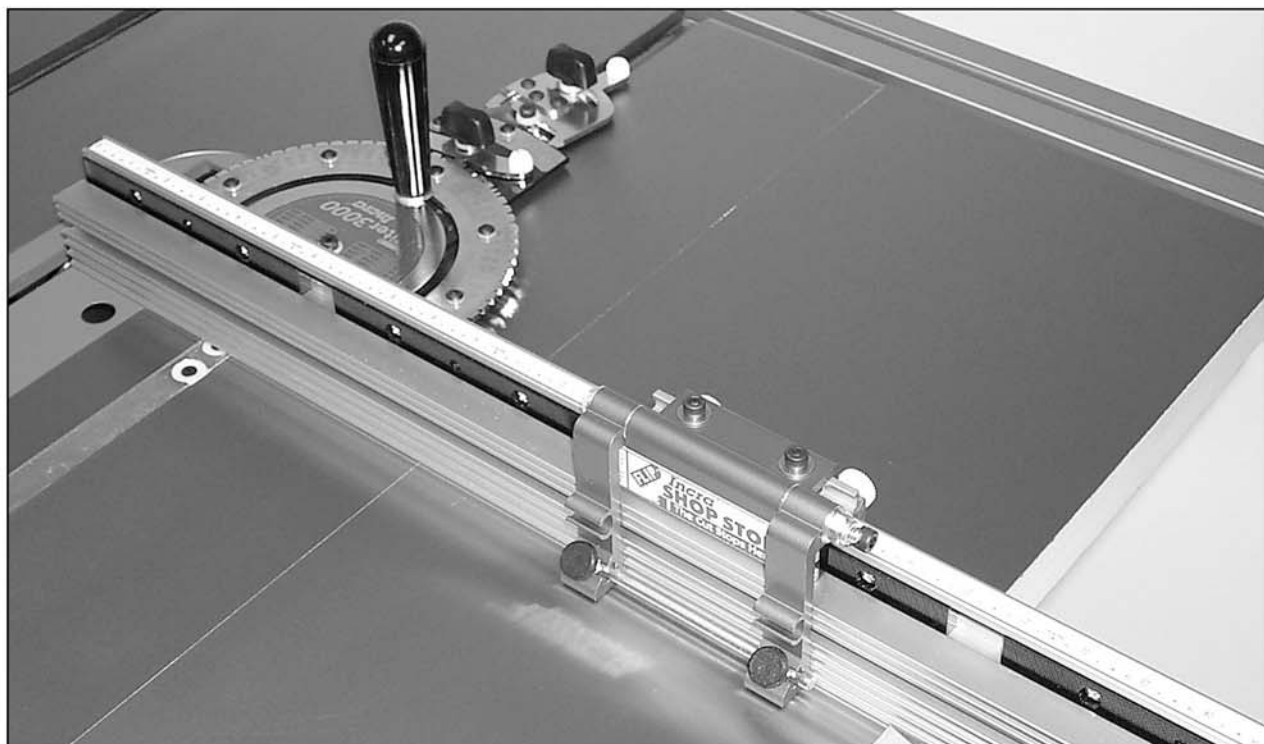


# Miter3000™

by **Incra**®

## OWNER'S MANUAL

*Please read this owner's manual before use and keep it at hand for reference.*



### Warranty

Taylor Design Group, Inc. warrants this product for one year from date of purchase. We will repair any defects due to faulty material or workmanship, or at our option, replace the product free of charge. Please return the failing component only, postage prepaid, along with a description of the problem to the address on the back. This warranty does not apply to parts which have been subjected to improper use, alteration, or abuse.

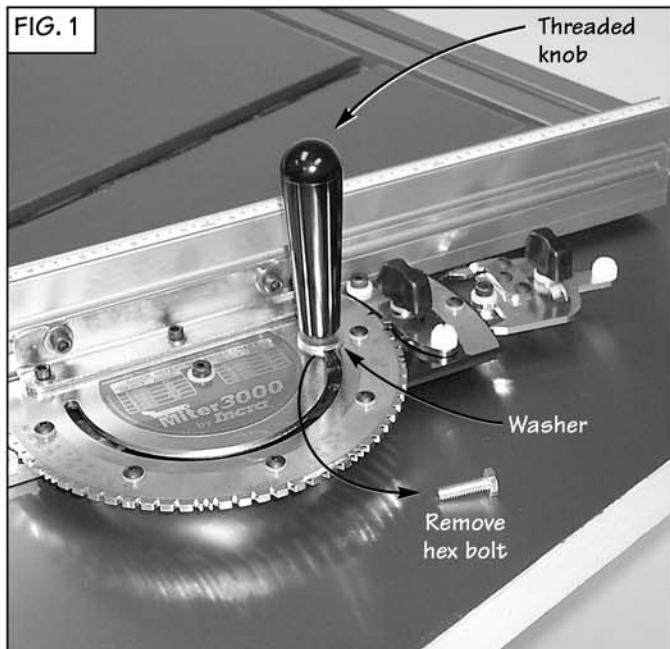
### Safety

*Important safety instructions for using the INCRA Miter3000*

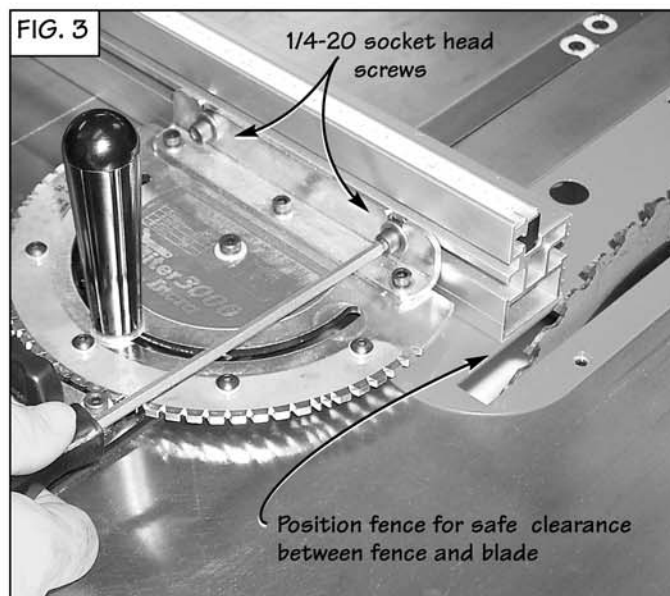
- Before using the INCRA Miter3000, read and follow all of the instructions and safety information in this owner's manual.
- When using the INCRA Miter3000 in conjunction with any other tool, first read and follow all instructions and safety information in that tool's owner's manual.
- Never let the saw blade come in contact with the aluminum or steel components of the INCRA Miter3000.
- When using the INCRA Miter3000, always keep your hands clear of the saw blade and the line of cut.
- Always turn off the power and make sure that the saw blade comes to a complete stop before changing the setting of any part of the INCRA Miter3000.
- Always securely tighten the large black clamping knob before starting any cut.
- Wear safety glasses, hearing protection, and follow all normal shop safety practices.
- After making any adjustments to the miter angle or fence position of your INCRA Miter3000, always verify safe clearance between the blade and fence before turning on the saw.
- After making any adjustments to the fence position on the INCRA Miter3000, always make sure that the two socket head screws are securely tightened.
- When using the INCRA Flip Shop Stop to position a piece for a cut, always hold or otherwise clamp the board between the stop and the blade.

## Assembly

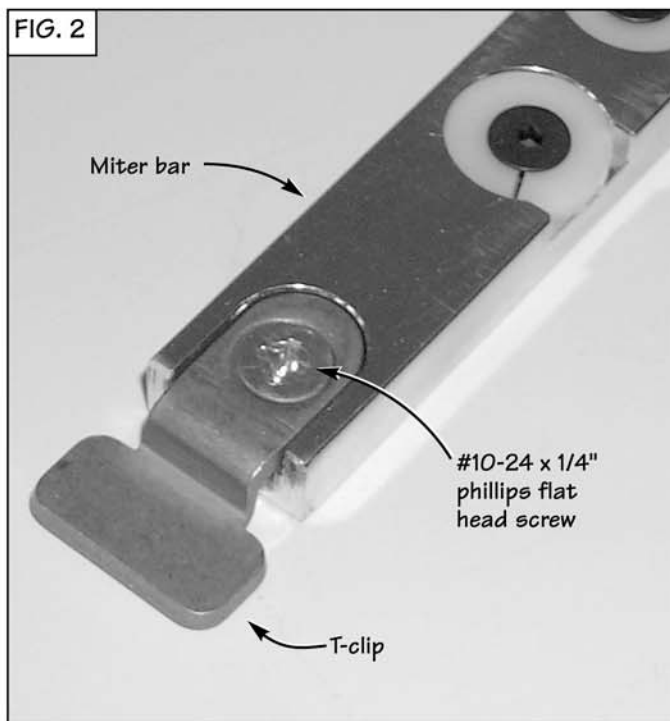
- 1 Remove the hex bolt that secures the protractor head and replace with the large threaded knob included in the hardware pack. The washer on the hex bolt must be used with the threaded knob, **Fig. 1**.



- 2 Place the INCRA Miter3000 in the left-hand miter slot of your table saw. Loosen the (2) 1/4-20 socket head screws that secure the fence to the fence mounting bracket and slide the fence to a position that leaves safe clearance between the end of the fence and the blade. Tighten the (2) 1/4-20 fasteners, **Fig. 3**.



If the miter slot in your table saw has a T-slot, attach the T-clip to the end of the miter bar as shown in **Fig. 2**.



## TIP

### Squaring the fence to your table saw top

The method used to join the fence mounting bracket to the protractor head makes it easy to fine-tune the fence perfectly perpendicular to your tabletop. To adjust, loosen the (3) #10-24 socket head screws that secure the bracket and slide a paper or plastic shim between the bracket and the protractor head. Placing the shim behind the screws will decrease the angle. Placing the shim in front of the screws will increase the angle.

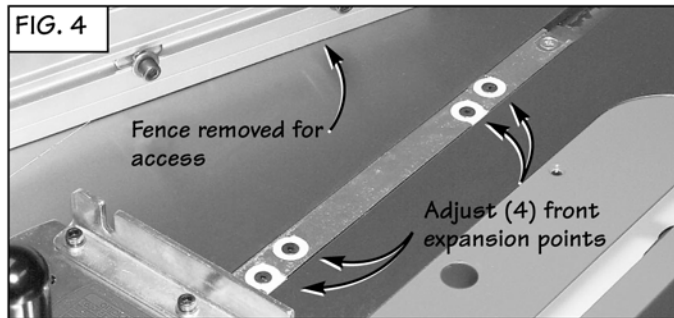




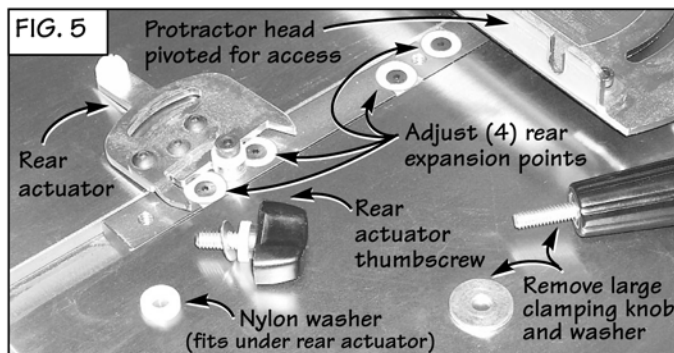
## Calibration

### Adjust the Miter Bar

**1** Adjust the miter bar at each of the (8) expansion mechanism locations for a good fit in your table saw's miter slot. Turning the screw clockwise expands the mechanism. You'll find (3) of the expansion locations in front of the fence and (1) underneath the fence. (You'll need to remove the fence for access.) Adjust these (4) front expansion points first, expanding a little at each of the locations until the bar slides smoothly, **Fig. 4**.



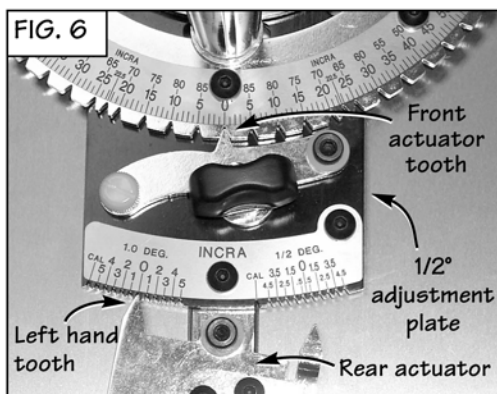
Remove the large clamping knob and disengage the rear actuator tooth from the  $1/2^\circ$  adjustment plate. Pivot the protractor head to gain access to (3) of the rear expansion points. To gain access to the final rear expansion point, remove the rear actuator thumbscrew and pivot the actuator, **Fig. 5**. After adjustment, replace the rear actuator thumbscrew, re-engage the rear actuator tooth to the  $0^\circ$  notch on the  $1/2^\circ$  adjustment plate, then replace the large clamping knob, washer and fence.



### Adjust Fence Mounting Bracket $90^\circ$ to Saw Blade

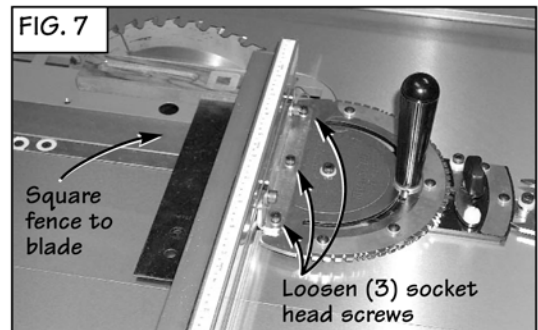
**2** Loosen the large clamping knob and make sure that the rear actuator left-hand tooth is engaged firmly with the  $0^\circ$  notch on the  $1/2^\circ$  adjustment plate. Engage the front

actuator tooth with the  $0^\circ$  notch located on the protractor head, **Fig. 6**. Tighten the front actuator thumbscrew then tighten the large clamping knob.



Using the supplied  $5/32"$  hex key, loosen the (3) socket head screws that secure the fence mounting bracket to the protractor head. Unplug your table saw, then use a reliable machinist square to set the fence at  $90^\circ$  to the saw blade, **Fig. 7**.

Tighten the (3) socket head screws.



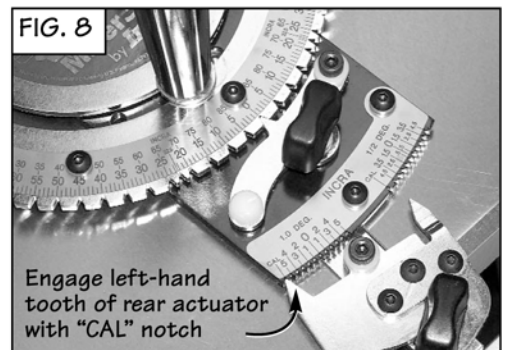
This one-time calibration prepares your INCRA Miter3000 for work in either miter slot. Just remember that the accuracy of the INCRA Miter3000 at any subsequent setting is dependent upon the accuracy of your initial  $90^\circ$  calibration. **Verify this important calibration with a test cut and fine tune as necessary.**

### 3 Calibrating the $1/2^\circ$ Indexing Tooth

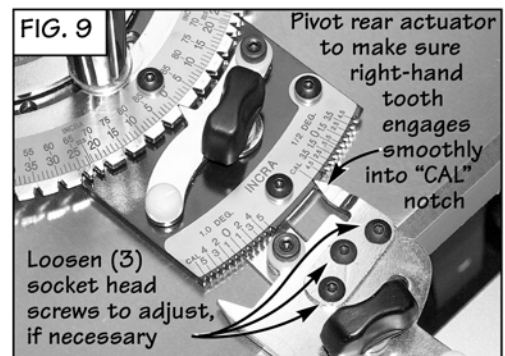
The  $1/2^\circ$  indexing tooth located on the rear actuator is factory calibrated and should require no further adjustment. Follow the instructions below should you wish to check the calibration or re-calibrate.

Loosen the large clamping knob and the rear actuator thumbscrew.

Engage the left-hand tooth of the rear actuator firmly with the notch marked "CAL" on the rear scale and hold while you tighten the large clamping knob, **Fig. 8**.



Now pivot the rear actuator to engage the right-hand tooth with the notch marked "CAL" on the rear scale, **Fig. 9**. If adjusted properly, it will pivot perfectly into the notch. To adjust, loosen the (3) socket head screws that secure the tooth and fine-tune the position to align with the "CAL" notch. Pivot back and forth between the two "CAL" notches to verify the calibration.

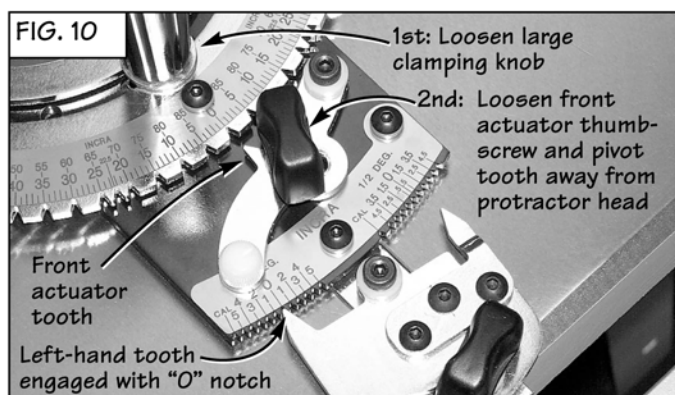


## Operation - Changing Angle Settings

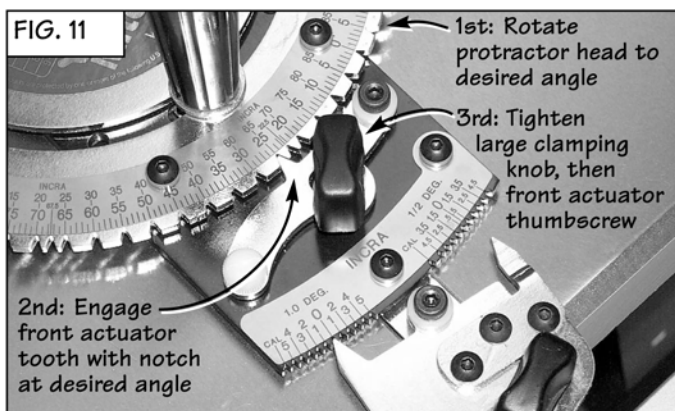
The dual actuator design of the INCRA Miter3000 provides two levels of adjustment. The front actuator is used for coarse adjustments ( $5^\circ$ ), while the rear actuator is used for fine adjustments ( $1/2^\circ$ ). For most mitering work, you'll have the left-hand tooth of the rear actuator engaged at  $0^\circ$ , while you make angle changes using only the front actuator. When using the rear actuator for fine adjustments, you are simply adding or subtracting from the coarse adjustment setting.

### Five-degree Indexing (including $22.5^\circ$ and $67.5^\circ$ settings)

**1** Loosen the large clamping knob and make sure that the rear actuator left hand tooth is engaged in the  $0^\circ$  notch on the  $1/2^\circ$  adjustment plate. Loosen the front actuator thumbscrew and pivot the actuator tooth away from the notches located on the protractor head, Fig. 10.



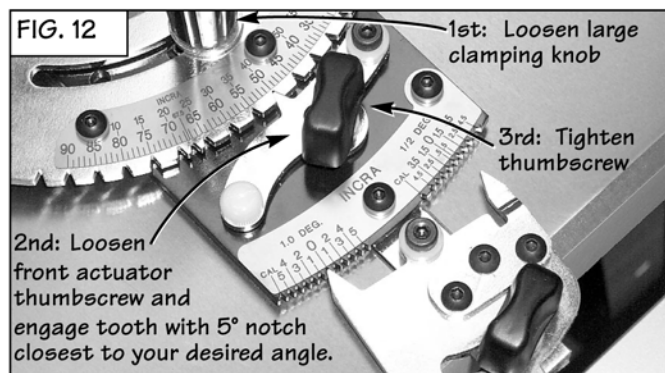
**2** Rotate the protractor head to the desired angle, then firmly engage the tooth on the front actuator with the corresponding notch on the protractor head. The actuator tooth should point directly to the desired angle on the scale. Tighten the large clamping knob, then tighten the front actuator thumbscrew, Fig. 11.



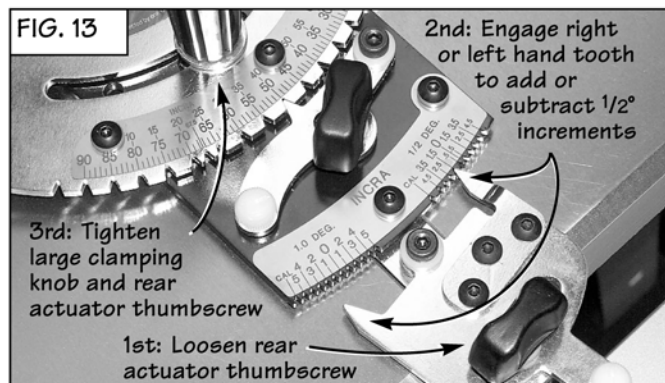
**Caution:** After making any adjustments to the miter angle of your INCRA Miter3000, always verify safe clearance between the fence and the blade before turning on the saw.

### $1/2^\circ$ Indexing

**1** Loosen the large clamping knob. Loosen the front actuator thumbscrew and pivot the actuator tooth away from the notches located on the protractor head. Rotate the protractor head and engage the front actuator tooth at the  $5^\circ$  notch closest to the angle you want. Tighten the front actuator thumbscrew, Fig. 12.



**2** Loosen the rear actuator thumbscrew. Use the left-hand tooth to add or subtract from the coarse adjustment setting in  $1^\circ$  intervals. Use the right-hand tooth to add or subtract from the coarse adjustment setting in  $1/2^\circ$  increments. Engage the tooth firmly in the selected notch, then tighten the large clamping knob and the rear actuator thumbscrew, Fig. 13. **Important:** After completing your cut, don't forget to return the rear actuator setting to the  $0^\circ$  notch.



### Continuous Adjustments

For angle settings finer than the  $1/2^\circ$  settings, first use the  $1/2^\circ$  indexing instructions above to locate the protractor head as close as possible to the desired angle. With the large clamping knob loosened, pivot the rear actuator tooth slightly away from the notch on the  $1/2^\circ$  adjustment plate. Rotate the protractor head in the direction of required adjustment and tighten the large clamping knob. Do not tighten the rear actuator thumbscrew. As with any mitering tool, odd angle adjustments may require a little trial and error.

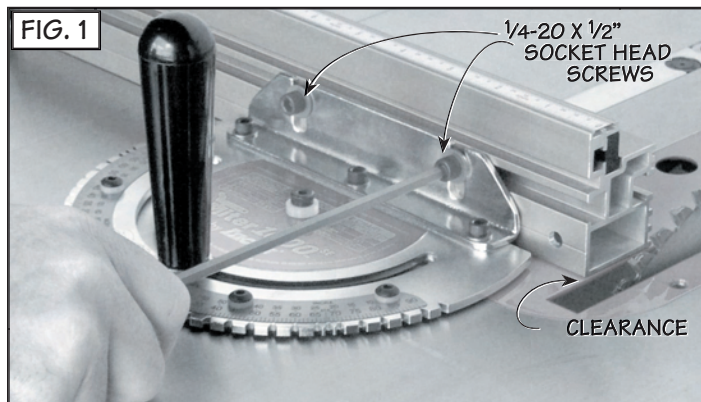
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## "SPECIAL EDITION" Telescoping Fence Addendum

Your new "Special Edition" INCRA Miter Gauge now includes a telescoping fence and Flip Shop Stop. These upgrades **replace** the fence and stop described in the owners's manual. Follow the steps below to set up and use your telescoping fence.

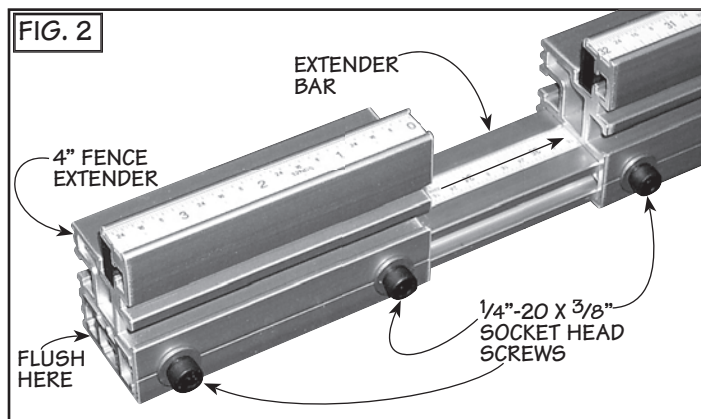
### 1 Attach Fence to Miter Gauge

Using the (2)  $\frac{1}{4}$ -20 x  $\frac{1}{2}$ " socket head screws with washers and rectangular nuts, attach the fence to the fence mounting bracket. Slide the fence to a position that leaves safe clearance between the fence and blade, then tighten the (2) fasteners, **Fig. 1**.



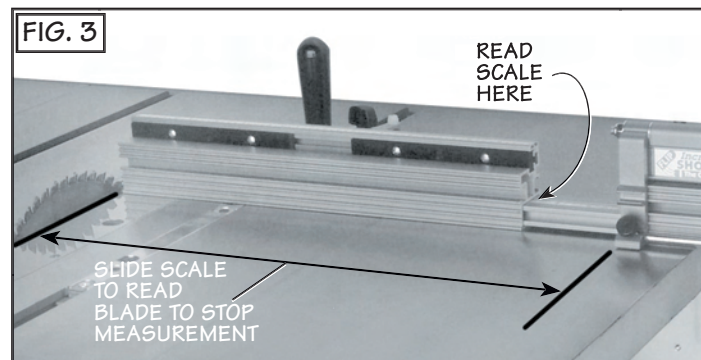
### 2 Fence Extender Assembly

Loosely install (1)  $\frac{1}{4}$ -20 x  $\frac{3}{8}$ " socket head fastener with washer and rectangular nut to the left end of the fence and slide extender bar into fence with the scale face up. (The higher numbers on the scale should go in first.) Loosely install (2)  $\frac{1}{4}$ -20 x  $\frac{3}{8}$ " socket head screws with washers and rectangular nuts to the 4" fence extender and slide onto the end of the extender bar. Position the 4" fence extender flush with the end of the extender bar and tighten all (3) fasteners, **Fig. 2**.



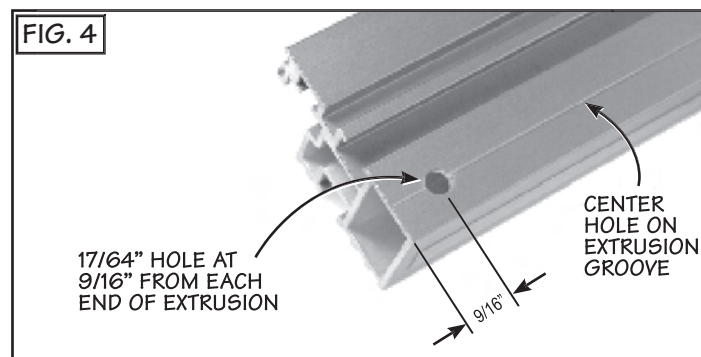
### 3 Fence Extender Operation

For stopped cuts beyond the range of the standard fence, clamp the INCRA Flip Shop Stop to the 4" fence extender. Now loosen the  $\frac{1}{4}$ -20 socket head screw located at the left end of the fence and slide the 4" fence extender to the left. Tighten the fastener when you reach the desired scale reading. To set the scales for accurate readout, set the protractor to the desired angle, then measure the distance between the blade and the stop surface on the flip arm. Slide the scale to read this measurement directly under the end of the fence, **Fig. 3**. Slide the extender bar out to also adjust the overlapping scale if required.



#### NOTE:

If you are adding the fence extender bar and 4" fence piece to an existing FlipStop fence, it is necessary to drill a  $\frac{17}{64}$ " diameter hole (clearance hole for  $\frac{1}{4}$ -20 fastener) **at each end** of your FlipStop fence using the dimension shown in **Fig. 4**. The hole should be centered on the groove located on the FlipFence extrusion.





# Flip Shop Stop Instructions

## Introduction

As you look at your new INCRA Flip Shop Stop and fence for the first time you will no doubt see a most interesting detail. The front face of the fence uses a tongue and groove arrangement to accept a mating feature on the flip arms. When the flip arm is down with the two opposing tongue and grooves engaged, it becomes impossible for the sharp corner of a mitered board end to wedge between the fence and flip arm. Combined with the already famous incremental positioning capabilities of the Incra saw-toothed racks, you'll soon be duplicating cut off lengths with machine shop precision.

## Micro Adjusting

Micro adjusting your stop position can be accomplished in a variety of ways. Use the supplied hex tool to loosen the two socket head screws located on the top of the stop body and then turn the micro adjust socket head screw to fine tune the stop position.

**Fig 1.** When unscrewing the micro adjust screw, apply pressure to the stop body to keep it against the screw end. After adjustment, always tighten the two socket head screws on top of the stop body.

When using the stop rods in the flip arms, another way to micro adjust is to simply shift the position of the rod. A dual rod setup can provide the most controlled means of adjusting. Place a short rod in one flip arm and a long rod in the other, then slide the rods to contact each other between the two flip arms before tightening the thumbscrews. With this setup in place, one rod will be in a "backup" position to the actual "stop" rod. **Fig. 2.**

To micro adjust the stop rod forward, loosen the thumbscrew that secures it and place a shim or spacer, equal in thickness to the adjustment required, between the backup and the stop rod. Slide the stop rod against the shim and tighten the thumbscrew. **Detail 2.**

To micro adjust the stop rod backward, first loosen the backup rod and place the shim or spacer between the backup and stop rods. Slide the backup rod against the shim and tighten the thumbscrew. Remove the shim, loosen the stop rod thumbscrew, slide the stop rod to contact the backup rod and tighten in place.

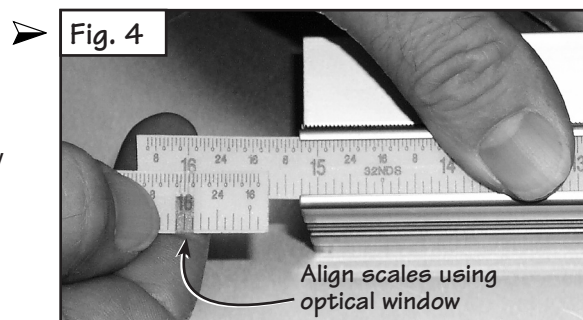
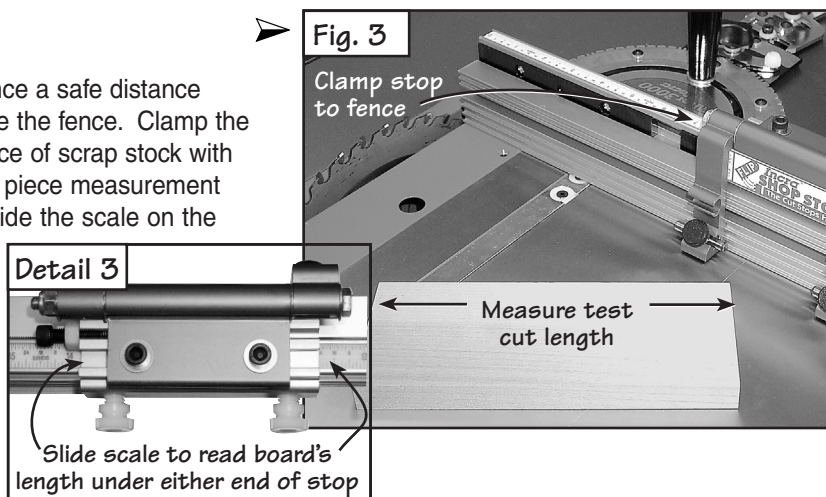
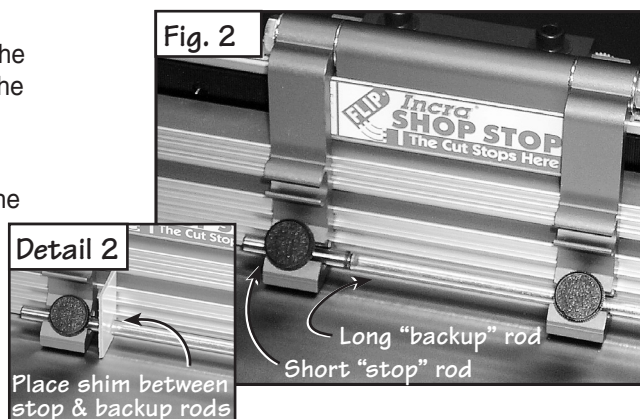
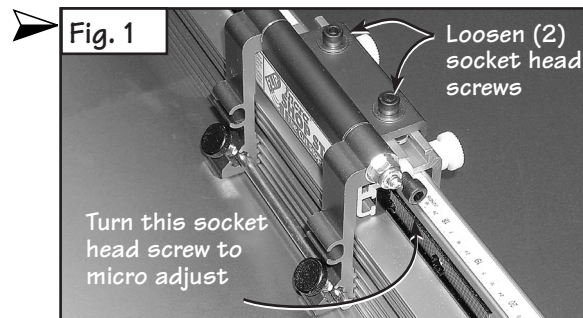
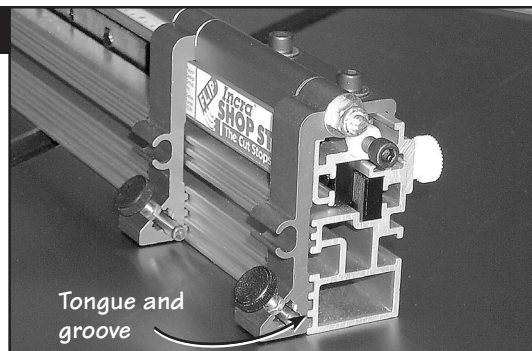
## Zeroing to the Blade

To zero the stop and scale to the blade, begin by locating the fence a safe distance from the blade and tightening the socket head screws that secure the fence. Clamp the stop to the fence about 10" away from the blade. Crosscut a piece of scrap stock with this setup. Measure the length of the cut piece. **Fig 3.** If the cut piece measurement is some multiple of  $\frac{1}{32}$ " (i.e.:  $10\frac{1}{32}$ ",  $10\frac{1}{16}$ ",  $10\frac{3}{32}$ ",  $10\frac{1}{8}$ " etc.), slide the scale on the fence to read the length of the piece directly under one end of the stop. **Detail 3.**

If the cut piece measurement is not a multiple of  $\frac{1}{32}$ " (example:  $10\frac{1}{64}$ "), micro adjust the stop forward  $\frac{1}{64}$ ", and recut the board. When the test cut measurement equals some multiple of  $\frac{1}{32}$ ", slide the scale on the fence to read the length of the piece directly under one end of the stop. **Note:** When zeroing the scale for mitering setups, the test cuts must be made with the fence locked to the selected angle.

## About your Fence Scales

All INCRA products use overlapping 16" long Lexan scales. The overlap allows fine-tuning the scale from one end to the other to agree with the high degree of accuracy provided by the Incra saw toothed positioning racks. These scales are printed initially in 16" lengths (0-16", 16-32", 32-48" etc.). As they are slid into the scale slot on the fence, the ends are overlapped and aligned using the optical window located at the end of the second scale. **Fig 4.** The friction fit will keep the scales in place. If you wish, you can use a small piece of double faced tape at the overlap to ensure that the scales move together when changing your zeroed setups for mitering.



## Flip Arms and Stop Rods

The dual flip arms and stop rods provided permit a variety of stop configurations. The flip arms can be used without the stop rods when you want to take advantage of the fence/arm tongue and groove feature for stop control on mitered board ends. Typically you will use the longer rod to join the two arms together. **Fig 5.** This produces an arrangement that, when pivoted, moves both arms simultaneously. The rod can be positioned so that it is the actual stop surface or it can be positioned slightly behind the front of the arm so that the aluminum arm is the actual stop surface.

By placing one of the shorter 1 1/2" rods in each of the two stop arms, you can use the two stop arms independently. **Fig 6.** For example, you can calibrate one for work to the left of the blade and the other for work to the right. On one side of the blade you might want to position the stop rods to provide two different cut off lengths from one position. Just pivot the arm nearest the blade up and the second arm is ready. By using varying combinations of long or short rods you can create as much as 7 3/4" between the two stop positions.

## Expanded Clamping Mode

The two part body design of the INCRA Flip Stop allows for the use of a 3/4" wooden subfence. The subfence can be used to provide tear out control as well as support for your workpiece up to and beyond the blade. To expand the Incra Flip Shop Stop, loosen the two socket head screws located on the top of the stop body, then slide the upper portion of the stop off. Now slide the upper portion back on, capturing the rectangular nuts in the second T-slot located on the lower portion of the stop body, **Fig 7.**

## Making a Zero Clearance Wooden Subfence

A good material to use for making your zero clearance subfence is 3/4" medium density fiberboard (MDF). Use the drill and counterbore dimensions shown to the right. **Fig 8.** Adjust the length of the fence to accommodate your application.

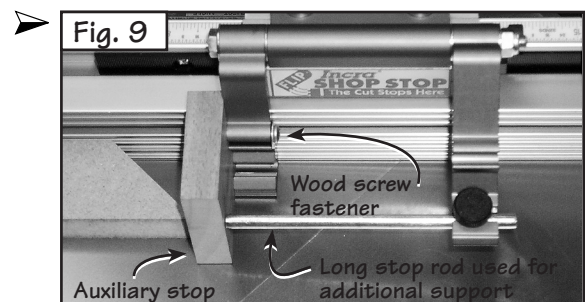
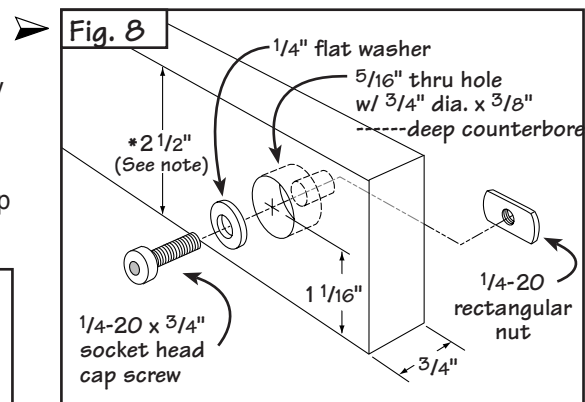
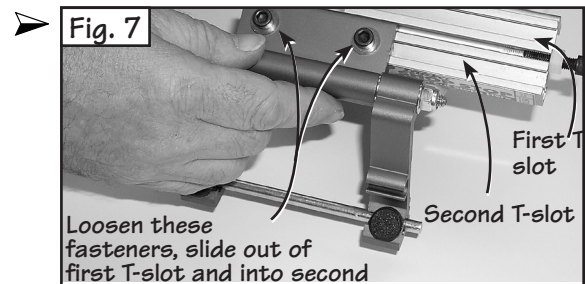
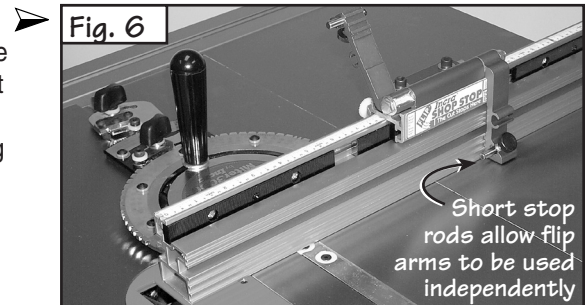
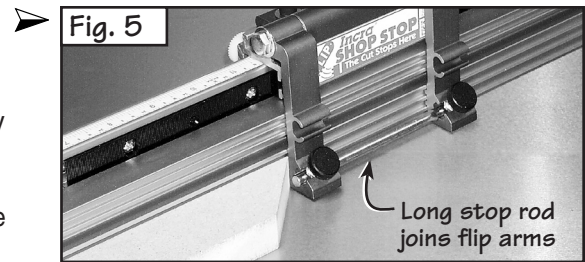
**\*Note:** In applications where the incremental stopping capability of the Flip Shop Stop is required, the wooden fence can be no taller than 2 1/2".



*To avoid the saw blade pulling your workpiece into the cut, add a strip of adhesive backed sandpaper to the front face of the wooden subfence.*

## Making a Wooden Auxiliary Stop Surface

In some applications you may discover that making and attaching a wooden stop surface to one of the flip arms can be beneficial. Use a wood screw to attach the wooden auxiliary stop through the slotted hole located midway up the flip arm. You can equip the second flip arm with the longer stop rod to provide outboard support for the auxiliary stop. **Fig 9.**



## WARRANTY

Taylor Design Group, Inc. warrants this product for one year from date of purchase. We will repair any defects due to faulty material or workmanship, or at our option, replace the product free of charge. Please return the failing component only, postage prepaid, along with a description of the problem to the address below. This warranty does not apply to parts which have been subjected to improper use, alteration, or abuse.

### LIFETIME WARRANTY ON POSITIONING RACKS

If an INCRA positioning rack in this tool becomes damaged for ANY reason, Taylor Design Group will replace it free of charge for as long as you own your tool. Return the damaged rack, postage prepaid, and allow 1 to 2 weeks for delivery.