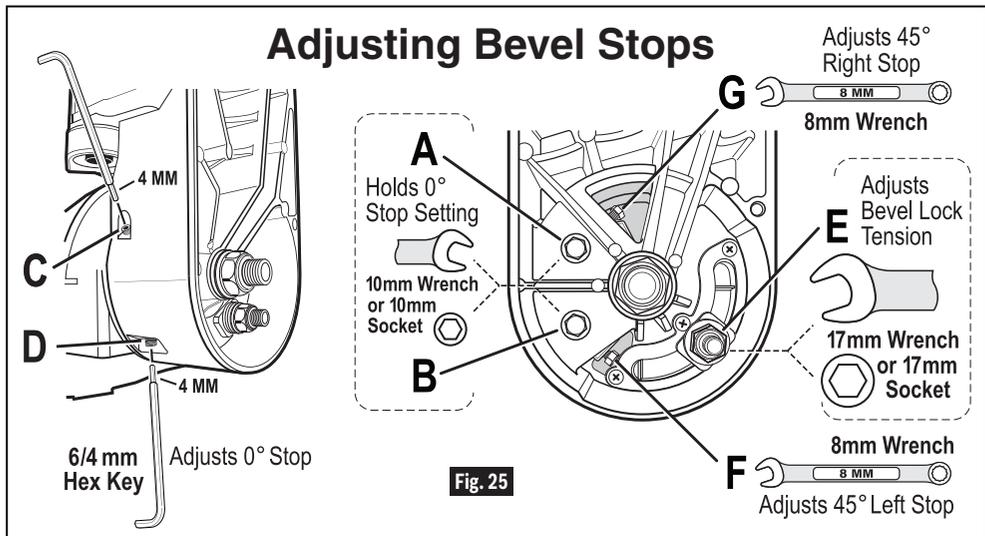
## Adjustments

### 45° Bevel Stop – Adjustment Procedure

**⚠ WARNING** To avoid possible injury, disconnect plug from power source before performing any assembly, adjustment or repair.

#### Adjusting 45° Bevel Stop (Saw Blade 45° to Table)

1. Pull up the bevel lock lever to unlock. Move the left sliding fence fully to the left.
2. Tilt the saw assembly to the left (counter-clockwise) until it hits the 45° stop.
3. Place only the combination square's head on the saw's table with its long flat side resting on the table and its 45° side against the tilted blade.
4. Place an 8mm open end wrench on bolt head "F" (see Figure 25).
5. While turning bolt "F," watch the blade tilt – turn "F" until the saw blade plate is in full contact with the 45° side of the square's head (see Figure 24).
6. If needed, adjust bevel scale pointers (item 36 – page 12) to be in line with the bevel scale's 45° lines. First, adjust right bevel pointer; then tilt saw head to the right 45° stop position (see page 46 – "Bevel Range 2 = 0-45° Right") and adjust the left bevel pointer. Tilt the saw head to the 0° position – both pointers should be on the bevel scale's 0° lines.
7. Push down the bevel lock lever to lock at the desired bevel angle.



## Adjustments

### Adjusting Bevel Lock Tension

#### Checking Bevel Lock Tension

1. Pull up the bevel lock lever to release tension. If it feels too hard to pull up, an adjustment may be required.
2. Check the tilt resistance. Grab main handle and slowly tilt the saw to the left. While tilting, some resistance should be felt. At approximately 30°, the resistance should become lower. If little or no resistance is felt, an adjustment may be required.
3. Check bevel lock tension. Push down on the bevel lock lever – normally more pressure is needed at the start; then the lever should go fully down to the lock position with a “thump”.

A) If it is too hard to push the lever fully down, then it may require tension adjustment.

B) Check locking power: Tilt the saw to about 30° and push down on bevel lock lever. Firmly press on the right side of the saw head - If the saw head tilts more than 1/2° from the locked position, then the bevel lock tension needs adjustment.

#### Adjusting Bevel Lock Tension

The bevel lock lever tension has been set at the factory. After extensive use of the tool, it may require an adjustment. Before adjusting tension, the tilt resistance should be set.

1. Pull up the bevel lock lever to release tension.
2. **Adjusting Tilt Resistance** (see step 2 above).
  - A) If resistance is too low, slightly tighten (1/16th turn) the large lock nut “H” using a 24mm socket or wrench.
  - B) If resistance is too high, slightly loosen (1/16th turn) the large lock nut “H” using a 24mm socket or wrench.

3. **Adjusting Tension** (see steps 1 and 3 above) Pull up and push down the bevel lock lever.

A) If the lever is too hard to pull or push, the tension can be decreased by using a 17mm socket or wrench to loosen lock nut “E” (1/8th turn). Check again.

B) If the lever is too easy to pull or push or if the saw head does not fully lock at a bevel setting, then the tension can be increased by using a 17mm socket or wrench to tighten lock nut “E” (1/8th turn). Check again.

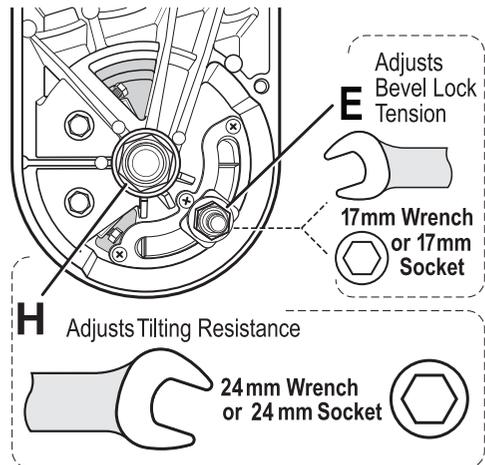


Fig. 26

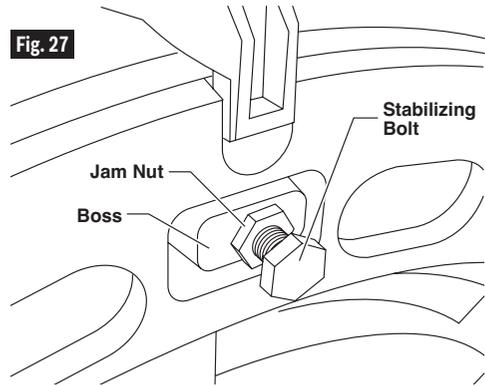
## Adjustments

### Adjusting Front Stabilizing Bolt

The front stabilizing bolt is located on the bottom of the saw's base near the 0° miter detent slot (Figure 27). It provides additional support when making slide cuts.

The stabilizing bolt has been factory set. If it is loose or needs adjustment, follow these steps:

1. Move the saw so that you have easy access to the bolt area. Loosen the stabilizing bolt and the jam nut using a 10mm wrench.
2. Place the saw back on your work table. Unscrew the stabilizing nut until it contacts the table.
3. Move the saw again so that you have access to the bolt area. While holding the head of the bolt with a 10mm wrench or pliers, use a 10mm open end wrench to fully tighten the jam nut against the boss in the saw's base.



## Transporting and Mounting

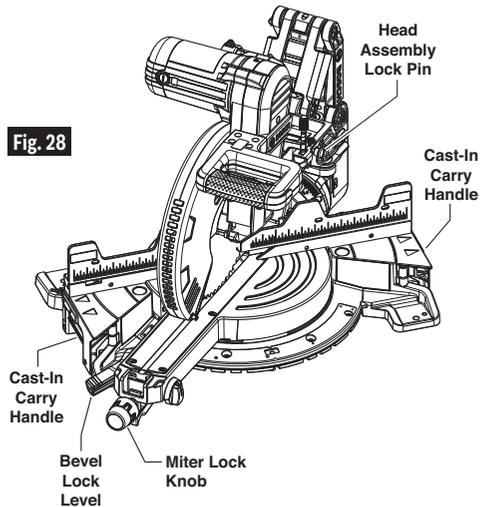
**⚠ WARNING** To avoid injury, follow all statements identified below by the BULLET (•) symbol.

- **Never lift this saw by grasping the base extensions when they are in the extended position.**
- **Unplug electric cord and wind up.** Use the hook and loop strap to hold the wrapped cord together.
- **Never lift the saw by gripping any of the mechanism parts.** The saw may move and cause severe injuries to your fingers or hands.
- **To avoid back injury, hold the tool close to your body when lifting.** Bend your knees so you can lift with your legs, not your back. Lifting the saw from the back is the preferred method. This will tip the tool toward your body.
- **Never lift tool by holding switch handle.** This may cause serious damage.
- **Never lift the miter saw by the power cord or the operational handle. Attempting to lift or carry the tool by the power cord will damage the insulation and the wire connections, resulting in electric shock or fire.**
- **Place the saw on a firm, level surface where there is plenty of room for handling and properly supporting the workpiece.**

**ONLY lift this saw by the cast-in carry handles at each side of the bottom of the base** (see Figure 28).

### Lifting Saw from Rear

1. Set bevel angle at 0° and lock in place using the bevel lock lever.
2. Rotate table to the extreme left position and lock in place using miter lock knob.



3. Push saw head back and lock in DOWN position using the head assembly lock pin.
4. Engage mechanism lock lever so the saw is locked in the retracted position.
5. Check that each base table extension is in the closed position and locked in place.
6. Use both hands and reach down to grip each cast-in carry handle. Whenever possible, lift from the back of the saw.

## Transporting and Mounting

### Mounting Applications

**⚠ WARNING** Be certain the miter saw is mounted or placed on a level, firm work surface before using. A level and firm work surface reduces the risk of the miter saw becoming unstable.

#### Workbench Permanent Attachment

1. Each of the four mounting holes should be bolted securely using 5/16" bolts, lock washers and hex nuts (not included), see Fig. 29.
2. Locate and mark where the saw is to be mounted.
3. Drill four 5/16" diameter holes through workbench.
4. Place the miter saw on the workbench, aligning holes in base with holes drilled in workbench. Install bolts, lock washers and hex nuts.

#### Alternate Attachment

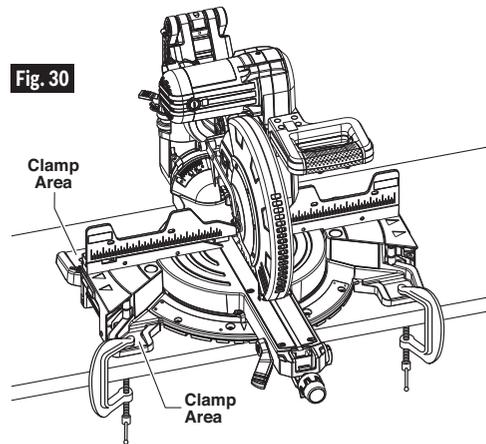
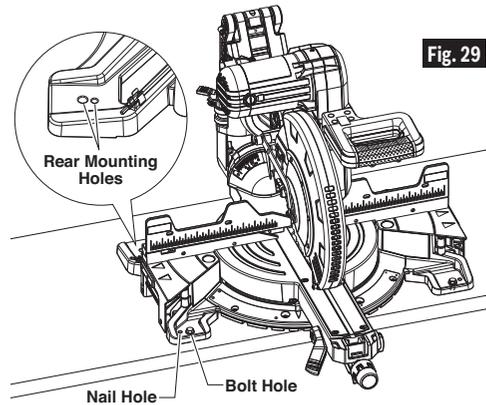
The smaller mounting holes at each corner can be used for nails or longer drywall screws.

The supporting surface where the saw is to be mounted should be examined carefully after mounting to ensure that no movement can occur during use. If any tipping or walking is noted, secure the workbench or stand before operating the miter saw.

**⚠ CAUTION** Be careful not to over-drive nail or over-torque the bolt. This could crack foot or damage base.

#### Temporary Mounting Using Clamps

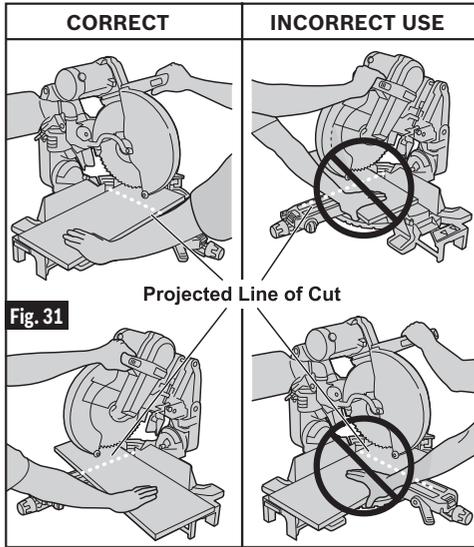
- If necessary, clamp the miter saw to a workbench or table top.
- Place two or more "C" clamps on the clamping areas and secure (see Fig. 30). There are clamping areas at all four corners of the saw.
- Be careful not to place clamps over the base extension clamping levers (see Fig. 30).
- Mounting with clamps may prevent access to some wide miter angles.



## Preparing for Saw Operations

### Body and Hand Position

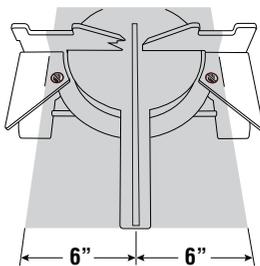
**⚠ WARNING** Position your body and hands properly to make cutting easier and safer. Failure to follow all instructions, identified below by bullet (•) symbols, may result in serious personal injury (see Fig. 31 below).



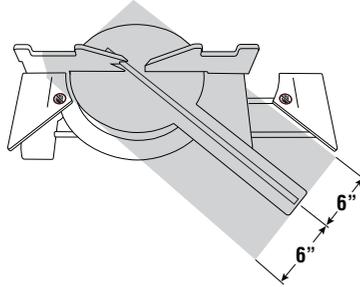
- Never place hands near cutting area. Keep hands and arms outside the “NO HANDS” zone.

The “No Hands Zone” is an area 6 inches wide on left and right side of the blade cutting path. Portion of the Fence in this area is also considered a part of the “No Hands Zone”.

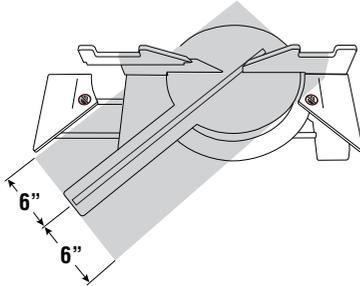
The “No Hands Zone” for zero miter and zero bevel cuts is marked on the tool with lines and “No Hands” symbols.



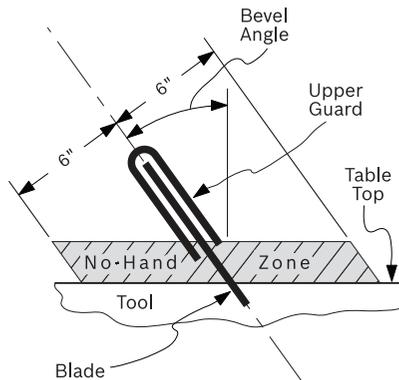
The “No Hands Zone” for all slide and miter right cuts is defined in figure below.



The “No Hands Zone” for all slide and miter left cuts is defined in figure below.



With all bevel cuts the “No Hands Zone” extends vertically up to the bottom of the upper guard when the head assembly is in the lowest cut position.



## Preparing for Saw Operations

### Body and Hand Position

Use sliding base extensions, sliding fence, and additional workpiece supports (see page 34) to properly support the workpiece and hold or clamp it outside of the “No Hands Zone”.

Workpiece can be held against table and fence by hand only outside of the “No Hands Zone”.

- **Hold workpiece firmly against table and fence to prevent movement.**
- **Keep hands in position until trigger has been released and blade has completely stopped.**
- **Never place hands on mechanism components.**
- **Keep feet firmly on the floor and maintain proper balance.**
- **Follow the miter arm when mitering left or right. Stand slightly to the side of the saw blade.**

**⚠ WARNING** Be aware of the path of the saw blade. Make a **DRY RUN** with the saw “OFF” by conducting a simulated cutting cycle, and observe the projected path of the saw blade. Keep hands out of the path of saw blade.

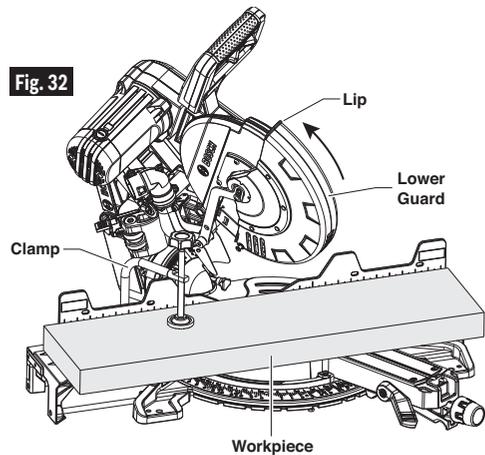
**DRY RUN** – It is important to know where the blade will intersect with the workpiece during cutting operations. Always perform the simulated cutting sequence with the power tool switched “OFF” to gain an understanding of the projected path of the saw blade. Mentally note where the path of the saw blade will fall and set up your work to keep your hands and arms out of the path of the spinning blade. Adjust your clamps and fences so that the smooth lower guard and cutting action is not interfered with during cutting operation.

**⚠ WARNING** The lower guard may not automatically open under certain cutting conditions; for example, when trying to cut workpieces that are near the maximum cutting height capacity. Under these conditions or during the blade travel motion of cut, the workpiece can stop the lower guard movement before the downward motion of the arm could pre-open the lower guard.

**If this occurs:**

Workpiece must be securely clamped. This frees a hand to raise the guard by the lip just enough to clear the workpiece (see Fig. 32).

Start the saw and begin your cut. Once you have cleared the position where the lower guard may bind, release the guard and it will continue to operate automatically as you cut.



## Preparing for Saw Operations

### Workpiece Support

#### Clamps

**Using the Workpiece Clamp** – This clamp easily secures a workpiece to the table or base, see fig. 33.

1. Insert the clamp's knurled bar down into a clamp post hole; there are two post holes located in the base behind the fence. The knurled end must be in the post at least 1/2".
2. Slide the clamp down until its rubber foot contacts the workpiece.
3. Adjust the clamp height so it does not touch the sliding fence.
4. Rotate the clamp's knob until the workpiece is firmly held in place.
5. Move saw head up and down and forward and back to be sure it clears the clamp.

**⚠ WARNING** There may be extreme compound cuts where clamp cannot be used. Support workpiece with your hand outside the "No Hands" zone. Do not try to cut short pieces that cannot be clamped and cause your hand to be in the "No Hands" zone.

**⚠ WARNING** Be aware of the path of the saw blade. Make a dry run with the saw Off by conducting a simulated cutting cycle, and observe the projected path of the saw blade. Keep hands at least six (6) inches away from the projected path of the saw blade.

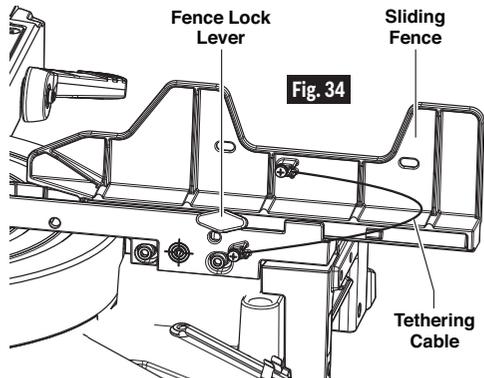
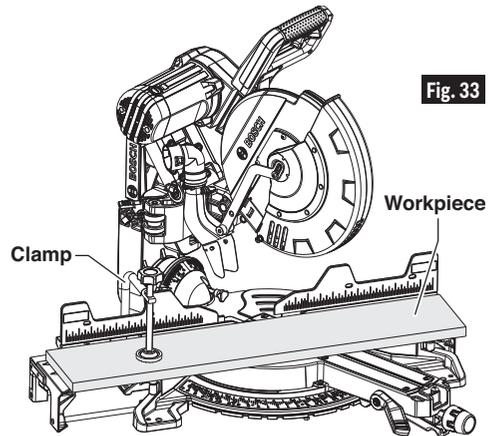
**Clamps** – Other hold-down devices such as C-clamps can be used to hold the workpiece firmly against the table and the fence. Make sure the clamps are clear of the cutting path.

#### Sliding Fences

**⚠ WARNING** To provide sufficient (minimum 6") spacing from hand to saw blade, extend the sliding fences and sliding base extensions when making extreme bevel, miter, or compound cuts (figure 29).

#### Operating Sliding Fences

1. Loosen the sliding fence lock knob counter clockwise 1/2 turn to loosen fence (see fig. 34).



2. Slide fence to the desired position.
3. Tighten the lock knob clockwise to lock sliding fence position.

#### Removing Sliding Fences

The sliding fence may need to be removed when performing extreme bevel cuts and most compound cuts.

1. Loosen the sliding fence lock knob counter clockwise 4 rotations, see fig. 34.
2. Lift and remove sliding fence.

The tethering cable will help prevent the sliding fence from getting misplaced.

## Preparing for Saw Operations

### Workpiece Support

#### Long Workpiece Support

**⚠ WARNING** Long workpieces have a tendency to tip over unless clamped down and properly supported from underneath.

**⚠ WARNING** Do not use another person as a substitute for a table extension or as additional support. Unstable support for the workpiece can cause the blade to bind or the workpiece to shift during the cutting operation, causing you to contact the spinning blade.

**Operating Base Extensions** – These extensions provide extra workpiece support and are especially useful when cutting long workpieces. To reposition the extensions, simply unlock the base extension lock levers, reposition the extensions and relock the levers (see Figure 35). The left extension lock lever tightens by rotating clockwise and the right lock lever tightens by rotating counterclockwise.

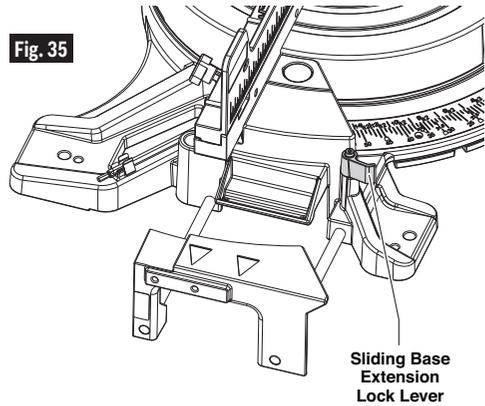


Fig. 35

#### Additional Workpiece Support

**Blocks** – Long pieces need extra support. The base height (3-3/4") is designed to match the standard lumber of two 2xs and one 1x. Boards of these thicknesses can be used to create auxiliary support extensions for long workpieces (see Figure 36).

**⚠ WARNING** Always ensure that supporting surfaces are able to properly support the workpiece and allow for secure holding by hand outside of the "No Hand Zone", or clamping with a clamp inside or outside of the "No Hand Zone" – see page 32 for "No Hand Zone" and appropriate hand positions.

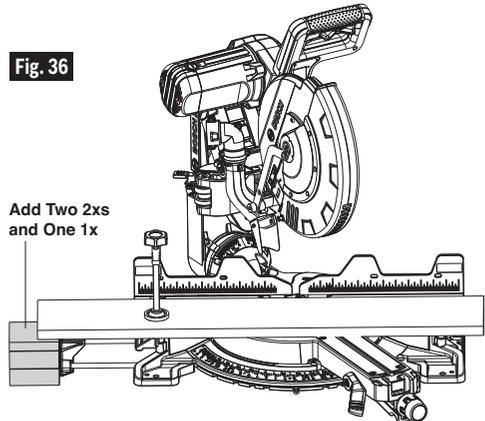
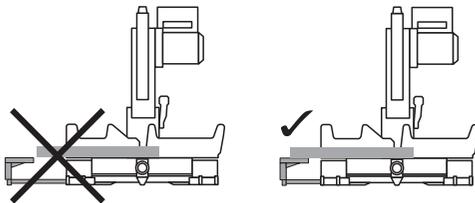


Fig. 36



**⚠ WARNING** Always adjust the sliding base extension to support workpiece. Unsupported workpiece can move out of position during cut and cause injury and/or tool damage.

**⚠ WARNING** Be aware of the path of the saw blade. Make a dry run with the saw Off by conducting a simulated cutting cycle, and observe the projected path of the saw blade. Keep hands at least six (6) inches away from the projected path of the saw blade.

## Preparing for Saw Operations

### Making an Auxiliary Fence

Certain types of molding need a fence face extension because of the size and position of the workpiece. Holes are provided in the fence to attach an auxiliary fence. The auxiliary fence is used with the saw in the 0° bevel position only.

1. Place a piece of wood against the miter saw fence (see Figure 37). Wood can have a maximum height of 5-1/2". Check that auxiliary fence assembly does not interfere with head assembly. See dimension drawing –Figure 38.

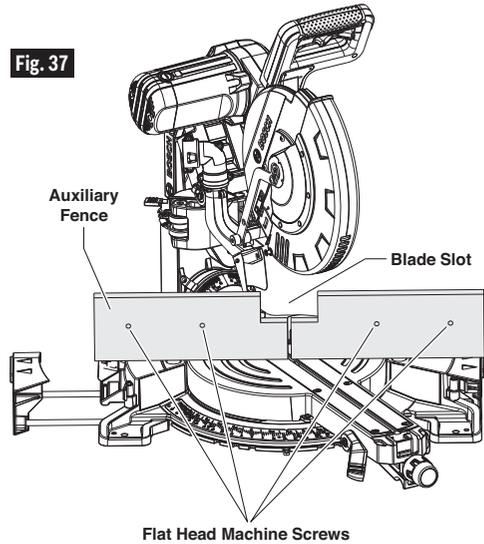
**⚠ WARNING** Check for interference between auxiliary fence and saw head components by performing a dry run. Fence interference can prevent proper saw operation and cause injury and/or tool damage.

2. Mark the locations of the support holes on the wood from the back side of the fence.
3. Drill and countersink the holes on the front of the support board.
4. Fasten from front of fence: Attach (each) auxiliary fence using two (2) 3/16" flat head machine screws. With 3/4" auxiliary fence, use 1-1/2" long screws. Secure behind metal fence with washer and machine nuts.

Fasten from back of fence: With 3/4" auxiliary fence, use 1/4" round head wood screws (3/4" long). Drill four pilot holes through auxiliary fence and run screws from rear of metal fence.

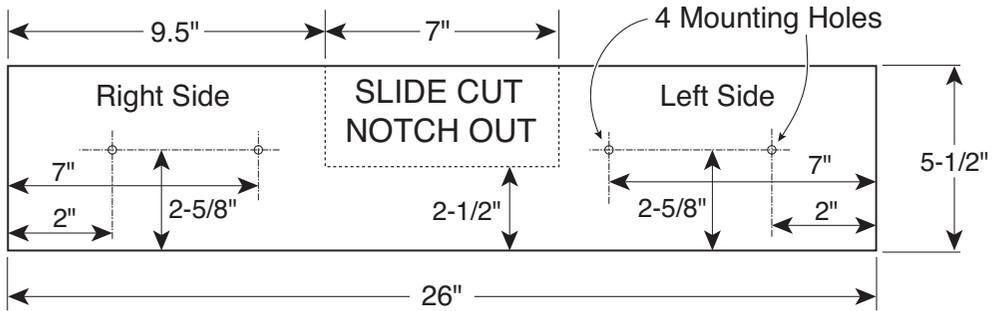
**⚠ WARNING** Be aware of the path of the saw blade. Make a dry run with the saw Off by conducting a simulated cutting cycle, and observe the projected path of the saw blade. Keep hands at least six (6) inches away from the projected path of the saw blade.

Fig. 37



5. Make a full depth cut to create the blade slot. Check for interference between the auxiliary fence and the lower blade guard. Make adjustments as necessary.
6. For best splinter-free cuts, use the chop cut method.
7. When making slide cuts, the center must be notched out per pattern (see Figure 38).

## Preparing for Saw Operations



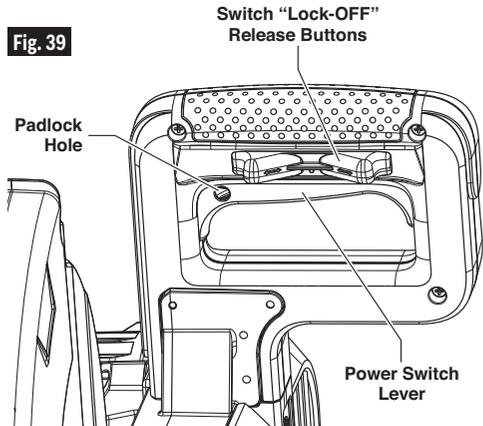
**Fig. 38** Tall Auxiliary Wood Fence - 3/4" Thick

## Saw Operations

### Switch Activation

For safety, the switch lever is designed to prevent accidental starts. To operate safety switch, slide the switch "Lock-OFF" release button with either thumb to disengage the lock, then pull the power switch trigger and release the switch "Lock-OFF" release button (figure 39). When the power switch trigger is released, the switch "Lock-OFF" release button will engage the power switch trigger automatically, and the lever will no longer operate until either "Lock-Off" release button is engaged again.

NOTE: Power switch trigger can accommodate a padlock with a long shackle of up to 5/16" in diameter (not provided with miter saw) to prevent unauthorized use.

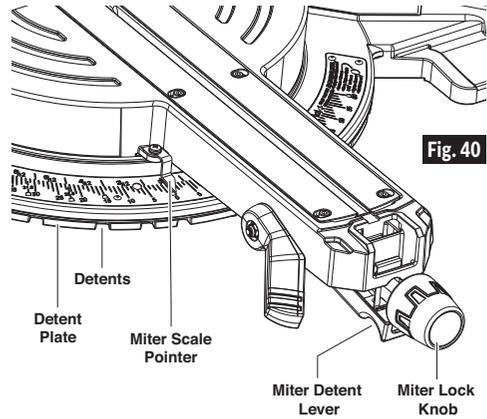


## Saw Operations

### Using Miter Detent System

1. Loosen the miter lock knob about 1/2 turn.
2. Grip the lock knob, and then reach down with your index finger to pull up on the miter detent lever – pull lever until it is out from the detent plate.
3. While gripping the lock knob and lever, rotate the saw's table. Stop table rotation at the desired angle as indicated by the miter scale pointer.
4. Release the lever into a detent in the detent plate or at an angle between detents. If close to a detent, use the detent override feature.
5. Tighten the miter lock knob before cutting.

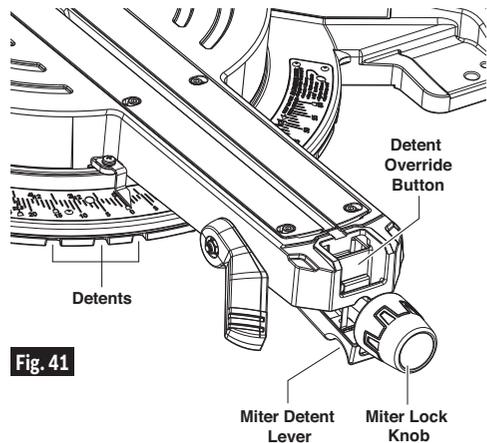
NOTE: It is recommended to tighten the miter lock knob before all cuts. It is required to tighten the knob before cutting at any angle between detents or when the miter detent override system is in use.



### Miter Detent Override

The miter detent override feature allows the miter detent action to be locked out, allowing for micro adjustments at any miter angle. When the desired miter angle is too close to a standard mitering angle that has a detent slot, this feature prevents the wedge on the miter detent lever from slipping into the detent slot on the miter detent plate.

1. Lift and hold the miter detent lever.
2. Push the detent override clip forward and latch in place over receiving edge on turntable arm. Release miter detent lever (figure 41).
3. Rotate table to any position on the miter scale.
4. Lock the miter lock knob to retain miter position.



#### To Disengage:

Loosen miter lock knob and lift the miter detent lever to release the detent override clip. The clip should automatically disengage and the table should lock into any desired miter detent.

## Saw Operations

### Chop Cuts

#### What's a Chop Cut?

- A “chop cut” is a cross-cut made when the saw is held to the rearmost position and is operated like a conventional (non-sliding) miter saw. Using the chop cut method lowers the cross-cutting capacity; however, many users prefer using this method because it is quicker when making repeat cuts. This method can also produce more accurate cuts because the saw head is locked in the retracted position.
- This saw has bevel angle stops that accurately stop at critical angles: 45° Left/Right and 0° Right. It comes factory-set and should not require adjustment. However, after extensive use or if the tool has received a hard impact, it may require an adjustment.
- A chop cut can cut pieces with a width of 5-1/2" or less

#### Preparing for Chop Cut

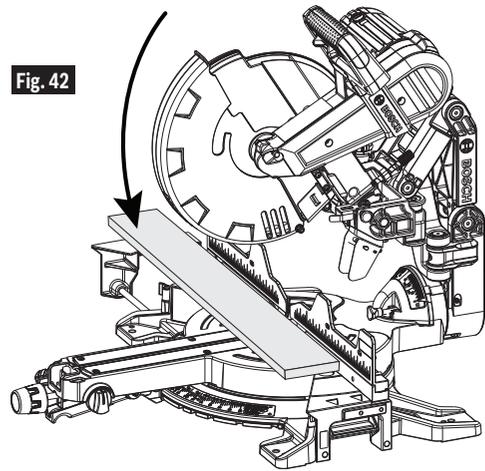
1. With the saw head in the UP position, push it back over the fence to the rear.
2. Engage the mechanism lock lever (item 27 – page 11) by lifting up the finger tab. Check that mechanism movement is stopped.
3. Properly position your workpiece and clamp it firmly to the table and/or fence.

**⚠ WARNING** Use clamping position that does not interfere with operation. Before switching “ON”, lower head assembly to make sure clamp clears guard and head assembly.

**⚠ WARNING** Be aware of the path of the saw blade. Make a dry run with the saw Off by conducting a simulated cutting cycle, and observe the projected path of the saw blade. Keep hands at least six (6) inches away from the projected path of the saw blade.

#### Making a Chop Cut

1. Activate the switch, then fully lower the saw head to make the cut.
2. Hold the saw head down until the blade comes to a complete stop. Return the saw head to the UP position. Remove workpiece.



## Saw Operations

### Slide Cuts

#### What's a Slide Cut?

- A “slide cut” is made with the head assembly unlocked and able to move away from the fence. This movement is supported and precisely controlled by the axial glide system. The maximum cross-cutting capacity is utilized by using this method.
- A slide cut is best used for cross-cutting workpieces wider than can be done with a chop cut – pieces wider than 5-1/2" and up to a maximum width of 13-3/8" across.

**⚠ WARNING** NEVER pull the saw toward you during a cut. The blade can suddenly climb up on top of the workpiece and force itself toward you.

#### Preparing for Slide Cut

1. Place the saw head in the UP position.
2. Disengage the mechanism lock lever (item 27 – page 11) by pushing down on the finger tab. With the head assembly in the UP position, move it fully to the front and back to check that axial glide system moves smoothly.
3. Properly position your workpiece and clamp it firmly to the table and/or fence.

**⚠ WARNING** Use a clamping position that does not interfere with operation. Before switching “ON”, lower head assembly to make sure clamp clears guard and head assembly.

**⚠ WARNING** Be aware of the path of the saw blade. Make a dry run with the saw Off by conducting a simulated cutting cycle, and observe the projected path of the saw blade. Keep hands at least six (6) inches away from the projected path of the saw blade.

#### Making a Slide Cut

1. Grasp the switch handle and pull the saw head assembly (in UP position) away from the fence – see Arrow 1 in Figure 43.

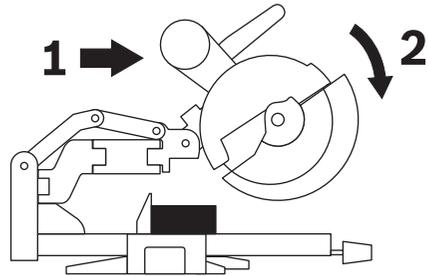
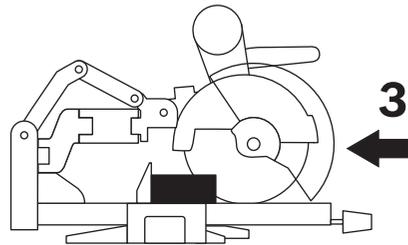


Fig. 43



2. Activate the switch, and then fully lower the saw head assembly – on larger pieces, this action may also start the cut – see Arrow 2 in Figure 43.
3. Push down and back so the saw head assembly moves toward the fence and to the full rear position until you complete the cut. See Arrow 3 in Figure 43. NOTE: If high resistance is felt, do not apply excessive force – stop cutting, wait until blade stops and investigate problem.
4. Hold the saw head down until the blade comes to a complete stop. Return the saw head to the UP position and remove the workpiece.

## Saw Operations

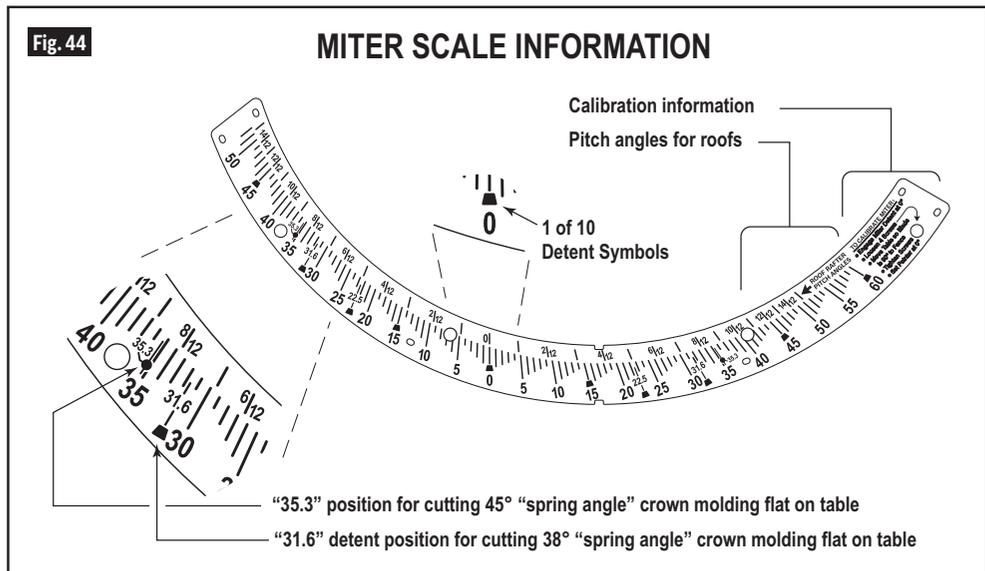
### Miter Cuts

#### What's a Miter Cut?

- A “miter cut” is a cross-cut made with the blade perpendicular to the horizontal table. The blade is not tilted and the bevel pointers are both on the 0° lines.
- Miter cuts can be made at any angle across a workpiece within this saw's range, from 52° left to 60° right.
- The miter scale shows the angle of the blade relative to the saw's fence. The miter pointer is attached to the turntable and indicates the saw's miter position before the cut is made.
- Ten positive detents are provided for fast and accurate preset miter angles – locations are at 45°, 31.6°, 22.5°, 15° left and right, and center at 0°. The right side has an additional detent of 60°.
- The crown molding detents on the left and right are at 31.6° for compound cutting 38° “spring angle” crown molding lying flat on the table (see Cutting Crown Molding on page 50).
- For precision settings at miter angles very close to the miter detents, use the miter detent override to prevent the detent from automatically engaging the detent slot. See detent override instructions on page 38.
- A miter cut can be made either as a chop cut or slide cut, depending on the width of the workpiece.
- The kerf inserts should be adjusted to be as close to the blade as possible to reduce splintering (see kerf insert instructions on page 23).

#### Reading the Miter Scale

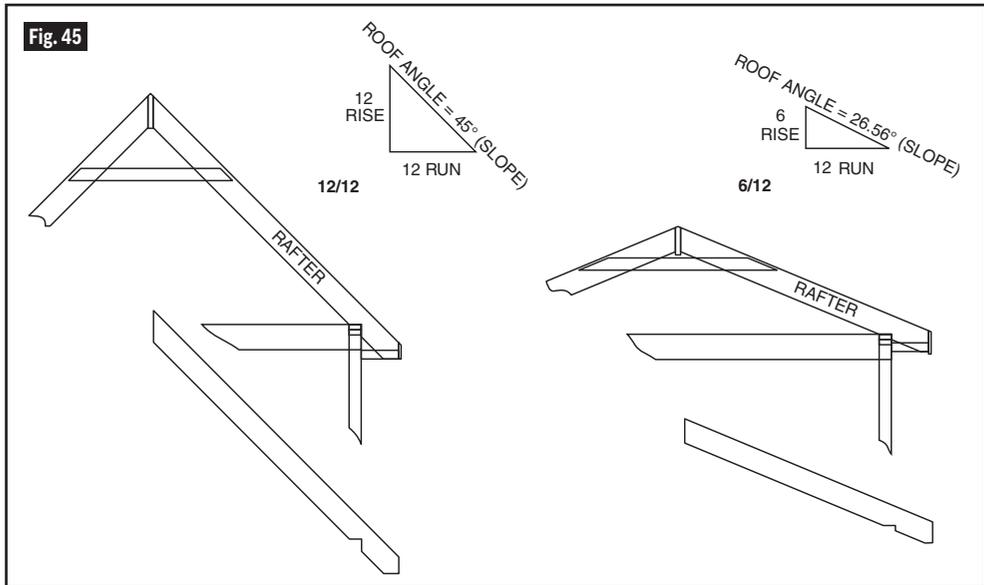
The miter scale used on this saw includes several scales of information to help the user accurately preset this saw before making the cuts (see Figure 44).



## Saw Operations

### Miter Cuts

**Pitch angle information** – The top section of the miter scale shows angle settings required to cut roof rafters to the “Pitch Angle” system. 2/2, 4/12, 6/12, etc., are all pitch angles. This system is based on using the English “inches.” A 6/12 pitch angle roof equals a ratio of 6” “rise” for every 12” “run” (see Figure 45).



**Crown molding information** – There are miter position settings for compound-cutting crown molding flat on the table. Crown molding with 38° “spring angle” uses the 31.6 setting (with detent) and crown molding with 45° “spring angle” uses the 35.3 setting. NOTE: This cutting method also requires that specific bevel angles are set – see Cutting Crown Molding on page 50.

## Saw Operations

### Miter Cuts

**Miter cutting 6-3/4" base boards** – This saw can miter cut 6-3/4" tall base boards vertically positioned against the fence at any angle from 0° to 52°. All angled cuts must be made with the base board placed on the left side of the table. For certain cuts, the base board will have to be flipped upside down or placed with the face side against the fence. Always use a C-clamp to hold the base board to the fence before making cuts. NOTE: For cutting standard base board up to 3-7/8" tall, no special placement is required and it can be miter cut at any angle left or right.

#### Setting Saw to Make a Miter Cut

1. See Using Miter Detent on page 38.
2. Loosen the miter lock knob. Lift miter detent lever and move the saw to the desired angle, using either the detents or the miter scale. Tighten miter lock knob (see Figure 47).
3. Extend the base extensions and fence on the side on which the cut will be made (see Workpiece Support on page 34).
4. Properly position workpiece. Make sure workpiece is clamped firmly against the table or the fence.

**⚠ WARNING** Use a clamping position that does not interfere with operation. Before switching "ON" saw, lower saw head to make sure the clamp clears guard and head assembly.

5. Follow procedures for either chop cut or slide cut (see pages 39-40).
6. Wait until saw blade comes to a complete stop before returning head to the raised position and then remove workpiece.

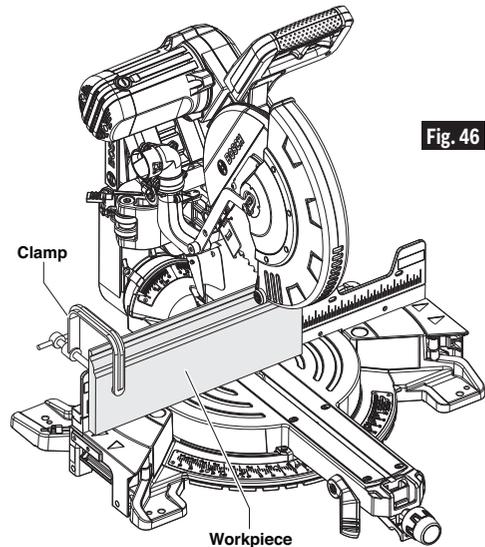


Fig. 46

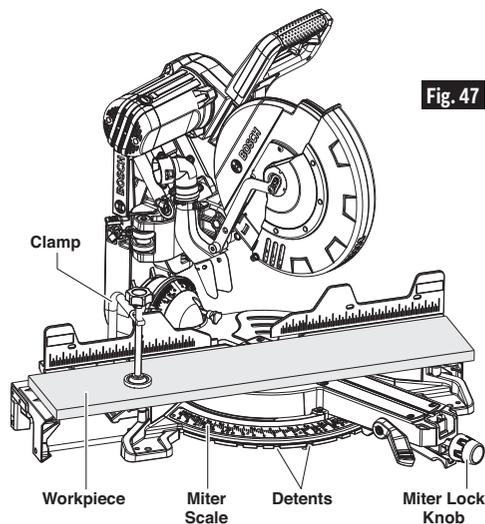


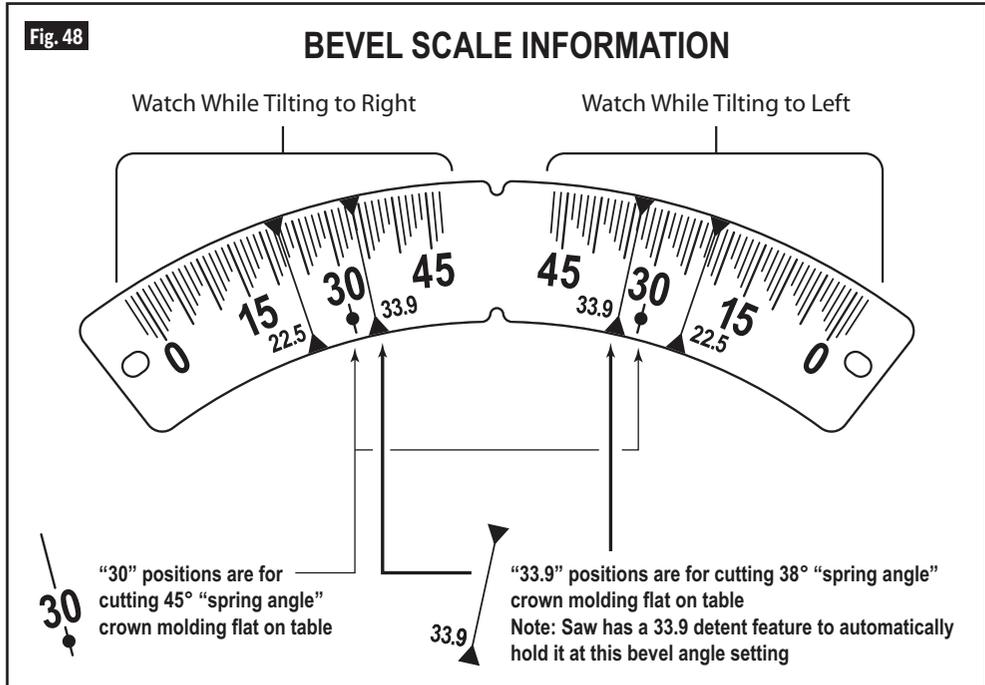
Fig. 47

## Saw Operations

### Bevel Cuts

#### What's a Bevel Cut?

- A "bevel cut" is a cross-cut made with the blade perpendicular to the fence and with the table set at 0° miter. The blade can be tilted to any angle within the saw's range: the left is 0 to 47° and the right is 0 to 47°.
- The bevel scale is sized and positioned for easy reading – see Figure 48.

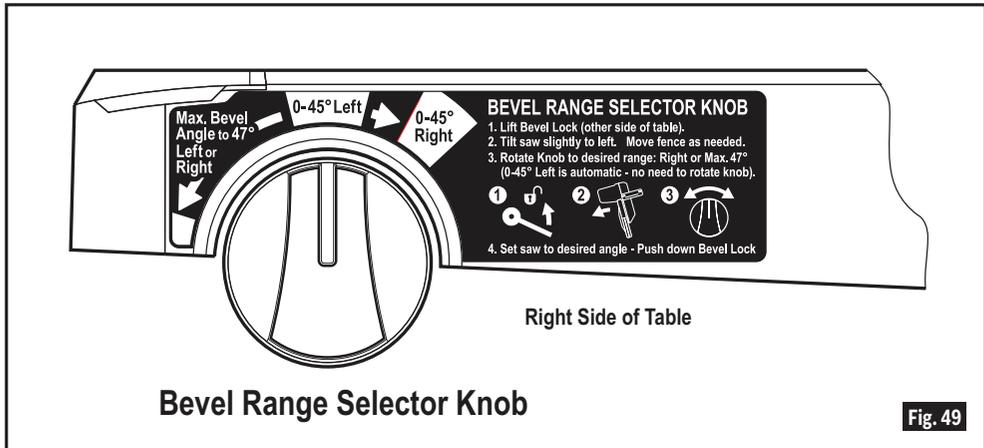


**Note:** when performing right and left bevel cuts it is necessary to move the sliding fence away from the blade to avoid cutting into the fence. When compound cutting on the right it will be necessary to remove the right siding fence – see page 34.

## Saw Operations

### Bevel Cuts

**Bevel range selector knob** – This saw has a front control on the right side of the table arm. This is called the bevel range selector knob (item 41 – page 12). It is linked to stops and locking mechanisms in the rear which control the tool's ability to quickly and accurately be positioned to make bevel cuts. There are positive stops at the important 45° left, 0° (vertical), and 45° right angles (see Figure 49).



#### Using the Bevel Range Selector Knob

##### Bevel Range 1 = 0-45° Left

This left-side bevel range is the default setting.

##### To operate in Bevel Range 1:

1. Move the left sliding fence out to clear saw assembly and relock (Figure 51).
2. Lift bevel lock lever above table height with left hand.
3. Grasp the main handle with the right hand and tilt the saw assembly to the angle desired.

4. Once in the desired bevel position, hold the saw assembly with right hand and use left hand to fully press down the bevel lock lever below table height.

**NOTE:** Without turning the saw “ON”, perform a dry cut to make sure the fence clears the guards and adjust if necessary.

## Saw Operations

### Bevel Cuts

#### Bevel Range 2 = 0-45° Right

##### To operate in Bevel Range 2:

1. Move the right sliding fence out to clear saw assembly and relock (see Fig. 51).
2. Lift bevel lock lever above table height with the left hand.
3. Grasp the main handle with the left hand and tilt the saw assembly slightly to the left while rotating the spring-loaded bevel range selector knob with the right hand so the knob's indicator points to "0-45° Right" as on the label.
4. Once in the desired bevel position, hold the saw assembly with right hand and use left hand to fully press down the bevel lock lever below table height.

NOTE: When the saw assembly is tilted back to left past 0°, the bevel control knob will snap back to the default bevel range 1. This is designed to regain the preset bevel stop at the important 0° position.

#### Bevel Range 3 = Max. Bevel Angle to 47° Left or Right

This full-capacity bevel range setting overrides all preset stops and allows for cutting at bevel angles beyond the normal 45° on either side.

##### To operate in Bevel Range 3:

1. Move the left and right sliding fences out to clear saw assembly and relock (see Fig. 51).
2. Lift bevel lock lever above table height with the left hand.
3. Grasp the main handle with the left hand and tilt the saw assembly slightly to the left while rotating the spring-loaded bevel range selector knob with the right hand so the knob's indicator points to the red square below "Max. Bevel Angle to 47° Left or Right."
4. Once in needed bevel position, hold saw head by the right hand and use left hand to press down the bevel lock lever below table height.

NOTE: The selector knob will stay in this "override" position. Turn the knob slightly clockwise and it will snap back to bevel range 1 (default position).

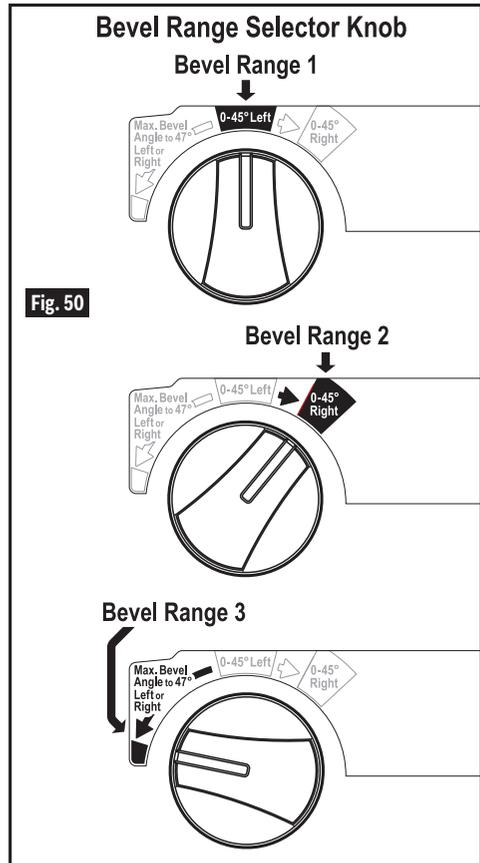


Fig. 50

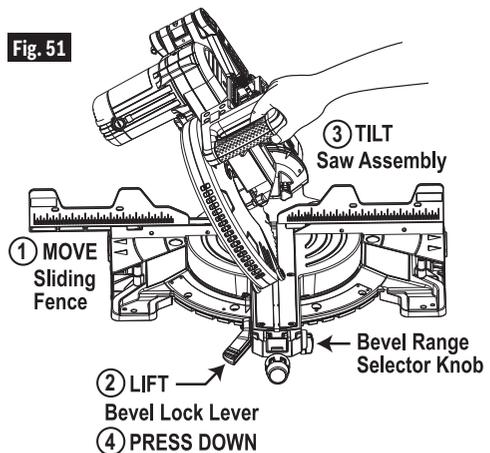


Fig. 51

## Saw Operations

### Bevel Cuts

**⚠ WARNING** For bevel cutting, adjust sliding fence clear of blade path and guard system.

#### Bevel Angle Stops and Detents

- The saw has bevel angle stops that accurately stop at critical angles: 45° left, 0°, and 45°. It comes factory-set and should not need to be adjusted. However, after extensive use or if the tool has received a hard impact, it may require an adjustment.
- The saw has a bevel angle detent pin which can only be engaged at 33.9° left or right - this is the bevel angle required when cutting 38° “spring angle” crown molding flat on the table. NOTE: If the bevel detent pin automatically engages at 33.9° and prevents tilting the saw to another angle, simply pull it to the front and rotate its cross pin 1/4 turn so it rests in the disengaged position. If pin is sticking in, tilt and rock saw head side to side as you pull on it (see Figure 52).

#### Setting Saw to Make a Bevel Cut

1. Lift up the bevel lock lever to unlock (see item 14 – page 11).
2. Choose the desired bevel range using the bevel range selector knob. NOTE: If in the 0° position and moving to “0-45° Range,” it may be necessary to move the head assembly slightly to the left before the selector knob can be turned.
3. Grasp the main handle and tilt the saw head assembly to the desired angle while watching one of the bevel angle pointers – watch the right pointer when tilting to the left or the left pointer when tilting to the right.
4. Continue to hold saw and push down on the bevel lock lever (with your left hand) to lock. Let go of tool.
5. Follow the chop cut or slide cut procedures in this manual.

Fig. 52

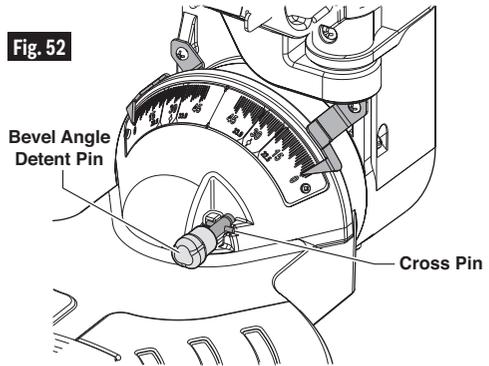
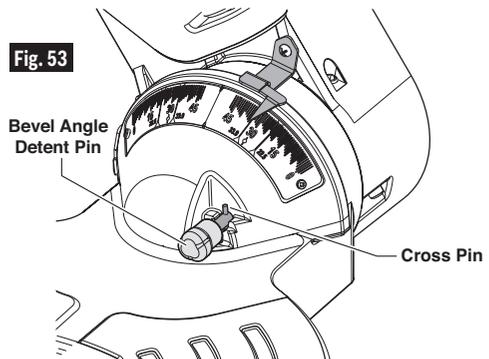


Fig. 53



## Saw Operations

### Compound Cuts

**⚠ WARNING** For compound cutting, adjust sliding fence clear of blade path and guard system.

**⚠ WARNING** Before sawing, always check that there is no interference between moving and stationary parts of the saw. Do not operate the saw in the following range of miter and bevel combinations: Left Bevel 45° to 47° PLUS Right Miter 40° to 42°. These miter and bevel combinations may result in interference between the sliding and stationary parts of the saw or between the sliding parts and the work piece.

#### What's a Compound Cut?

- A “compound cut” is a single cross-cut made with the saw blade preset at two angles combining a miter angle (relative to the vertical fence) with a bevel angle (relative to the horizontal table).
- Miter angles will be with the table rotated away from 0° and within this saw's range from 52° left to 60° right.
- A bevel angle is when the blade is tilted away from 0°. This saw's range is from 47° left to 47° right. NOTE: If the bevel detent pin automatically engages at 31.6° and prevents tilting the saw to another angle, simply pull it to the front and rotate its cross pin 1/4 turn so it rests in the disengaged position. If pin is sticking in, tilt and rock saw head side to side as you pull on it.
- A compound cut can be made as a chop cut or a slide cut.

#### Follow these instructions for making your compound cut:

1. Extend the base extensions and fence. (See Sliding Fences and Base Extensions on page 34 and 35).
2. Properly position workpiece. Make sure workpiece is clamped firmly against the table or the fence (figure 54).

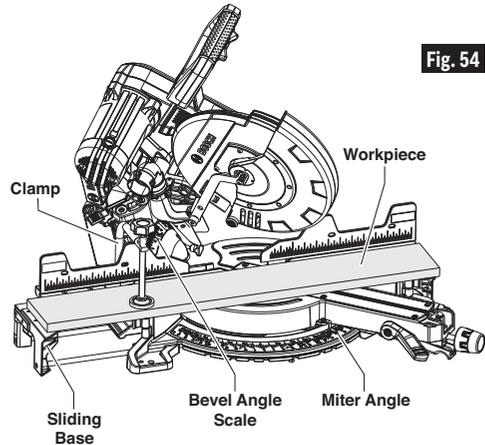


Fig. 54

**⚠ WARNING** Use clamping position that does not interfere with operation. Before switching on, lower head assembly to make sure clamp clears guard and head assembly.

**⚠ WARNING** Be aware of the path of the saw blade. Make a dry run with the saw Off by conducting a simulated cutting cycle, and observe the projected path of the saw blade. Keep hands at least six (6) inches away from the projected path of the saw blade.

3. Set miter and bevel angles according to the instructions on page 41 – 47 for miter and bevel cuts.
4. Follow the procedures for chop cut or slide cut.
5. Wait until blade comes to a complete stop before returning head assembly to the raised position and/or removing workpiece.

Cutting crown molding flat on the table requires compound cuts. See cutting crown molding section on page 50.

## Saw Operations

### Cutting Grooves

The depth stop adjustment is a feature used when cutting grooves in the workpiece.

The depth adjustment is used to limit blade depth to cut grooves.

NOTE: Read and understand all instructions on page 22 in the Adjustments section on “Setting Blade Depth for Non-Through Cuts for Cutting Grooves.”

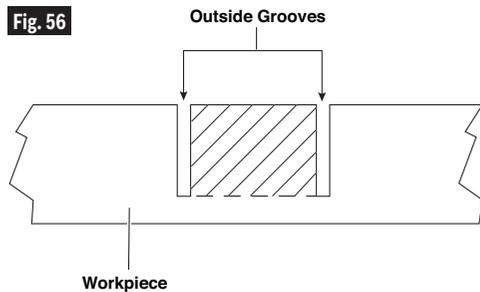
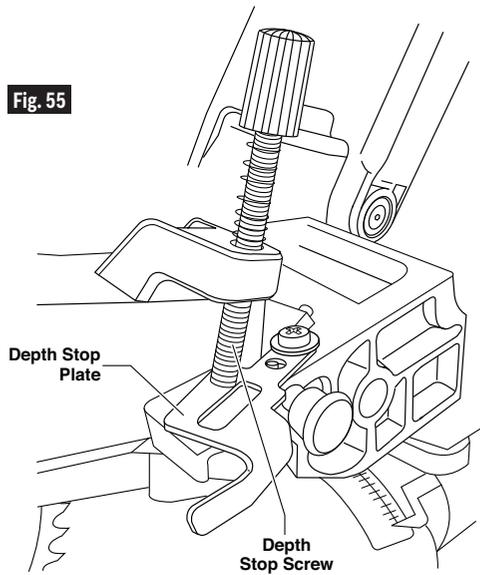
NOTE: For best results, Bosch recommends the use of a table saw with an optional dado blade set for cutting grooves and non-through cuts. In the event this is not available, the feature described below is a convenient alternative.

A groove should be cut as a slide cut.

1. For adjustment of groove depth, pull out depth stop plate and rotate depth stop screw. Rotating the depth stop screw clockwise will raise saw blade and rotating the screw counterclockwise will lower the blade.
2. For minor adjustments, simply rotate the depth stop screw to the desired location.

**⚠ WARNING** Be aware of the path of the saw blade. Make a dry run with the saw Off by conducting a simulated cutting cycle, and observe the projected path of the saw blade. Keep hands at least six (6) inches away from the projected path of the saw blade.

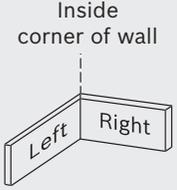
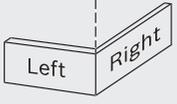
3. Cut the two outside grooves first.
4. After cutting a groove, shut saw “OFF” and wait for blade to stop.
5. To remove material between cuts, move the workpiece to the right or left. The saw must come to a complete stop before moving workpiece.



## Saw Operations

### Cutting Base Molding

- Base molding can be cut vertical against fence or flat on the table. The maximum size that can be vertical on the fence is 6-3/4", flat on table is 13-1/2".
- Follow the table for helpful hints on cutting base molding for corners that have 90° angles.
- Cutting base molding can be done either as a chop cut or a slide cut depending on the size of the workpiece.

BASE MOLDING CUTTING INSTRUCTIONS					
LOCATION OF MOLDING ON SAW →		Molding in Vertical Position: Back of molding is against the fence		Molding in Horizontal Position: Back of molding is flat on the table	
Bevel Angle →		Bevel = 0°		Bevel = 45°	
Molding piece being cut →		To left of corner	To right of corner	To left of corner	To right of corner
 Inside corner of wall	Miter Angle	Left at 45°	Right at 45°	0°	0°
	Position of molding on saw	Bottom against table	Bottom against table	Top against fence	Bottom against fence
	Finished side	Keep left side of cut	Keep right side of cut	Keep left side of cut	Keep left side of cut
 Outside corner of wall	Miter Angle	Right at 45°	Left at 45°	0°	0°
	Position of molding on saw	Bottom against table	Bottom against table	Bottom against fence	Top against fence
	Finished side	Keep left side of cut	Keep right side of cut	Keep right side of cut	Keep right side of cut

### Cutting Crown Molding

Crown molding cuts must be positioned properly to fit exactly.

There are two ways to cut crown molding: flat on table or angled to table and fence.

Crown molding's "spring angle" is the angle between the back of the molding and the bottom flat surface that fits against the wall.

This miter saw has special miter detents at 31.6° and bevel detents at 33.9°. These detents allow you to easily position most crown molding flat on the table and make precise cuts for 90° corners. NOTE: These detents cannot be used with 45° crown molding. These detents are only for use with crown molding that has a 38° "spring angle."

See also page 53 for miter and bevel angle charts for cutting crown molding that has 38° and 45° spring angles. Each chart lists the exact miter and bevel settings required for a wide range of corner angles.

Even though these angles are standards, most rooms do not have angles of exactly 90°; therefore, you will need to fine-tune your settings.

The optional Bosch GAM 220 MF and GAM 270 MFL Digital Anglefinder/Protractors measure spring angles and corner angles, then automatically determine the exact miter and bevel settings necessary to make each crown molding cut fit perfectly.

## Saw Operations

### Crown Molding Angled to Table and Fence

The preferred method for cutting crown molding with this saw is with the molding lying flat on the table.

The advantage to cutting molding angled against fence is that no bevel setting is required. Only the miter angle is adjusted.

The maximum crown molding width that can be cut and angled to table and fence is 6-1/2".

When cutting crown molding in this fashion it is recommended to purchase and use the optional Crown Stop Set (see page 61).

#### Follow these instructions for cutting crown molding angled to table and fence.

1. Position the molding so the bottom (decorative part, which is installed against the wall) is against the fence.
2. For 90° corner, set the miter angle using chart below. Tighten the miter lock knob.
3. Support crown molding against the fence (see "Body and Hand Position" on page 32.)

**⚠ WARNING** Be aware of the path of the saw blade. Make a dry run with the saw Off by conducting a simulated cutting cycle, and observe the projected path of the saw blade. Keep hands at least six

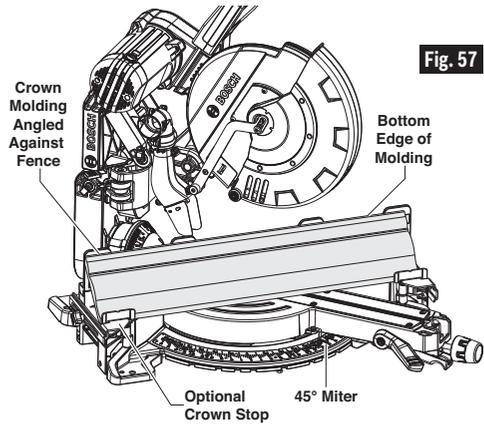


Fig. 57

(6) inches away from the projected path of the saw blade.

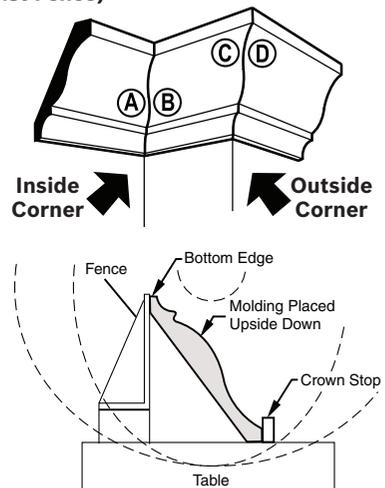
4. Follow the procedures for chop or slide cut (see pages 39-40).
5. Wait until blade comes to a complete stop before returning head assembly to the raised position and/or removing workpiece.

NOTE: Always take a test cut using scrap to confirm correct angles.

### Miter and Bevel Settings for Standard Crown Molding Cuts (When Workpiece Angled Against Fence)

**Assumptions:** Molding is milled consistently. Corner is 90°. For other corner angles, divide actual measurement by 2.

Any Crown Molding Up To 6"		
Note: Always place bottom edge against fence	Miter (Table) Setting	Bevel (Tilt) Setting
<b>Inside Corner -</b> Left end (A) Use the left end of the cut	45° Right	0° Left
Right end (B) Use the right end of the cut	45° Left	0° Right
<b>Outside Corner -</b> Left end (C) Use the left end of the cut	45° Left	0° Right
Right end (D) Use the right end of the cut	45° Right	0° Left



## Saw Operations

### Crown Molding Lying Flat on Table

NOTE: Position workpiece with its back flat on the saw table.

Always place top edge of molding against fence (decorative edge is at the bottom of crown molding.)

“Spring angle” refers to angle between wall and crown molding.

Cutting crown molding flat on the table can be done either as a chop cut or a slide cut depending on the width of the workpiece.

Refer to special auxiliary fence for narrow cut-offs when cutting crown flat on table (see page 54).

1. For 90° corner, set the bevel and miter angles using charts below. Tighten the miter lock knob and the bevel lock lever.
2. Position molding on saw table. Clamp workpiece in place using the quick clamp.

**⚠ WARNING** Use clamping position that does not interfere with operation. Before switching “ON”, lower head assembly to make sure clamp clears guard and head assembly.

**⚠ WARNING** Be aware of the path of the saw blade. Make a dry run with the saw Off by conducting a simulated cutting cycle, and observe the projected path of the saw blade. Keep hands at least six (6) inches away from the projected path of the saw blade.

3. Follow procedures for either chop cut or slide cut (see pages 39-40).
4. Wait until blade comes to a complete stop before returning head assembly to the raised position and/or removing workpiece.

NOTE: Always take a test cut using scrap to confirm correct angles.

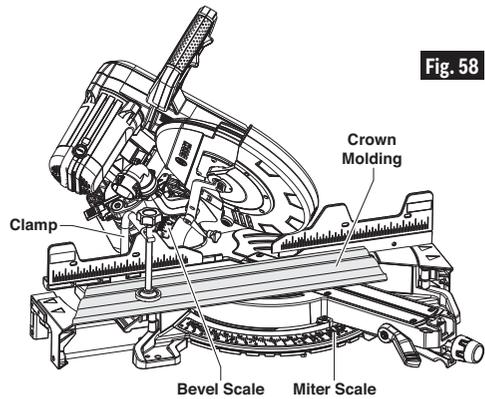
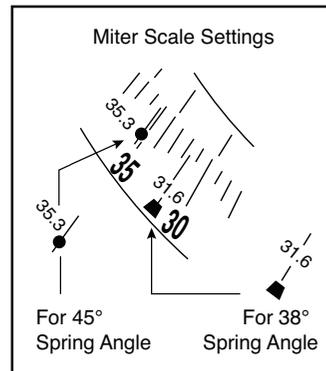
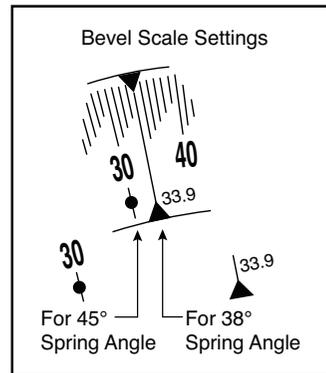


Fig. 58

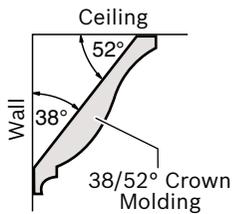
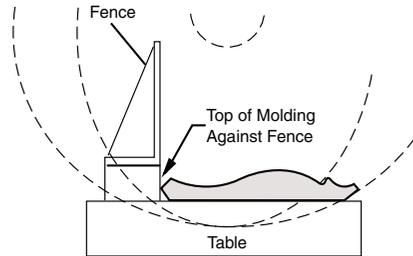
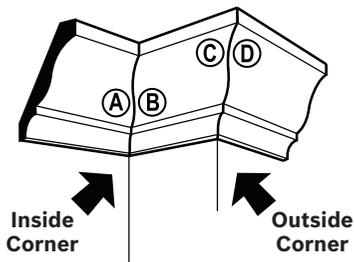


## Saw Operations

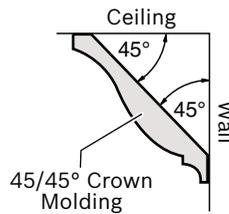
### Miter and Bevel Settings for Standard Crown Molding Cuts (With Molding Flat on Table)

**Assumptions:** Molding is milled consistently. Corner is exactly 90°.

	Molding Spring Angle 38°		Molding Spring Angle 45°	
<b>Note: Always place top edge against fence</b>	<b>Miter (Table) Setting</b>	<b>Bevel (Tilt) Setting</b>	<b>Miter (Table) Setting</b>	<b>Bevel (Tilt) Setting</b>
<b>Inside Corner -</b> Left end (A) Use the left end of the cut	31.6° Right	33.9° Left	35.3° Right	30° Left
Right end (B) Use the right end of the cut	31.6° Left	33.9° Right	35.3° Left	30° Right
<b>Outside Corner -</b> Left end (C) Use the left end of the cut	31.6° Left	33.9° Right	35.3° Left	30° Right
Right end (D) Use the right end of the cut	31.6° Right	33.9° Left	35.3° Right	30° Left



**38° Spring Angle**



**45° Spring Angle**

## Saw Operations

### Crown Molding Auxiliary Fence

**⚠ WARNING** When making a compound cut on a molding lying flat on the table, narrow cut-off pieces (2" or less in width) may be propelled at high speed over the fence and beyond the back of the tool (see Fig. 59). Use auxiliary fence as instructed and shown in figures below.

An auxiliary fence is used to add support to the cut-off workpiece such as large crown molding when cut flat on the table (see Fig. 60). It will reduce splintering and movement of the unsupported cut-off piece of wood after the cut is made.

#### Making an Auxiliary Fence:

Required pieces:

- Wood Board (described below)
- 4 – Flat Head Machine Screws –  
1/4" diameter; 2-1/2" long
- 4 – 1/4" Flat Washers
- 4 – Nuts

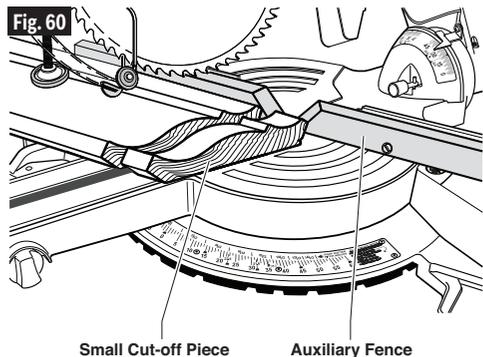
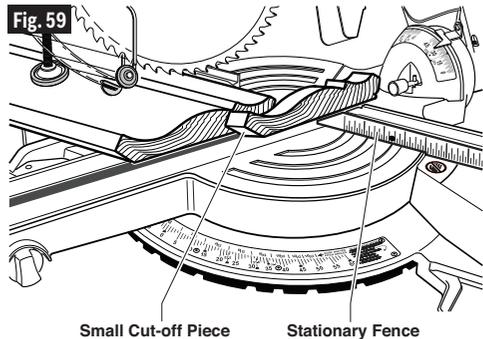
1. Cut a nominal 1" x 2" wood board to a length of 26-1/16" long. NOTE: 1" x 2" nominal equals 3/4" x 1-1/2" actual. 3/4" plywood cut to size may be substituted.
2. Drill four holes through the board using a 5/16" diameter drill bit. Countersink the holes deep enough so that the flat head screws will rest below the front work surface – use a 1/2" diameter drill bit (see Fig. 61).

Remove the sliding fences from the tool – see page 34.

1. Place the flat head screws through the holes in the auxiliary fence, then the holes in the stationary fence on the tool.
2. Place the washers and nuts over the screw threads and against the stationary fence. Tighten nuts.

#### First-Time Use of the Auxiliary Fence:

NOTE: The first time the auxiliary fence is used, it will be cut through by the saw blade – cutting through creates minimal clearance which reduces splintering on the workpiece. Set the miter angle and the bevel angle required before making the first cut.



**⚠ WARNING** Be aware of the path of the saw blade. Make a dry run with the saw Off by conducting a simulated cutting cycle, and observe the projected path of the saw blade. Keep hands at least six (6) inches away from the projected path of the saw blade.

Clamp the workpiece, then make cut – example: compound cutting large crown molding flat on the table (see Fig. 58).

## Saw Operations

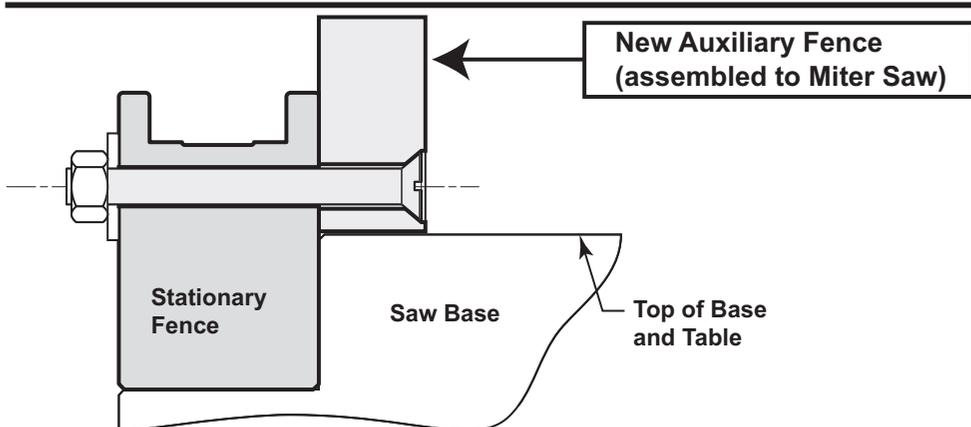
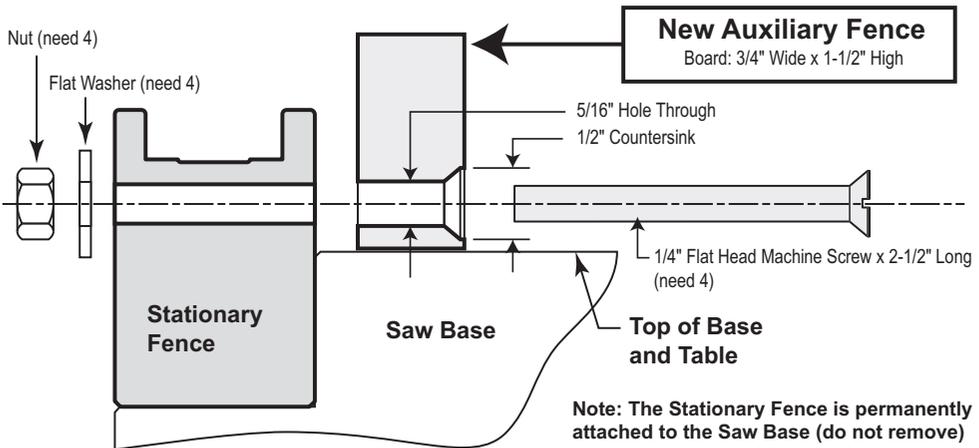
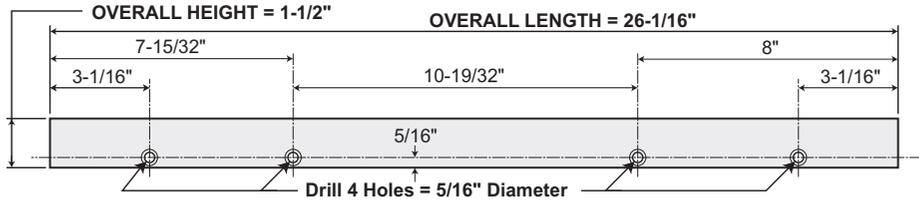
### Crown Molding Auxiliary Fence

**Auxiliary Fence** - Using an Auxiliary Fence when cutting Crown molding flat on the table will reduce splintering of your workpiece and movement of small cut-off pieces. Remove the saw's sliding fences (see page 34) before attaching the auxiliary fence.

**Build auxiliary fence by following pattern below - Material: 3/4" x 1-1/2" wood.**

**Add 4 holes as dimensioned on pattern -or- Add holes following the next steps:**

- 1) Cut wood to the outside dimensions shown and temporarily attach to saw's stationary fence using two C-clamps.
- 2) Use 1/4" drill bit to drill first through existing holes in the rear of the stationary fence and then through the wood.
- 3) Remove wood, countersink the front of the wood and permanently attach to saw's fence with hardware shown below.



## Saw Operations

### Special Cuts

Cutting bowed material and round material are only two examples of special cuts.

**⚠ WARNING** Use clamping position that does not interfere with operation. Before switching on, lower head assembly to make sure clamp clears guard and head assembly.

**⚠ WARNING** Be aware of the path of the saw blade. Make a dry run with the saw Off by conducting a simulated cutting cycle, and observe the projected path of the saw blade. Keep hands at least six (6) inches away from the projected path of the saw blade.

**⚠ WARNING** To provide sufficient (minimum 6") spacing from hand to saw blade, extend the sliding fence and base extensions when making extreme bevel, miter or compound cuts.

#### Cutting Bowed Material

If workpiece is bowed or warped, clamp it with the outside bowed face toward the fence. Always make certain that there is no gap between the workpiece, fence and table along the line of cut. Bent or warped workpieces can twist or rock and may cause binding on the spinning saw blade while cutting (see Figure 62).

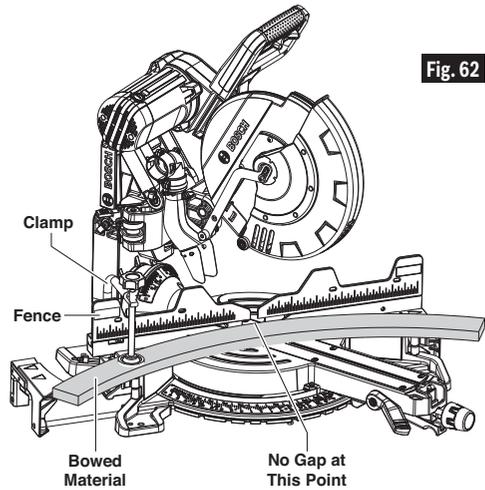


Fig. 62

#### Cutting Round or Irregularly Shaped Material

For round material such as dowel rods or tubing, always use a clamp or a fixture designed to clamp the workpiece firmly against the fence and table. Rods have a tendency to roll while being cut, causing the blade to "bite" and pull the work with your hand into the blade (see Figure 63).

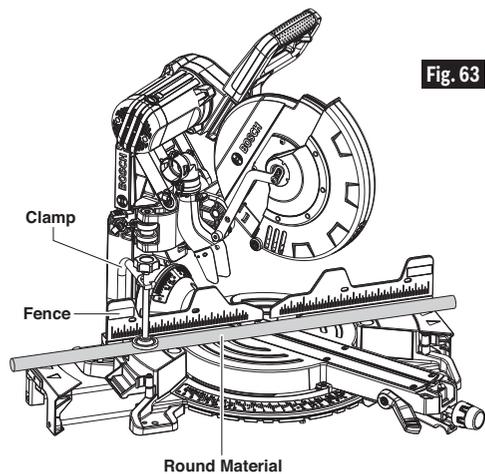


Fig. 63

## Maintenance and Lubrication

### Service

**⚠ 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.

### Motor 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 2-6 months the brushes be examined. Only genuine Bosch replacement brushes specially designed for your tool should be used.

### Motor Brush Replacement

To inspect or replace brushes:

1. Unplug the saw.

**⚠ WARNING** The brush cap is spring-loaded by the brush assembly.

2. Remove the brush cap on the motor using a wide, flat-blade screwdriver.
3. Pull out the brush (see Figure 64). Repeat for the opposite side.

NOTE: If installing the existing brush or brushes, make sure the brush goes in the same way it came out. Otherwise, a break-in period will occur that will reduce motor performance and increase brush wear.

4. Inspect brushes for wear. On the wide, flat side of brush is a wear limit line. If the brush contactface is at or beyond (no line visible) the limit, replace brushes as a set.
5. Install new brush. The two tabs on the brush terminal go in the same hole the carbon part fits into.
6. Tighten the brush cap but do not overtighten.

Fig. 64

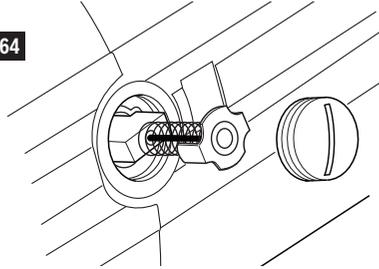
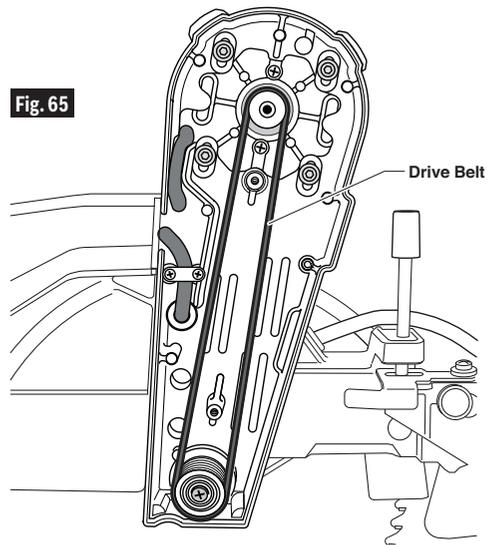


Fig. 65



### Drive Belt

The drive belt is a long life component; however, after extensive use, it may require cleaning or replacement. Dust and debris may enter through the ventilation system and affect the performance of the belt. Periodically, the drive belt should be inspected for excessive wear. If the belt shows signs of drying out, cracking or tearing, it should be replaced. If the belt will not track properly or comes off the pulleys, it should be replaced. **Belt replacement should only be performed by an authorized service center.**

## Maintenance and Lubrication

**⚠ WARNING** To avoid accidents, always disconnect the tool from the power supply before cleaning or performing any maintenance.

### Cleaning / Inspecting Drive Belt:

1. Unplug the saw.
2. Remove the two belt cover screws using a #2 Phillips screwdriver.
3. Clean area with a brush or compressed air.
4. Inspect the belt. If dried out, cracked or excessively loose, it may require service and/or replacement.

**⚠ WARNING** To avoid possible injury, do not attempt to replace the drive belt (replacement requires special tools). Take saw to an authorized Bosch service center.

5. Replace belt cover and two cover screws.

### Cleaning

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

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.

Check regularly to make sure the lower guard and all moving parts are working properly.

### Care of Blades

Blades become dull even from cutting regular lumber. If you find yourself forcing the saw forward to cut instead of just guiding it through the cut, chances are the blade is dull or coated with wood pitch.

When cleaning gum and wood pitch from blade, unplug the saw and remove the blade. Remember, blades are designed to cut, so handle carefully. Wipe the blade with kerosene or similar solvent to remove the gum and pitch. Unless you are experienced in sharpening blades, we recommend you do not try.

### Tool Lubrication

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

Periodically lubricate moving parts with a silicone, or light oil spray. Do not use grease because it tends to attract and hold sawdust.

### Bearings

All bearings in this tool are lubricated with a sufficient amount of high-grade lubricant for the life of the unit under normal operating conditions. No further lubrication is required.

## Troubleshooting

### Troubleshooting Guide - Electrical

PROBLEM	CAUSE	CORRECTIVE ACTION
Brake does not stop blade in about 5 seconds.	<ol style="list-style-type: none"> <li>1.Brushes not seated or lightly sticking or worn.</li> <li>2.Motor overheated from use of dull blade/too heavy of a blade, not recommended accessory or rapid on/off cycling.</li> <li>3.Blade bolt loose.</li> <li>4.Other.</li> </ol>	<ul style="list-style-type: none"> <li>- Inspect/clean or replace brushes (see Maintenance and Lubrication section).</li> <li>- Use sharp blade.</li> <li>- Use a recommended blade.</li> <li>- Let saw cool down.</li> <li>- Tighten blade bolt.</li> <li>- Authorized service.</li> </ul>
Motor does not start.	<ol style="list-style-type: none"> <li>1. Check that unit is plugged in.</li> <li>2. Power source fuse or time delay fuse.</li> <li>3. Brushes worn.</li> <li>4. Other.</li> </ol>	<ul style="list-style-type: none"> <li>- Plug unit in. Use different outlet.</li> <li>- 15-Amp time delay fuse or circuit breaker.</li> <li>- See Motor Brush Replacement in the Maintenance and Lubrication section.</li> <li>- Authorized service.</li> </ul>
Flash of light from motor end-cap when switch is released.	Normal - brake working properly.	-

## Troubleshooting

### Troubleshooting Guide - General

PROBLEM	CAUSE	CORRECTIVE ACTION
Head assembly does not bevel to desired position.	<ol style="list-style-type: none"> <li>1. Bevel detent pin is engaged and locks bevel angle at 33.9°.</li> <li>2. Bevel range selector knob setting limits movement.</li> </ol>	<ul style="list-style-type: none"> <li>- Pull out 33.9° bevel detent pin, then rotate pin 1/4 turn to keep out.</li> <li>- Change bevel range selector knob position (see page 45).</li> </ul>
Blade hits table.	Misalignment.	- Authorized service.
Angle of cut not accurate.	Angle stops at 0° or 45° need adjustment.	- See Adjustments section (pages 20-29).
Cannot rotate table to change miter angle.	<ol style="list-style-type: none"> <li>1. Miter lock knob is tightened.</li> <li>2. Miter detent lever is engaged with a detent (slot) in detent plate.</li> <li>3. Sawdust accumulation.</li> </ol>	<ul style="list-style-type: none"> <li>- Turn miter lock knob counterclockwise to loosen.</li> <li>- Pull up on miter detent lever to disengage from detent slot (see page 38).</li> <li>- Vacuum or blow out dust around turntable; wear eye protection.</li> </ul>
Head assembly will not fully raise or blade guard will not fully close.	<ol style="list-style-type: none"> <li>1. Head assembly lock pin is engaged.</li> <li>2. Cover plate not tightened after replacing blade.</li> <li>3. Sawdust accumulation.</li> <li>4. Sawdust accumulation.</li> </ol>	<ul style="list-style-type: none"> <li>- Pull out lock pin, allowing head assembly to go up (see page 21).</li> <li>- See Removing and Installing Blades on pages 16-17.</li> <li>- Clean head assembly.</li> <li>- Authorized service.</li> </ul>
Blade binds, jams, burns wood. Rough cuts.	<ol style="list-style-type: none"> <li>1. Improper operation.</li> <li>2. Dull blade.</li> <li>3. Improper blade.</li> <li>4. Bent blade.</li> </ol>	<ul style="list-style-type: none"> <li>- See Saw Operations section.</li> <li>- Replace or sharpen blade.</li> <li>- Replace with 12" diameter blade designed for material being cut.</li> <li>- Replace blade.</li> </ul>
Head assembly slides forward and back when making a chop cut.	Mechanism lock lever is disengaged.	Pull up on mechanism lock lever tab to engage (see page 21).
Bevel angle is not securely held when bevel lock lever is pushed.	Bevel lock lever needs tension adjustment.	Increase bevel lock lever force by adjusting tension nut (see page 28).
Glide mechanism is difficult to move forward and back.	Glide movement controller is set too tight.	Loosen two screws on the movement controller (see page 20).

## Troubleshooting

### Troubleshooting Guide - General

PROBLEM	CAUSE	CORRECTIVE ACTION
Tool vibrates or shakes.	<ol style="list-style-type: none"> <li>1. Saw blade not round.</li> <li>2. Saw blade damaged.</li> <li>3. Saw blade loose.</li> <li>4. Other</li> </ol>	<ul style="list-style-type: none"> <li>- Replace blade.</li> <li>- Replace blade.</li> <li>- Check that blade is properly seated on the inner washer. See Removing and Installing Blades on pages 16-17.</li> <li>- Authorized service.</li> </ul>
Head assembly does not slide freely when attempting a slide cut.	Mechanism lock lever is engaged.	Push down on mechanism lock lever to disengage (see page 21).
Blade does not cut completely through workpiece.	<ol style="list-style-type: none"> <li>1. Depth stop plate is pulled out for non-through cuts.</li> <li>2. Replacement blade is less than 12" diameter.</li> </ol>	<ul style="list-style-type: none"> <li>- Push depth stop plate inward to set for full-depth cuts (see page 22).</li> <li>- Change to a blade that is fully 12" diameter.</li> </ul>
Saw blade or lower guard cuts or contacts sliding fence when saw is set for bevel cuts.	Sliding fence is not moved out from path of saw blade before making bevel cut.	Move sliding fence to be clear of lower guard and saw blade; perform a "dry cut" to check for clearances before making bevel cuts (see pages 44-47).
Bevel angle is not securely held when bevel lock lever is locked.	Bevel lock lever needs tension adjustment.	Increase bevel lock lever tension by adjusting lock nut (see page 28).

## Attachments/Accessories

**GAM 220 MF and GAM 270 MFL Digital Angle Finder/Compound Cut Calculator/Protractor/Level** – Gives you the information needed to position cuts so that they fit together precisely even if the room is out of square.

**MS1233 Crown Stop Set** – Correctly hold crown molding in an inclined position against fence. Set molding for simple vertical cutting – no compound cutting required.

**T1B Portable Miter Saw Stand**

**GTA3800 Portable Miter Saw Stand with Wheels**

**T4B Gravity-Rise Wheeled Miter Saw Stand**

**MS1234 Length Stop Kit**

**Blades**