



Precision Miter Gauge

ITEM# KMS7102

INSTRUCTION MANUAL

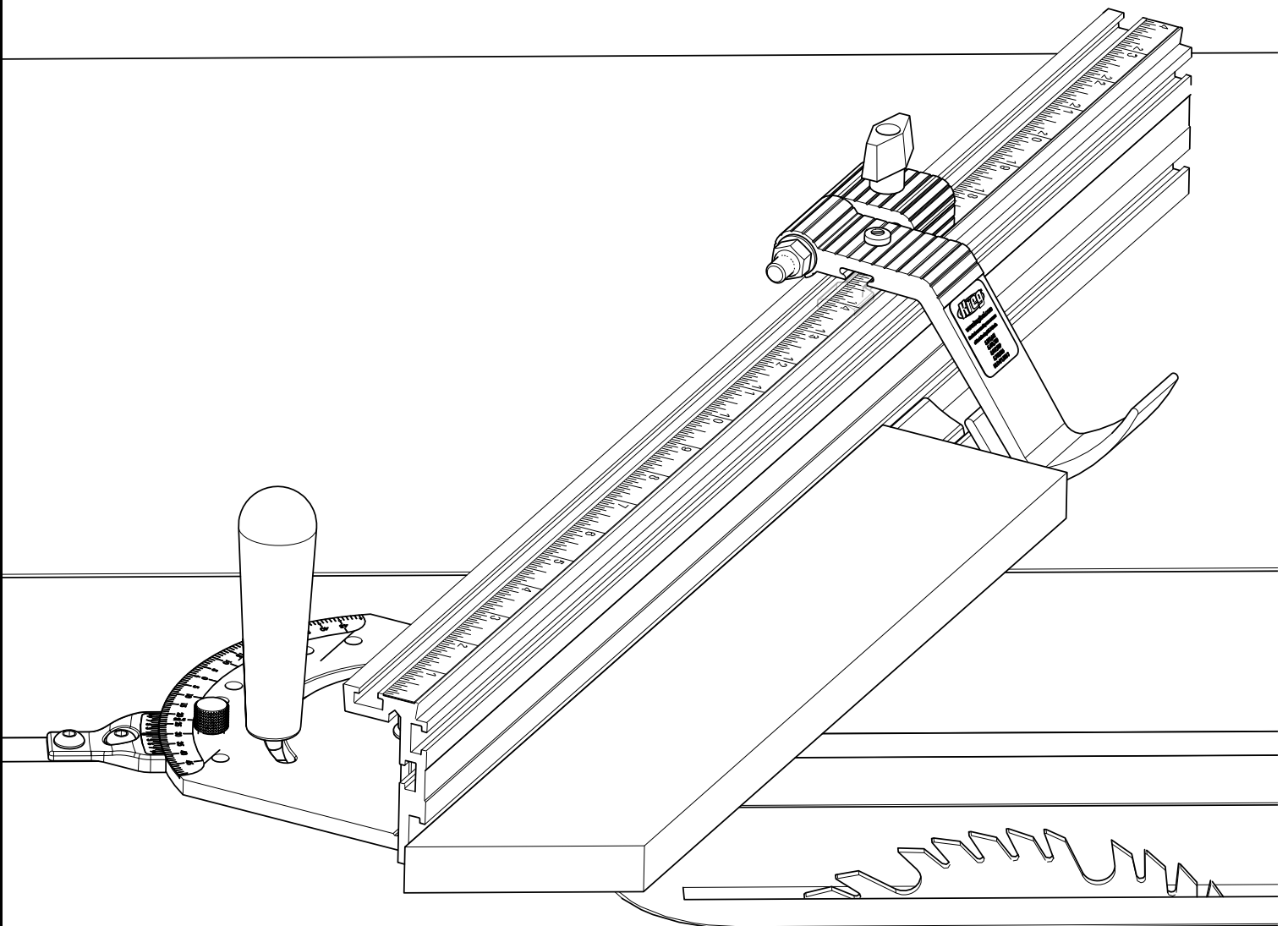
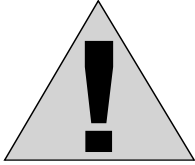


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MITER GAUGE SAFETY GUIDELINES



WARNING

- Before using the Kreg Precision Miter Gauge, read, understand, and follow all operating instructions and safety information
- Make sure your power tool is in proper working order with all safety guards in place and functioning properly.
- Wear eye protection while operating your power tool. Hearing protection is also highly recommended.

WARNING: This product contains one or more chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. **Wash hands after handling.**

BEWARE OF KICKBACK ON YOUR TABLE SAW

Kickbacks can cause serious injury, property damage, or death. A kickback usually occurs when the workpiece, or cut-off piece, binds or becomes trapped between the spinning blade and the rip fence of your table saw. The piece can suddenly become a projectile.

To avoid kickback:

- Always use a sharp blade.
- The saw blade should be parallel to the miter slots on your saw's table. The rip fence should also be parallel to the miter slots. See your table saw owner's manual to learn how to make these adjustments.
- Plan your cuts to avoid binding. Never use the rip fence and the miter gauge at the same time to support the workpiece. The cut-off can become trapped, causing kickback.
- Never cut freehand. The workpiece should always be supported by either the miter gauge or rip fence, but not both.
- Use hold-downs, featherboards, push sticks, and push blocks where appropriate to guide the workpiece during the cut and protect your hands from injury.

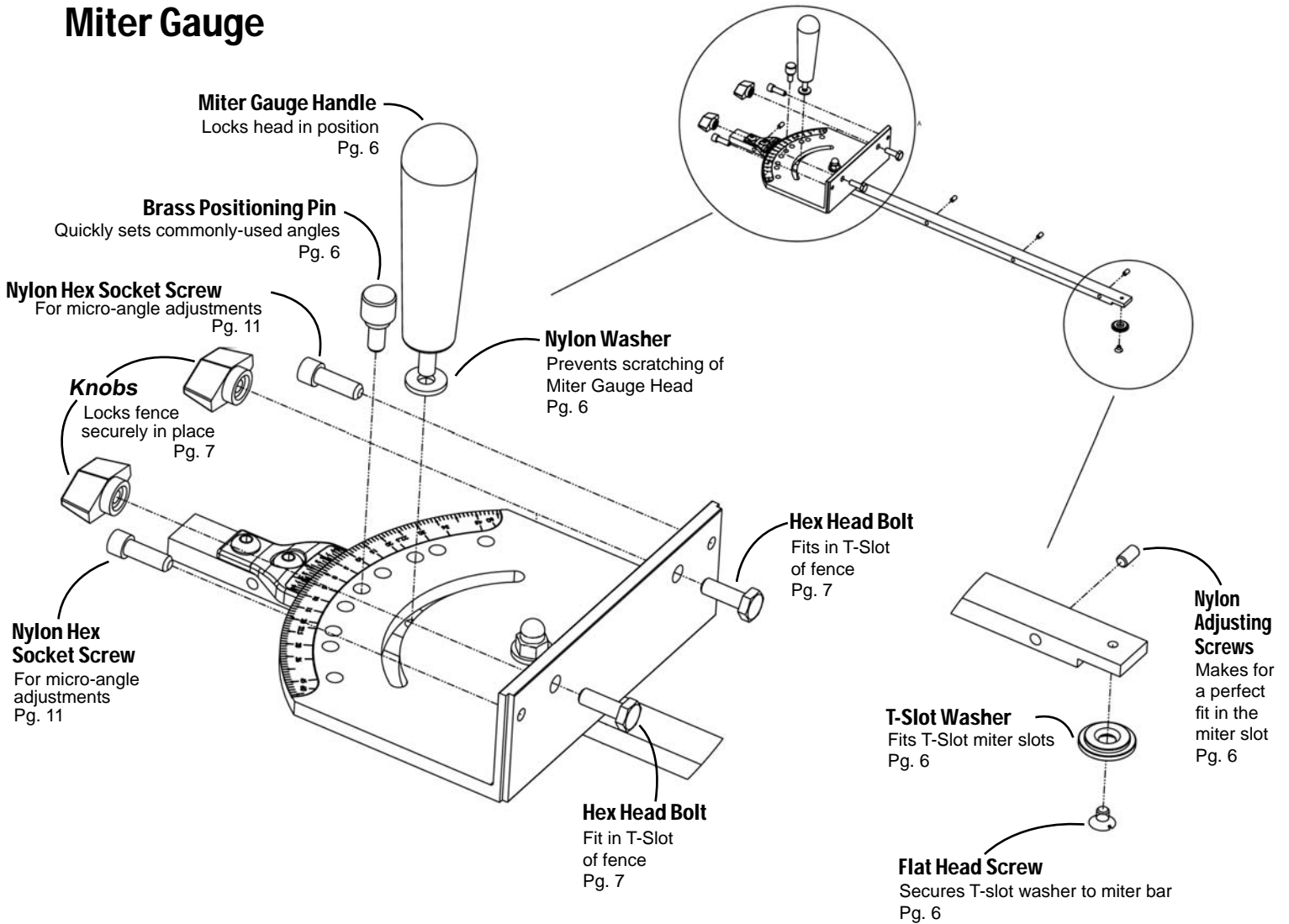
WARRANTY

- Kreg components are fully guaranteed for one year from date of purchase. Please fill out and send in your registration card or register online at www.kregtool.com.
- Kreg will replace or repair, at no charge to the customer, any product that fails within the warranty period.
- Kreg will service Kreg components beyond the warranty period, at a reasonable cost to customer.
- Any neglect, misuse or usage of the Tools in a fashion not recommended by Kreg will void all warranties.
- As with all machinery, there are certain hazards involved with operation and use of the machine. Using the machine with respect and caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may result.

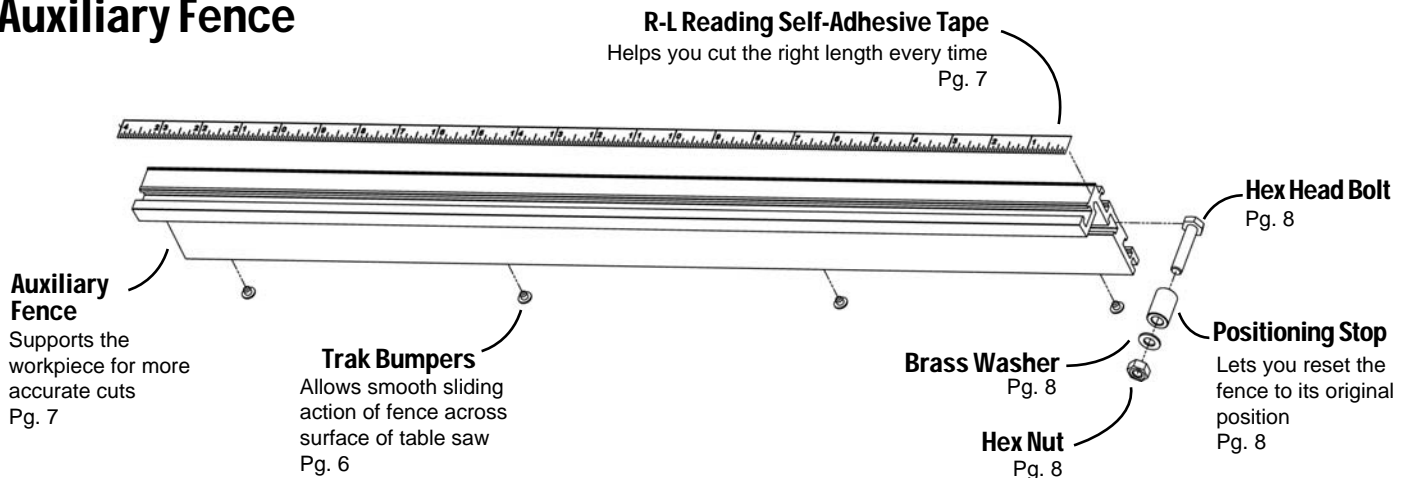
This system was designed for certain applications only. Kreg strongly recommends that this system NOT be modified and/or used for any application other than for which it was designed. If you have any questions relative to its application, DO NOT use until you have written Kreg, and we have advised you.

3 Parts Diagrams



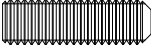
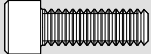




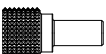

Miter Gauge



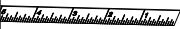






Auxiliary Fence



Miter Gauge Parts Identification

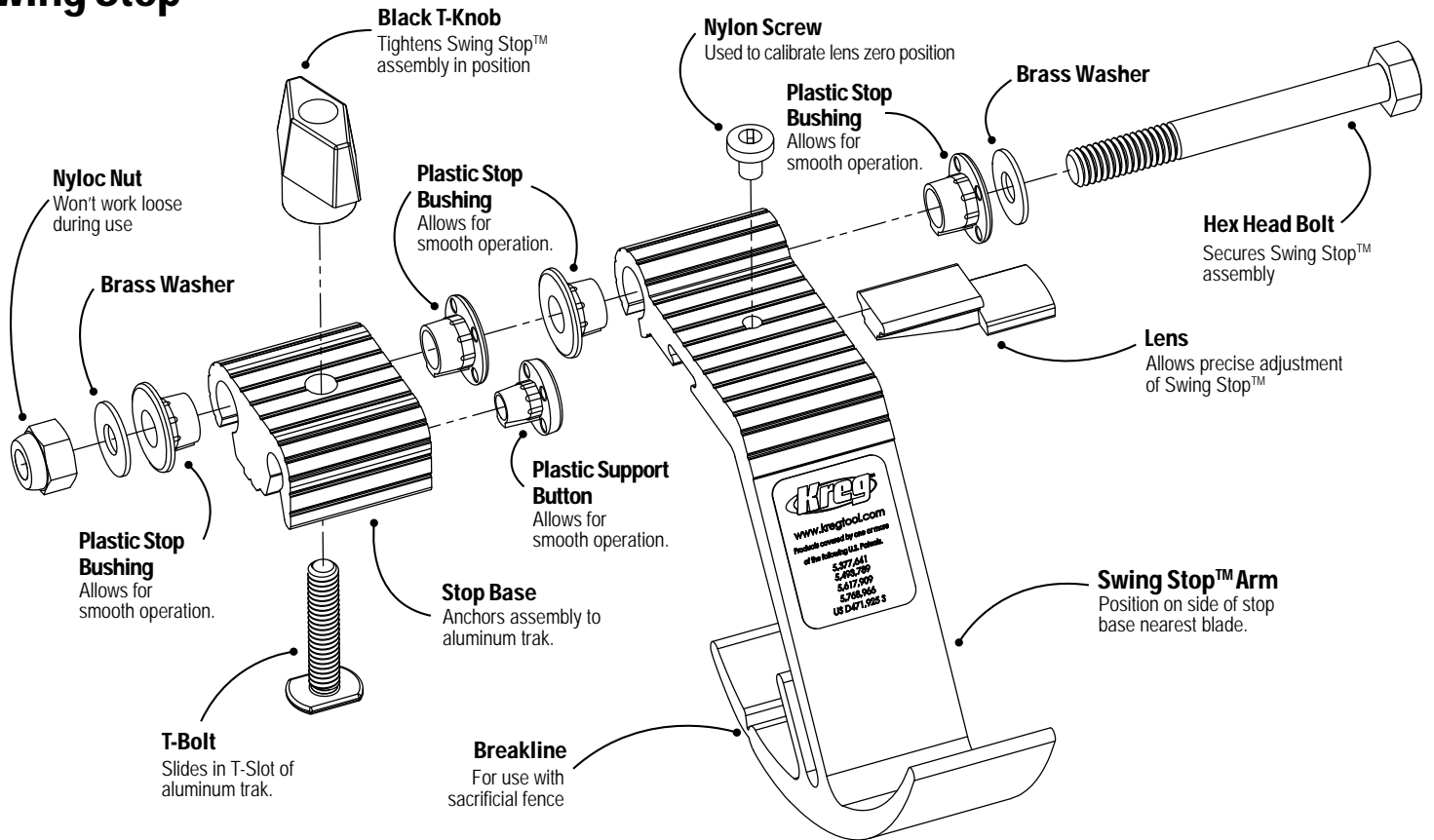
Picture	Name	Dimensions	Qty	Part#
	Black T-Knob		2	DK1313
	Brass Washer	1/4"	1	DK1504
	Nylon Adjusting Screw	10-32 x 5/8"	5	FT4102
	Nylon Hex Socket Screw	1/4"-20 x 3/4"	2	FT4025
	Nylon Washer	1/4"	1	FT4030
	T-Slot Washer		1	FT4057
	Flat Head Screw	10-32 x 5/16"	1	FT4207
	Hex Head Bolt	1/4-20 x 1"	2	FT4139
	Brass Positioning Pin		1	FT4056
	Miter Gauge Handle		1	FT4029

Auxiliary Fence Parts Identification

Picture	Name	Dimensions	Qty	Part#
	R-L Reading Self-Adhesive Tape	4'	1	FT4047
	Positioning Stop for MG Head		1	FT4203
	Hex Head Bolt	1/4 - 20 x 1-1/4"	1	FT4059
	Brass Washer		1	DK1504
	Hex Nut	1/4" - 20	1	DK1510
	Trak Bumpers		6	FT4055
	Auxiliary Fence HD Trak		1	KMS7702

5 Parts Diagrams

Swing Stop™



(*Make sure the Swing Stop™ Arm is on the same side of the Stop Base as the saw blade, drill bit or router bit.)

Swing Stop™ Parts Identification

Picture	Name	Dimensions	Qty	Part#
	Lens		1	FT4063
	Nyloc Nut	5/16" - 24	1	FT4061
	Brass Washer	5/16"	2	FT4137
	Nylon Screw	10-32 x 1/4"	1	FT4064
	Black T-Knob		1	DK1313
	Hex Head Bolt	5/16" - 24 x 3 - 1/4"	1	FT4060
	T-Bolt	1/4" - 20 x 1-1/4"	1	FT4212
	Plastic Stop Bushing		4	FT4257
	Plastic Support Button		1	FT4258

Note

These instructions are for installing the Precision Miter Gauge on the left-hand side of the blade. If you install the Precision Miter Gauge on the right side of the blade, you will need to make appropriate changes in the direction of the Swing Stop™ and the measuring tape. You can use the measuring tape included with the Precision Miter Gauge on the right side of the blade, but it must be installed upside down so that the measurements from the blade will read left to right. Kreg can provide a left-to-right reading version of the measuring tape at an additional cost. Contact our Customer Service Department at 1-800-447-8638 to order one.

INSTALL THE MITER GAUGE HANDLE

As you remove the components from the box, you'll notice that the head of the Miter Gauge is already attached to the Miter Bar. This is done at the factory to ensure accuracy. So, the first thing you'll need to do is attach the Miter Gauge Handle. This will help keep the assembly rigid while you finish putting together your Miter Gauge. To attach the Miter Gauge Handle, rotate the Miter Gauge Head until the threaded hole in the Miter Bar is visible through the slot in the Miter Head (see photo). Then, add the Nylon Washer to the Handle, and thread into the Miter Bar through the Miter Gauge Head, as shown. To make things easier later on, you can set the angle at zero and install the Brass Positioning Pin into the zero-angle positive stop.



Installing Miter Gauge Handle into Miter Bar.

INSERT NYLON ADJUSTING SCREWS

If you look at the sides of the aluminum Miter Bar, you'll see five threaded holes. These are for the Nylon Adjusting Screws, which are designed to custom-fit the bar of the Precision Miter Gauge to your saw's miter slot. Use a small, flat-blade screwdriver to thread the Nylon Adjusting Screws into the holes. It's important to insert them all from the same side. Thread the Nylon Adjusting Screws all the way in until they just start to project out from the other side. Next, place the Miter Gauge in your saw's miter slot and begin to adjust each screw until the Miter Gauge slides smoothly all along the miter slot, without any side-to-side play. The screws should just "kiss" the miter slot, but not apply pressure.



Fine-Tuning Nylon Adjusting Screws.

ATTACH WASHER (FOR T-SLOT MITER SLOTS ONLY)

If your saw has a T-shaped miter slot, you may attach the T-slot washer onto the far end of the miter bar. Fasten it under the notch at the end of the Miter Bar using the flat head screw, and tighten securely, being careful not to strip the screw.

ATTACHING TRAK BUMPERS (OPTIONAL)

There are four small white plastic bumpers (FT4055) included with the Miter Gauge. These bumpers are designed to press into the groove on the bottom of the fence. Once installed, the bumpers reduce drag and help to glide the fence across the top of the table saw.

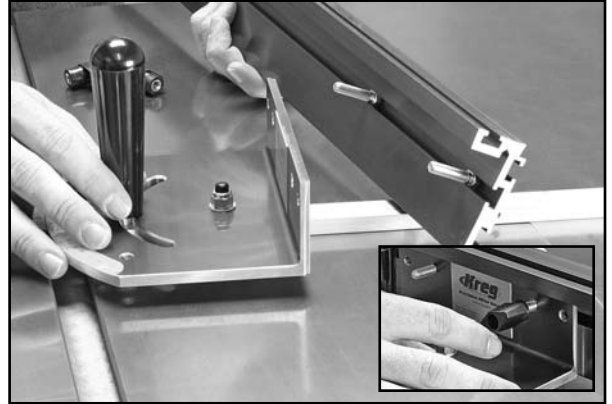


Attaching the T-slot washer.

7 Assembly Instructions

ATTACH FENCE TO MITER GAUGE HEAD

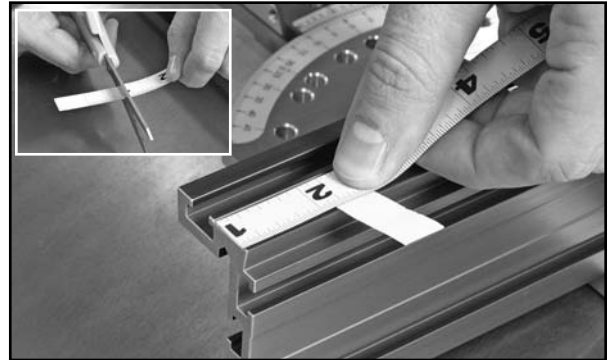
Now it's time to attach the aluminum fence, but you'll need to first make sure it's oriented correctly. If you look at the end of the fence, you'll notice that it's L-shaped. Attach the fence so that the "L" is upside down and the small leg of the "L" faces the handle. (see photo) The trick to mounting the fence is to first slide the hex-head bolts into the t-slot of the fence. These bolts are used to fasten the fence to the face of the miter gauge head. You may need to rotate the bolts slightly, so that the fence slides smoothly over them. Once both of the bolts are attached to the fence, position them to fit into the face of the Miter Gauge head. Slide the bolts in to the corresponding holes (see photo) and secure them with the black T-Knobs. You'll fine-tune the position of the fence later.



Attaching fence to Miter Gauge Head.

INSTALL MEASURING SCALE

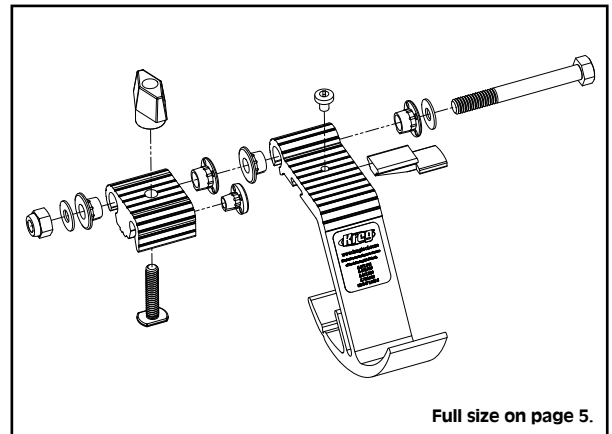
Before you install the measuring scale, make sure the top of the auxiliary fence is clean and dry. Next, you'll need to cut the tape at the 1" mark and the 25" mark. You can do this with a pair of sturdy scissors. Remove the backing from the measuring scale. Carefully align the 1" end of the scale with the end of the auxiliary fence as shown in the photo. It doesn't have to be exact because you'll calibrate the scale later. Press the tape securely in position, keeping the tape aligned with the auxiliary fence. Slide your finger along the scale, pressing firmly to remove any air bubbles. If you attach the scale in the wrong position, remove it immediately and reposition it, pressing firmly all along the scale.



Positioning 1" mark at end of fence.

ASSEMBLE THE SWING STOP™

Use the drawing to the right (or on page 5) to correctly assemble your Swing Stop™. When tightening the final large hex bolt down, tighten it so that the arm can move up and down easily and falls slowly when released. Once correctly assembled, secure the Lens Cursor in place, with the magnified red mark 3/8" from edge of the stop, as shown.



Swing Stop™ Assembly Overview



Swing Stop™ shown properly attached to the fence.

CALIBRATE THE SWING STOP™

Now you can place the Miter Gauge on your table saw, and begin the process of calibrating the Swing Stop™ with the measuring scale.

The first thing you'll do is make sure the miter bar fits in the miter slot, slides easily, but does not "wobble". Next, raise the blade on your table saw. Then, loosen the two knobs on the back of the Miter Gauge, and slide the fence until the end of the fence is about 5/8" from the saw blade (see photo). Tighten the knobs again. You can ignore the measuring scale at this point. The measuring scale is designed to be used with the Swing Stop™ and does not necessarily relate to the distance from the blade. Now, rotate the Miter Gauge fully in both directions to make sure the fence does not come in contact with the blade. If there is interference, loosen the knobs on the back of the fence and slide the fence away from the blade.

Next, use a steel ruler or tape measure to slide the Swing Stop™ to a given distance from the inside edge of the blade. We will be using 3" in this example. Again, you should ignore the measuring scale at this point. Use the steel ruler or tape measure as your guide. Once you have moved the Swing Stop™ 3" from the blade, tighten it to the fence. Now, you can loosen the small nylon screw for the Lens, and slide the Lens so that the cursor is exactly over the 3" mark on the measuring scale.

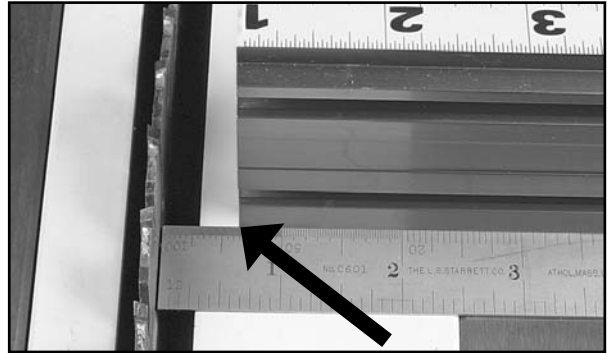
After that is complete, it's time to make some test cuts on some scrap wood and measure their length. To do this, use the measuring scale on the fence to move the Swing Stop™ to a given distance from the edge of the blade. We will be using 10" in this example. Then, slide a longer piece of scrap wood along the fence until the end sits firmly against the Swing Stop™. We will be using a 15" piece in this example. Make the cut and measure the length of the piece that remains against the Swing Stop™. Its length should match the length indicated on the measuring scale. If needed, you can fine-tune the lens to make any corrections until the length of the cut piece matches the length indicated on the scale. Reduce the length of the desired cut and repeat this process until the lens reads accurately.

The Positioning Stop allows you to reposition the fence without the need to re-calibrate the Swing Stop™. You can insert the Hex Head Bolt for the Positioning Stop into the T-slot on the back of the fence. The Positioning Stop should go on the side of the Miter Gauge Head closest to the blade. For example, if the Miter Gauge is positioned on the left side of the blade, the Positioning Stop will be on the right side of the Miter Gauge Head. Assemble the Positioning Stop, and tighten it against the edge of the Miter Gauge Head.

Warning

Left Tilt Saws!

It is especially important to double-check the fence position before using the miter gauge when blade is tilted. Move the fence away from the blade when it is tilted towards the miter gauge. The scale is not accurate on a beveled cut anyway. Always check to see if the miter gauge will hit the saw blade with the saw off!



Position the fence 5/8" from the blade.



Tighten lens into place.



Test Lens Cursors accuracy.

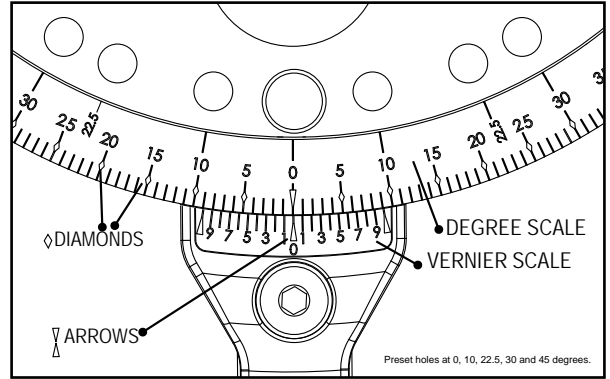


Position Stop installed.

9 Using the Miter Gauge

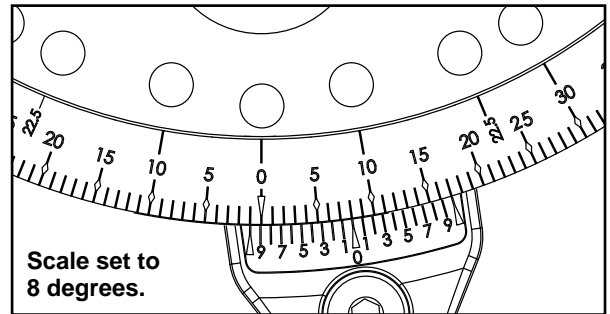
USING THE POSITIONING PIN WITH THE PRESET ANGLE STOPS

Your Miter Gauge has been precision-machined, using state-of-the-art computerized equipment. Precise holes have been drilled at common miter angles to give you repeated accuracy cut after cut. The Brass Pin helps you to quickly set your Miter Gauge to one of these preset angles. Simply loosen the handle and rotate the Miter Gauge Head to the desired angle, then drop the pin in place, and tighten the handle securely. The tapered pin eliminates any play and guarantees accuracy for many years of use.

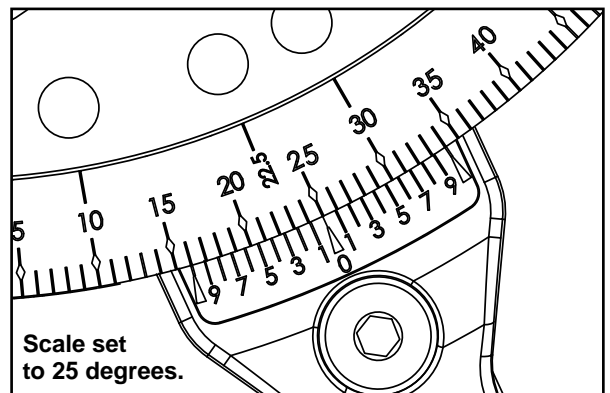


USING THE VERNIER SCALE

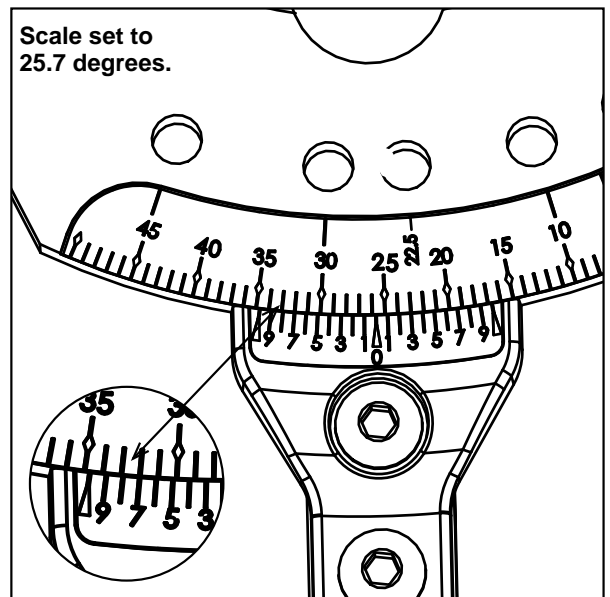
Your miter gauge is equipped with scales that allow you to set any angle to within 1/10 of a degree of accuracy. It's easy to do. To set any whole angle, line up the degree on the upper degree scale with the zero arrow on the lower vernier scale. For example, you can see in the drawing where we've set the angle to 8 degrees. In the next drawing, you can see the miter gauge is set to 25 degrees.



To set an angle to the nearest tenth of a degree, you need to use the Vernier scale. As you can see in the lower drawing, we've set the miter gauge to 25.7 degrees. To do this, start by rotating the Miter Gauge Head so that the arrow on the Vernier scale is lined up with the whole degree (25 degrees in this example).



Next, you need to position the scale to the tenth of a degree. If you were rotating the Miter Gauge Head counterclockwise, find the tenth degree on the left side of the zero on the Vernier scale. Since we're setting the gauge to 25.7 degrees, locate the "7" on the left side of the Vernier scale. Now, slightly rotate the miter gauge head in the same direction until the nearest degree mark on the upper scale aligns with the tenth-degree mark on the Vernier scale. You can see this in the lower drawing. The "7" mark on the Vernier scale is the only mark on the left side that is aligned with a whole degree mark on the upper scale.



Tip

If you are rotating the miter gauge head in the clockwise direction, you'll need to use the tenth-degree numbers on the right of the Vernier scale.

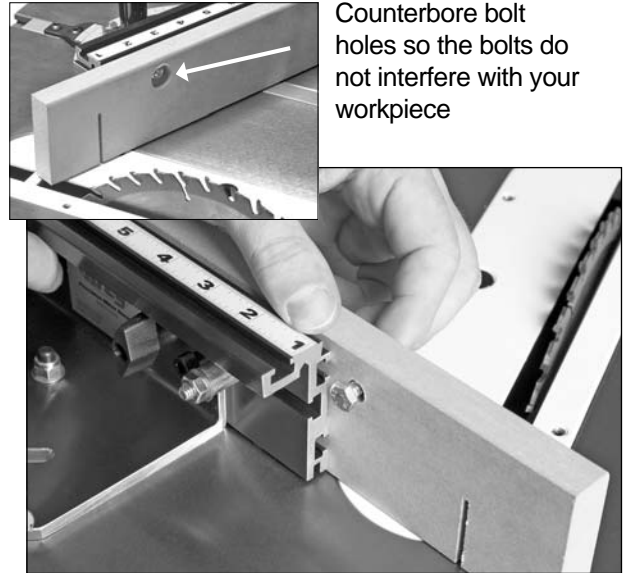
ADDING AN AUXILIARY "SACRIFICIAL" FENCE

You can add shop-built accessories to your Precision Miter Gauge fence. The T-slots along the length of the fence allow you to attach auxiliary fences, custom shop-made stops, or other jigs and fixtures using standard 1/4" hex head bolts. You can also use flange bolts ("toilet bolts") available from any hardware store or home center.

Adding an auxiliary fence to the face of your miter gauge fence is a good way to support a workpiece during a cut. We recommend drilling and counterboring bolt holes on the front of the fence to accept a washer and nut (see photo). You'll want the bolt and nut to sit below the surface of the fence so that they don't interfere with positioning your workpiece.

Note

If you attach an auxiliary fence to your miter gauge, you must modify the Swing Stop™ so that it will seat properly against the fence when it's lowered. This is easy to do by simply breaking off the tab on the bottom of the Swing Stop™, as you can see in the photos. You'll want to file or sand the rough edges before using your Swing Stop™.



T-Slot in fence accepts head of hex bolt.

ABOUT THE SWING STOP™ BREAKLINE

The design of the Swing Stop™ will allow it to work with the addition of a sacrificial board attached to the fence of our Miter Gauge. Sacrificial boards afford a renewable surface to support the workpiece, resulting in a smooth crosscut that minimizes tear-out.

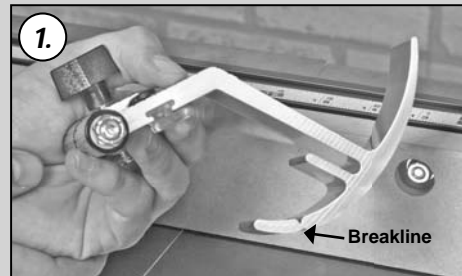
The sacrificial board can be constructed from any material you choose. The board must be 3/4" in thickness and may not exceed 2-5/8" in height. Choose a length that best suits your application. Attach the board to the Miter Gauge Fence with 1/4" diameter, 3/4" long bolts and nuts. Drill 3-4 holes, with counter-bores, large enough to facilitate the bolt, nut, and washer. Using this arrangement, the sacrificial board may be moved along the fence independently of the measuring tape attached to the fence. This eliminates the need to recalibrate the measuring system each time you want to renew the backing surface.

The design of the Swing Stop™ makes it fully compatible with the addition of a sacrificial board to the aluminum fence. A groove (breakline) has been incorporated into the base of the Swing Stop™ Arm. This breakline has been added to provide a simple means to shorten this portion of the Swing Stop™, for use with a sacrificial board. If you intend on using a sacrificial board, remove the breakaway section of the stop, as shown below. We suggest using a file or sandpaper to smooth the rough edge of the Swing Stop™ after breaking it away.

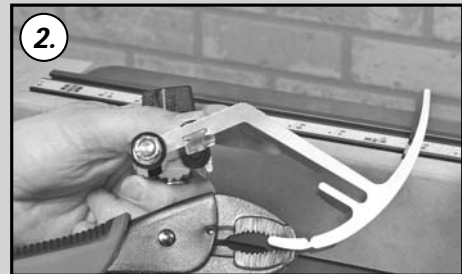
Warning

Once the Swing Stop™ has been altered, it can only be used with a sacrificial fence on the Miter Gauge. It will not work correctly if used without a sacrificial fence.

3 Simple Steps



First, hold the Swing Stop™ firmly in your hand. You may also use a vice.



Second, use a pliers to grip the break-away portion of the Swing Stop™ and simply "snap" that piece off.



Third, file or sand off the rough edge of the Swing Stop™.

11 Micro-Adjust Feature

HOW THE MICRO-ADJUST WORKS

The micro-adjust mechanism works by changing the spacing between the fence and the miter gauge. For every 0.001" of space you add, you increase the angle 1/100 deg. You add the space by turning a nylon screw that pushes the fence away from the miter gauge.

REALITY CHECK

Before taking the time to set the micro-adjust, do a reality check to see if the 1/100 deg. will really show. 1/100 deg. is a very fine adjustment and is seldom necessary on most woodworking projects. 1/100 deg. is only a 0.001" gap over a 5.7" length of cut.

Example #1: 7 Sided Jewelry Box

The angle you need for a seven sided box is 25.71 deg. The sides of the box are 1/2" thick. Micro-Adjusting for the 1/100 deg. would eliminate a gap of less than 1/10,000." Forget it, a gap that small is meaningless. Just set your miter gauge to 25.7 deg. and go to work confident you will have a gap free project.

Example #2: 21 Sided Top for 7 Sided Jewelry Box

Now let's assume you are going to put a very fancy top on the 7 sided jewelry box. You are using 3 different woods on each side to create a burst of color, which creates 21 segments.

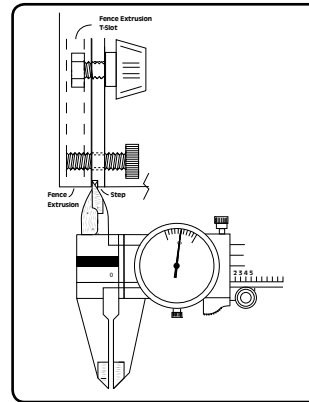
The angle you need for 21 segments is 8.57 deg. Each segment is 12" wide. Micro-adjusting the 7/100 deg. will eliminate a gap of 0.015" on each joint. This calculation assumes each joint will have an equal gap.

In real life, the gaps will be much larger. When you clamp the segments together, the clamps will usually push two sides tightly together, leaving twice the gap on the next joint. That is a gap of .029". You can put six sheets of paper into a gap that large. Six sheets of paper is a gap that will definitely show.

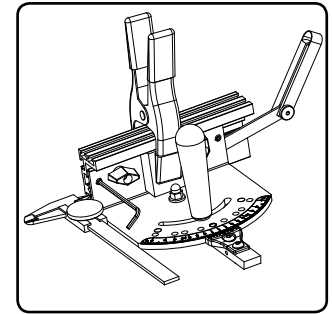
Many woodworkers will try to fill gaps like this with glue or putty. But if you can build pieces that fit together tightly, people will definitely notice the difference!

Summary

Take the time to set the micro-adjust on wide boards, especially if you need to add 3/100 deg. or more. Don't bother on thin pieces or if you only need to add 1/100 deg.



Set micro-adjust with dial caliper.



Set micro-adjust with dial caliper or feeler gauge.

SETTING THE MICRO-ADJUST

When using the micro-adjust, it is much easier to set your angle on the left side of the scale, as pictured above. If you must use the right side of the scale, you will need to remove the positioning block from your fence and you will be moving the fence a lot that may affect the accuracy of your micro-adjust setting.

Setting the Micro-Adjust using Feeler Gauges

- 1) Set the angle to the nearest 1/10 deg.
- 2) Place a small block of wood on the miter gauge & use a spring clamp to hold the fence in position.
- 3) Loosen the plastic knobs that attach the auxiliary fence.
- 4) Turn out the plastic micro adjuster screw until it pushes against the fence. You may need to use a 3/16" Allen wrench to turn the micro adjuster screw against the pressure of the spring clamp. Keep turning it until you can just insert the correct size feeler gauge between the fence and the miter gauge.
- 5) Tighten the plastic knobs.
- 6) Try to remove the Feeler Gauge. If it just slides out, you are done. However, you may have to slightly loosen the plastic knob next to the micro adjuster and turn out the micro adjuster screw to get the exact setting.

Setting the Micro-Adjust using a Dial Caliper

- 1) Set the fence even with the edge of the miter gauge.
- 2) Set the angle to the nearest 1/10 deg.
- 3) Place a small block of wood on the miter gauge & use a spring clamp to hold the fence in position.
- 4) Loosen the plastic knobs that attach the auxiliary fence.
- 5) Place a dial caliper in the notch and zero the scale.
- 6) Turn out the plastic micro adjuster screw until it pushes against the fence. Keep turning it until the dial indicator reads the correct spacing. You may need to use a 3/16" Allen wrench to turn the micro adjuster screw against the pressure of the spring clamp.
- 7) Tighten the plastic knobs and remove the spring clamp.

Design Note

The micro-adjust is designed so that the nylon screws line up with the t-track slot. You have to turn the nylon screws a long way before they actually engage the auxiliary fence and start to change the angle. This design minimizes the chances you will accidentally add an adjustment to the angle you are setting.