

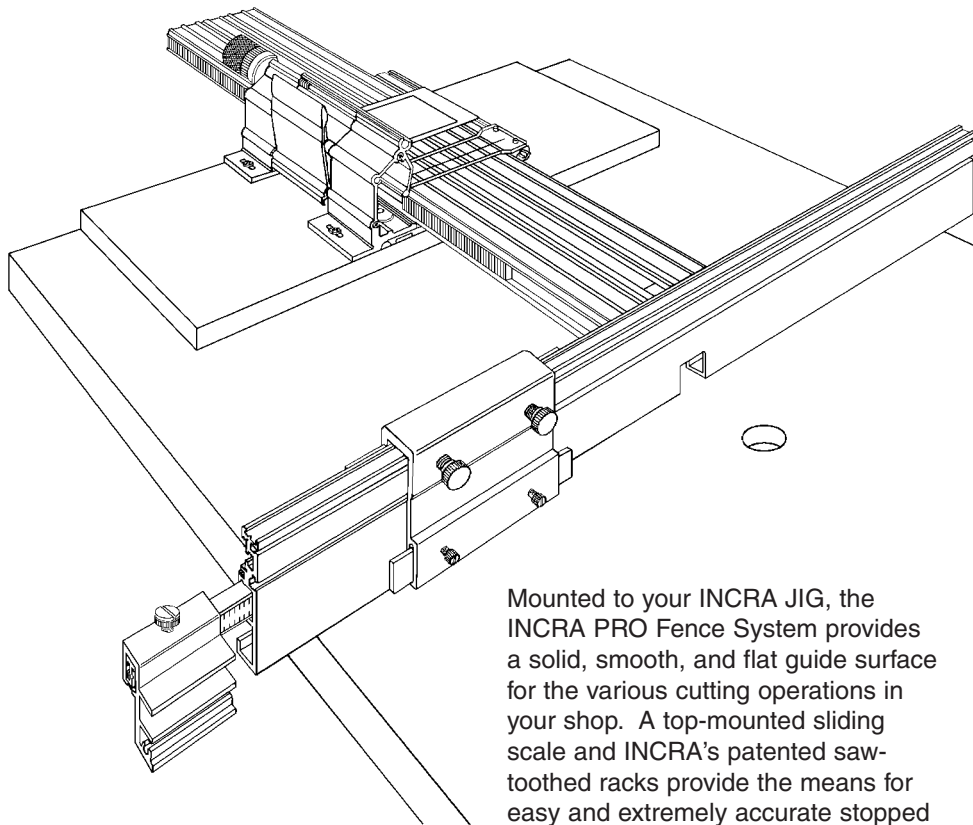
Incra[®] PRO Fence System

Please be sure to read this Owner's Manual before use and keep it at hand for future reference.

SAFETY

Important safety instructions for using the INCRA PRO Fence System

- Before using the INCRA PRO Fence System, read and follow all of the instructions and safety information in this manual.
- When using the INCRA PRO Fence System in conjunction with any other tool, first read and follow all instructions and safety information in that tool's owner's manual.
- Use appropriate safety devices. Keep hands clear of the bit or blade. Always use a push stick, rubber soled push block or other safety devices to keep your hands safely away from the cutting tool.
- Never let any part of the INCRA PRO Fence System interfere with another tool's safety guards or other safety equipment.
- Never let the bit or blade come into contact with the aluminum body of the INCRA PRO Fence, INCRA Stop or Stop Extender Bar.
- Always turn off the power and make sure that the bit or blade is fully stationary before changing the setting of any part of the INCRA PRO Fence, INCRA Stop or Stop Extender Bar.
- Wear safety glasses, hearing protection and follow all normal shop safety practices.
- When using negative fence settings in which the bit is partially recessed in the fence notch, always insure that the bit is centered within the notch.
- Do not use any router bit with a diameter greater than 3/4" without first mounting a wooden auxiliary fence as detailed on page 8.
- When using the Stop Extender Bar, make sure that it is securely fastened to the fence with the supplied mounting hardware. When not in use, store the Extender Bar inside the upper T-slot on the Fence and secure in place with the supplied hardware.



Mounted to your INCRA JIG, the INCRA PRO Fence System provides a solid, smooth, and flat guide surface for the various cutting operations in your shop. A top-mounted sliding scale and INCRA's patented saw-toothed racks provide the means for easy and extremely accurate stopped cut setups using the INCRA Stop. Coupled with the added convenience and function of a self-storing Stop Extender Bar with its own sliding scale and variable stop, the INCRA PRO Fence System will add new dimensions to your abilities in the wood shop.

WARRANTY

Taylor Design Group, Inc. warrants this product for one year from date of purchase. We will repair, without charge, any defects due to faulty material or workmanship, or at our option, replace the product free. Please return the failing part only, transportation prepaid, along with a description of the problem to the address on the back of this manual.

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 the tool. Return the damaged rack, transportation prepaid, and allow 1 to 2 weeks for delivery.

NOTE: Replacements cannot be sent unless damaged racks have been received by Taylor Design.

Parts List

28" INCRA PRO FENCE SYSTEM

Fence Assembly

- 1 ea. 28" INCRA Pro Fence
- 1 ea. 16" long, 1/32" ruled scale
- 4 ea. 1/32" INCRA rack (6" length)
- 8 ea. #8 - 32 x 3/8" phillips pan head screw
- 8 ea. #8 - 32 hex nut
- 2 ea. #10 - 32 x 1/2" phillips pan head screw
- 2 ea. #10 - 32 rectangular nut
- 2 ea. 5/8" o.d. x 1/32" thick flat washer
- 2 ea. 5/8" o.d. x 1/16" thick gold anodized flat washer

INCRA Stop Assembly

- 1 ea. INCRA Stop
- 1 ea. 1/32" INCRA rack (4" length)

- 2 ea. 1/4" - 20 x 1/2" nylon thumbscrew
- 2 ea. 3/8" - 16 x 1/2" nylon thumbscrew
- 2 ea. #8 - 32 x 3/8" phillips pan head screw
- 2 ea. #8 - 32 hex nut
- 1 ea. Plastic stop strip (black) 3/4" x 5"

Stop Extender Assembly

- 1 ea. 28" Extender Bar
- 1 ea. #10 - 32 x 1/2" thumbscrew
- 1 ea. 5/8" o.d. nylon washer
- 1 ea. #10 - 32 rectangular nut
- 1 ea. 16" long, 1/32" ruled scale
- 1 ea. Extender Bar Stop
- 1 ea. 1/4" - 20 x 1/2" nylon thumbscrew

18" INCRA PRO FENCE SYSTEM

Fence Assembly

- 1 ea. 18" INCRA PRO Fence
- 1 ea. Fence mounting bracket
- 1 ea. 16" long, 1/32" ruled scale
- 3 ea. 1/32" INCRA rack (6" length)
- 8 ea. #8 - 32 x 3/8" phillips pan head screw
- 8 ea. #8 - 32 hex nut
- 2 ea. #10 - 32 x 1/2" phillips pan head screw
- 4 ea. #10 - 32 rectangular nut
- 2 ea. #10 flat washer
- 2 ea. 5/8" o.d. x 1/32" thick flat washer
- 2 ea. 5/8" o.d. x 1/16" thick gold anodized flat washer
- 2 ea. #10 - 32 x 3/4" phillips pan head screw
- 2 ea. #10 - 32 x 7/8" phillips pan head screw

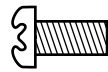
INCRA Stop Assembly

(Same as in the 28" INCRA PRO Fence System)

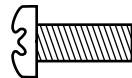
Stop Extender Assembly

- 1 ea. 18" Extender Bar
- 1 ea. #10 - 32 x 1/2" thumbscrew
- 1 ea. 5/8" o.d. nylon washer
- 1 ea. #10 - 32 rectangular nut
- 1 ea. 16" long, 1/32" ruled scale
- 1 ea. Extender Bar Stop
- 1 ea. 1/4" - 20 x 1/2" nylon thumbscrew

Fasteners - 1:1 scale drawings



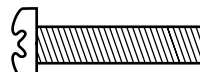
#8 - 32 x 3/8"
Phillips pan head screw



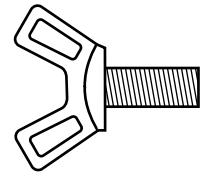
#10 - 32 x 1/2"
Phillips pan head screw



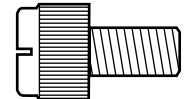
#8 - 32 x 3/4"
Phillips pan head screw



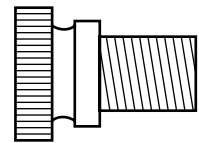
#8 - 32 x 7/8"
Phillips pan head screw



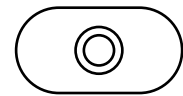
#10 - 32 x 1/2" Thumbscrew



1/4 - 20 x 1/2" nylon thumbscrew



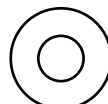
3/8 - 16 x 1/2" nylon thumbscrew



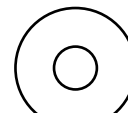
#10 - 32 rectangular nut



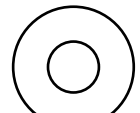
#8 - 32
hex nut



#10 SAE
flat washer



5/8" o.d. x 1/16"
thick gold flat washer



5/8" o.d. x 1/32"
thick flat washer

Assembly

1 Assemble the INCRA Stop

Using the (2) #8 - 32 x 3/8" phillips pan head screws and #8 - 32 hex nuts, fasten the 4" long blue INCRA rack to the INCRA Stop and tighten the screws. See Fig. 1. Slide the 3/4" x 5" plastic strip into the slot in the stop and secure with (2) 1/4" - 20 x 1/2" nylon thumbscrews. Thread the (2) 3/8" - 16 x 1/2" nylon thumbscrews into the INCRA Stop as shown. One or both of these thumbscrews can be used to clamp the INCRA Stop to the fence. In use, the plastic strip provides a non-metallic stop surface which can be shaped for special stop setups and can be micro adjusted by loosening the smaller thumbscrews.

2 Loosely install the racks in the INCRA Fence

Insert the #8 - 32 x 3/8" phillips pan head screws through the racks as shown in Fig. 2 and loosely attach the #8 - 32 hex nuts. Slide each of the hex nuts on the racks into the smaller T-slot in the back of the INCRA Fence. Position the two outer racks approximately flush with the ends of the fence with the remaining two racks spaced about 15/16" apart. (For the 18" INCRA PRO Fence, leave about 1/32" between the ends of the racks.) With the racks loosely installed, you should be able to shift each rack from side to side easily with your finger.

3 Tighten the racks on the INCRA Fence

Begin by tightening the two mounting screws for rack #1, as shown. Next, clamp the INCRA Stop to your fence so that it bridges the gap between the ends of racks #1 and #2 (see Fig. 3), and tighten the mounting screws for rack #2. Now move the INCRA Stop to bridge the gap between racks #2 and #3 and tighten the mounting screws for rack #3. Finally, bridge the gap between racks #3 and #4 and tighten the rack #4 mounting screws. This process aligns the racks so that the INCRA Stop will operate accurately along the entire length of the fence.

FIG. 1
INCRA Stop Assembly

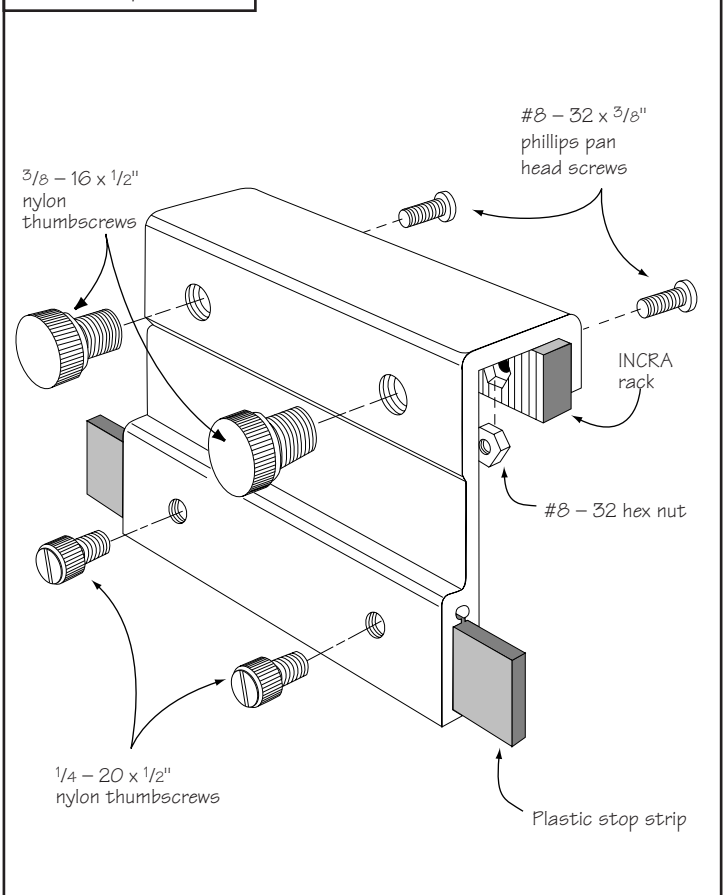


FIG. 2

Loosely install fence racks

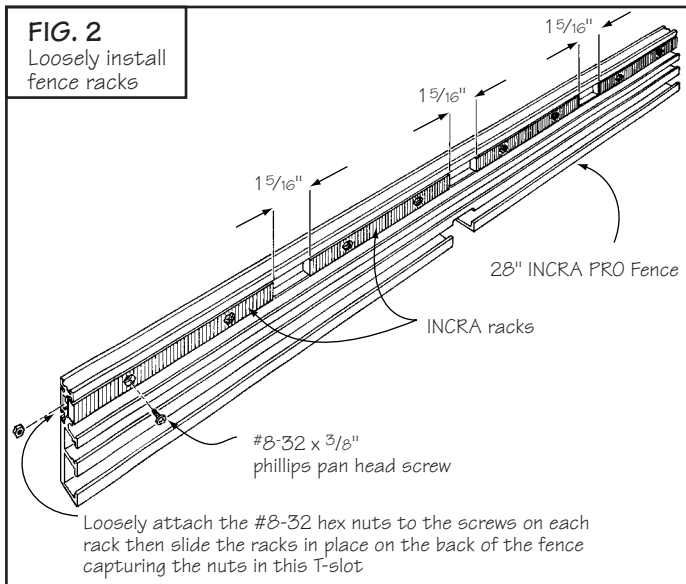
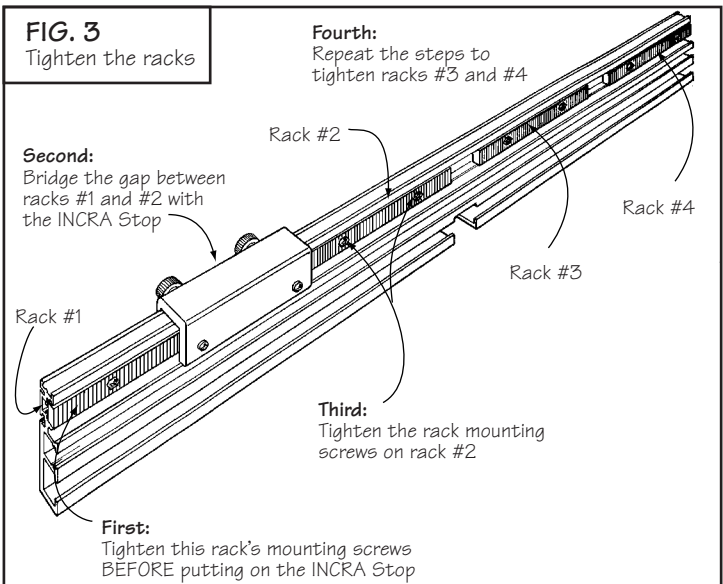


FIG. 3

Tighten the racks



Mounting the INCRA PRO Fence ...

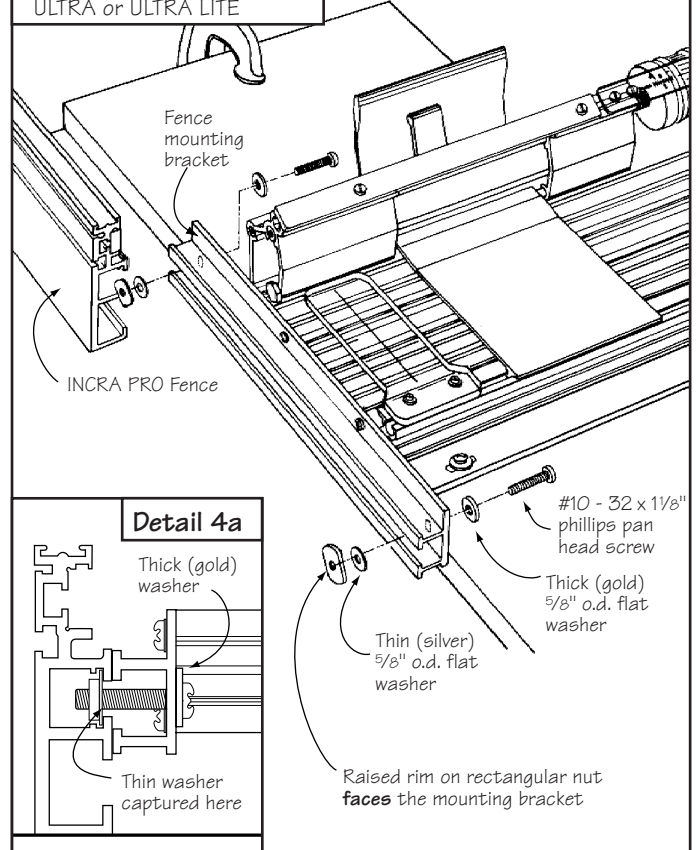
...to the INCRA JIG ULTRA or ULTRA LITE:

Insert the #10 - 32 x 1 1/8" phillips pan head screws through the thick (gold) washers then through the holes on the back of the fence mounting bracket. Place a thin (silver) washer on each screw then loosely attach the rectangular nut. See Fig. 4. The raised rim on the rectangular nut should face the mounting bracket. Now slide the fence onto the thin washer and rectangular nut so that both are captured in the T-slot on the back of the fence. Make sure the washer is captured in the T-slot provided as shown in Detail 4a. Position the fence so that the carriage is approximately centered on the fence length and tighten the two mounting screws.

TIP

To achieve a silky smooth carriage motion, it is important that your table surface be flat and -smooth, and that the carriage be installed parallel to it. If you find that your carriage tends to bind slightly during some portions of its travel, the following additional step should take care of it. Simply place 3 or 4 pieces of paper under the infeed end of the fence before tightening the screws in the final step of the fence mounting procedure described above, and then remove the paper. If the problem still persists, either add a few more pieces of paper, or place the paper under the other end of the fence before tightening.

FIG. 4
Mounting to your INCRA JIG ULTRA or ULTRA LITE

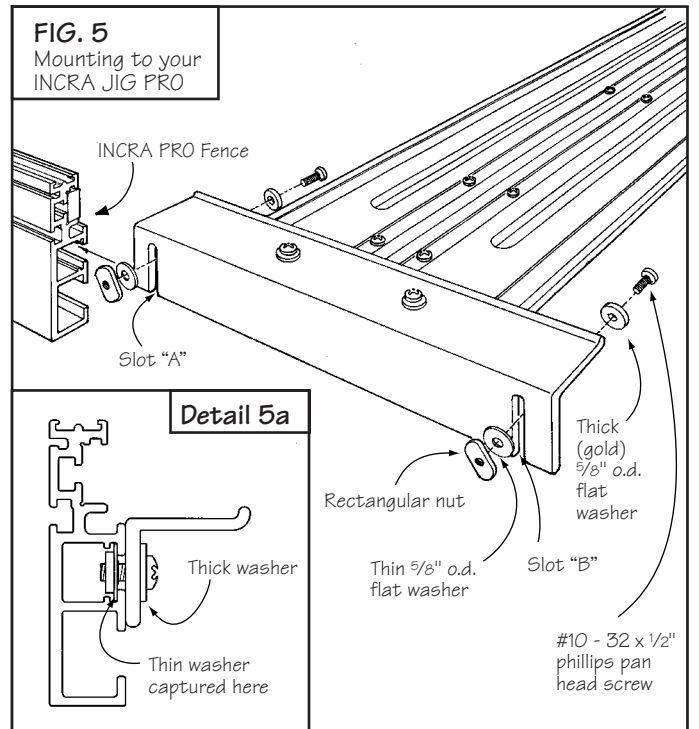


...to the INCRA JIG PRO:

Important: Your INCRA JIG PRO must be mounted to a 3/4" plywood base and the cam clamp must be in the locked position before installing the fence.

Insert the #10 - 32 x 1/2" phillips pan head screw through the thicker (gold) 5/8" o.d. flat washer then through slot "A" (see Fig. 5). While holding the screw in place, add the thin 5/8" o.d. flat washer then thread on the rectangular nut. The raised rim around the threaded hole on the nut should face the washer. With the rectangular nut still loose, slide your INCRA PRO Fence onto the washer and rectangular nut so that both are captured in the T-slot in the back of the fence. Make sure the washer is captured in the slot provided as shown in Detail 5a. Repeat the above fastener installation for slot "B", sliding the fence to capture the washer and rectangular nut. Position the fence so that the mounting bracket is centered on the length of the fence and securely tighten the two machine screws.

FIG. 5
Mounting to your INCRA JIG PRO



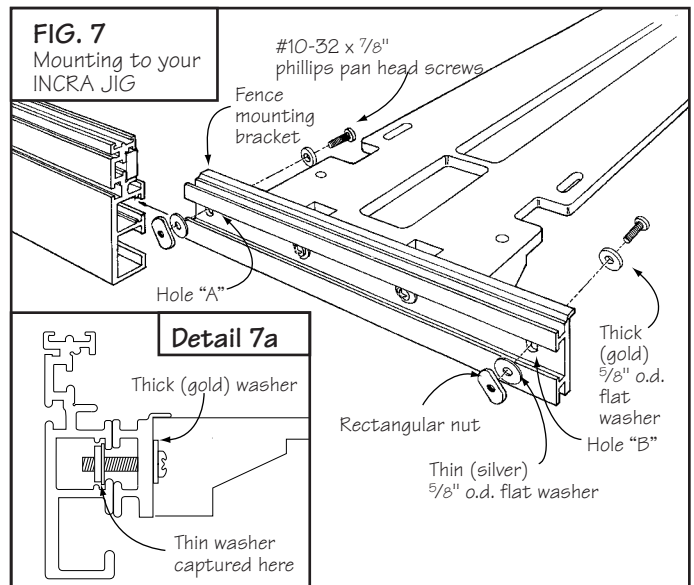
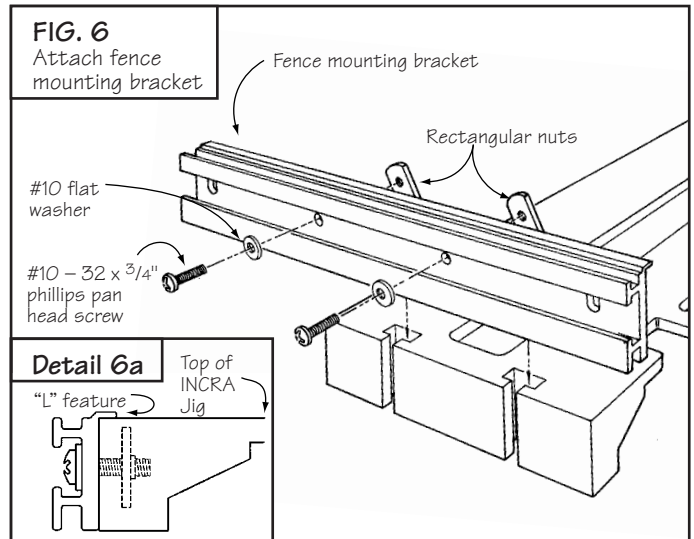
...to the Original INCRA JIG:

Note: Only the 18" INCRA PRO Fence can be mounted to the Original INCRA JIG.

Important: Your Original INCRA JIG must be mounted to a 3/4" plywood base and the black clamping knob must be fully tightened before installing the fence.

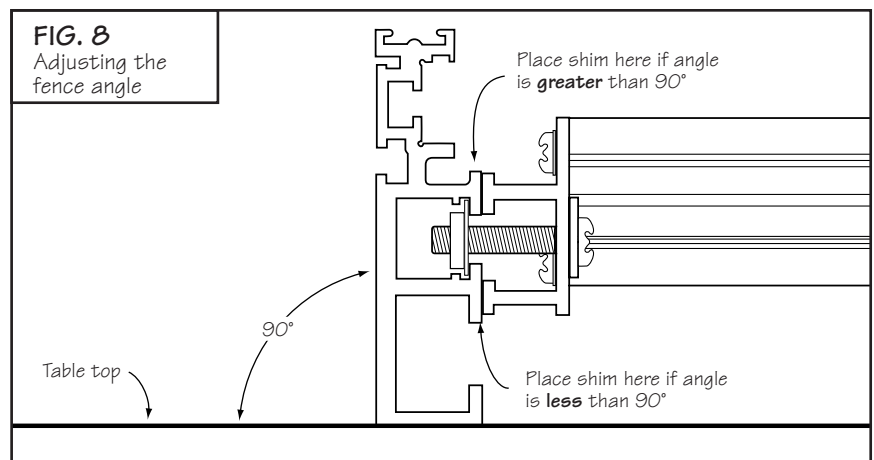
Attach the fence mounting bracket supplied with your 18" INCRA PRO Fence to the front end of your Original INCRA JIG using the two #10 - 32 x 3/4" phillips pan head screws, #10 flat washers and rectangular nuts as shown in Fig 6. The "L" feature on the fence mounting bracket should rest on the top of your INCRA JIG as shown in Detail 6a.

Insert the #10 - 32 x 7/8" phillips pan head screw through the thicker (gold) 5/8" o.d. flat washer, then through hole "A" (see Fig. 7) on the fence mounting bracket. While holding the screw in place, add the thin 5/8" o.d. flat washer then thread on the rectangular nut. The raised rim around the threaded hole on the nut should face the washer. With the rectangular nut still loose, slide your INCRA PRO Fence onto the washer and rectangular nut so that both are captured in the T-slot in the back of the fence. Make sure the washer is captured in the slot provided as shown in Detail 7a. Repeat the above fastener installation for hole "B", sliding the fence to capture the washer and rectangular nut. Position the fence so that the mounting bracket is centered on the length of the fence and securely tighten the two machine screws.



Adjusting the Fence Angle

After mounting the INCRA PRO Fence, clamp your INCRA Jig to the stationary tool of your choice and with the INCRA Jig set to mid-range, check the angle of your fence to the table using a machinist's or carpenter's square. Sometimes, as a result of the plywood base not being perfectly flat, the angle may be slightly more or less than 90°. To correct the angle, place a masking tape shim along the length of the mounting bracket between the bracket and the fence as shown in Fig. 8.



Installing the Extender Bar

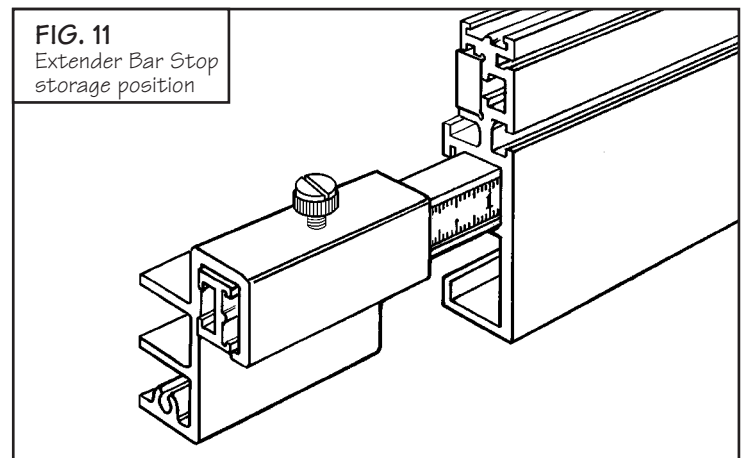
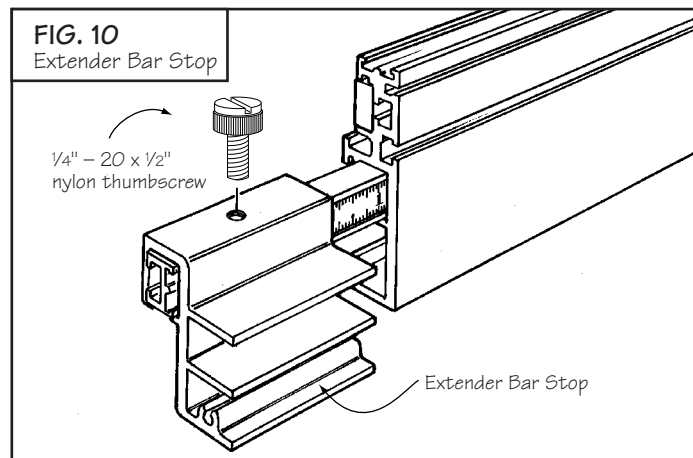
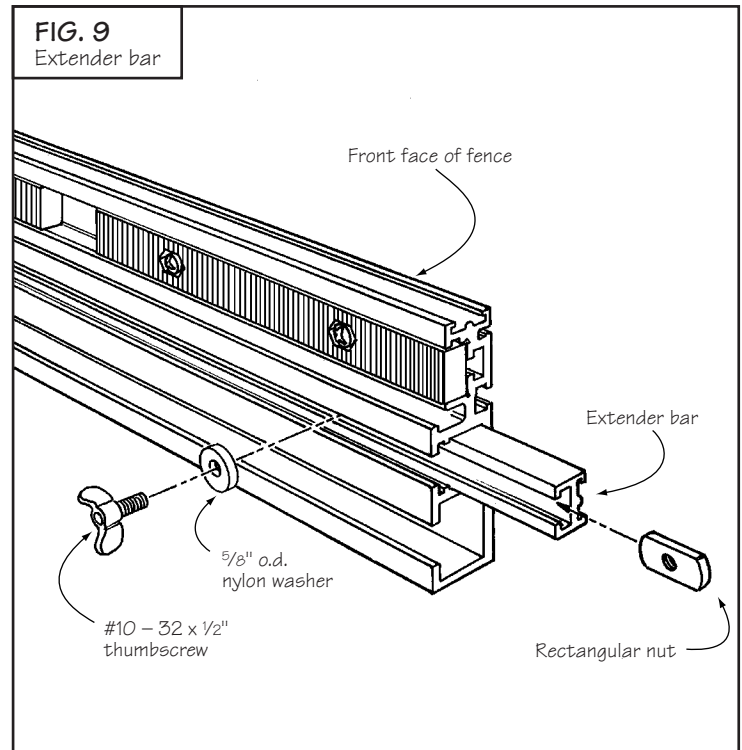
Fig.9 shows the proper placement for your Stop Extender Bar. Insert the Extender Bar with the scale facing the front of the fence, then slide the bar in the T-slot until the ends are flush and lock in place using the supplied #10 - 32 x 1/2" thumbscrew, 5/8" o.d. nylon washer and rectangular nut as shown.

A second Stop Extender Bar can be purchased should you want to increase the stop range beyond both ends of your INCRA PRO Fence.

CAUTION: Always install the Extender Bar in the **UPPER** T-slot, never the lower one.

Extender Bar Stop

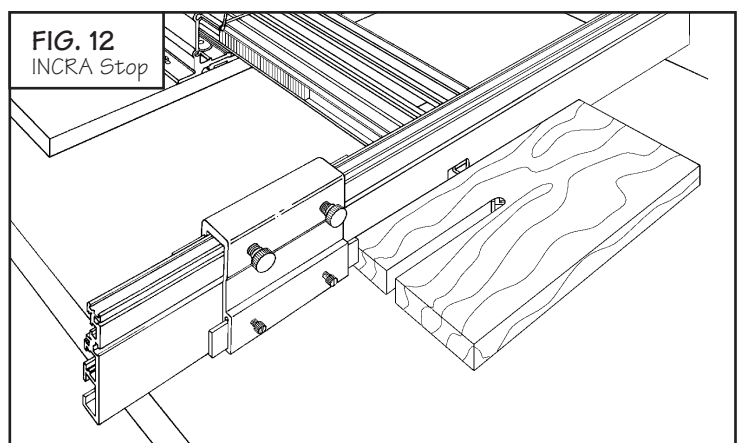
Position the Extender Bar about 2" beyond the fence end and using the supplied 1/4" - 20 x 1/2" nylon thumbscrew, attach the Extender Bar Stop. See Fig. 10. The Stop can be used on either end of the Extender Bar to increase your stop range beyond the ends of the INCRA PRO Fence. When not in use, the Stop can be turned around and locked to the Extender Bar (see Fig. 11). This storage position places the Stop out of the way, leaving the front face of the INCRA PRO Fence uninterrupted for through cut operations.



Applications

INCRA Stop

When used in conjunction with your new INCRA PRO Fence, the INCRA Stop provides the same precise rack positioning capabilities that your INCRA Jig offers. The sliding scale in the top of your fence becomes a versatile reference for use in setting stop positions at the router table and the drill press. The sliding plastic stop strip on the INCRA Stop permits micro-adjusting of the stop positions between 1/32" steps. The Stop can function on either the outfeed or infeed end of the fence with any thickness of stock, even rabbeted boards. Two INCRA Stops can work together at opposite ends of the fence for many advanced operations, such as multiple mortises and slots.



Zeroing the INCRA Stop to the End of a Board

For most applications, you will be using your INCRA Stop on the outfeed end of the INCRA Fence to control the length of a cut relative to the front end of the board. Here is how to set the initial scale position for this type of setup:

- 1** After installing the bit you wish to use, set the fence to bit distance at about 1". Place a square cut piece of scrap stock against the fence with the end of the board against the infeed side of the bit. Turn the bit to find the high spot.
- 2** Next, lock the INCRA Stop to the fence on the outfeed side of the bit with the plastic stop strip as close as possible to the end of the board. Adjust the position of the stop strip until both the strip and the bit contact the end of the board. See Fig. 13.
- 3** You now have the choice of setting the sliding scale to one of three initial positions:

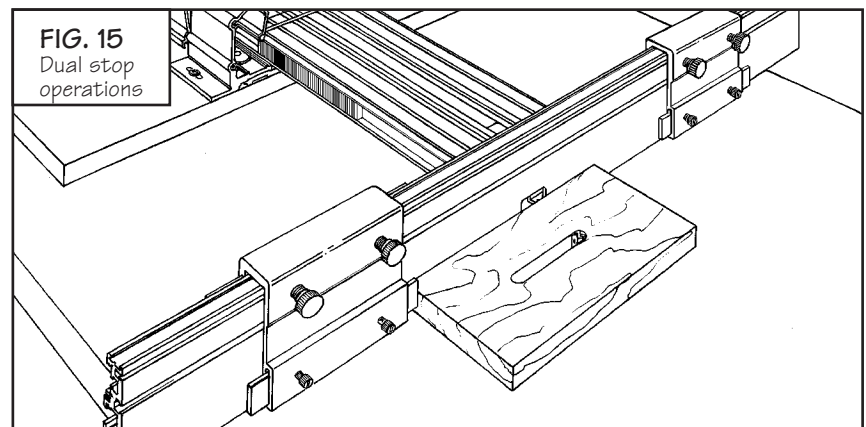
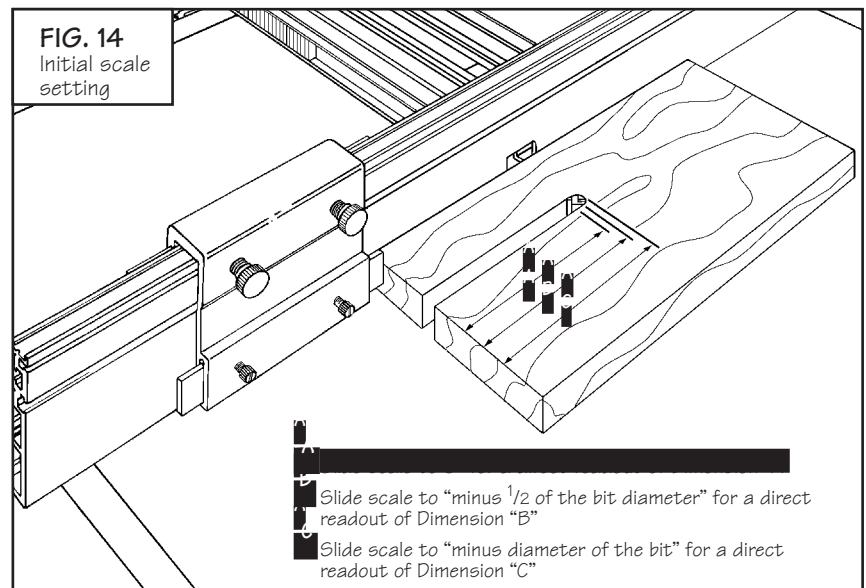
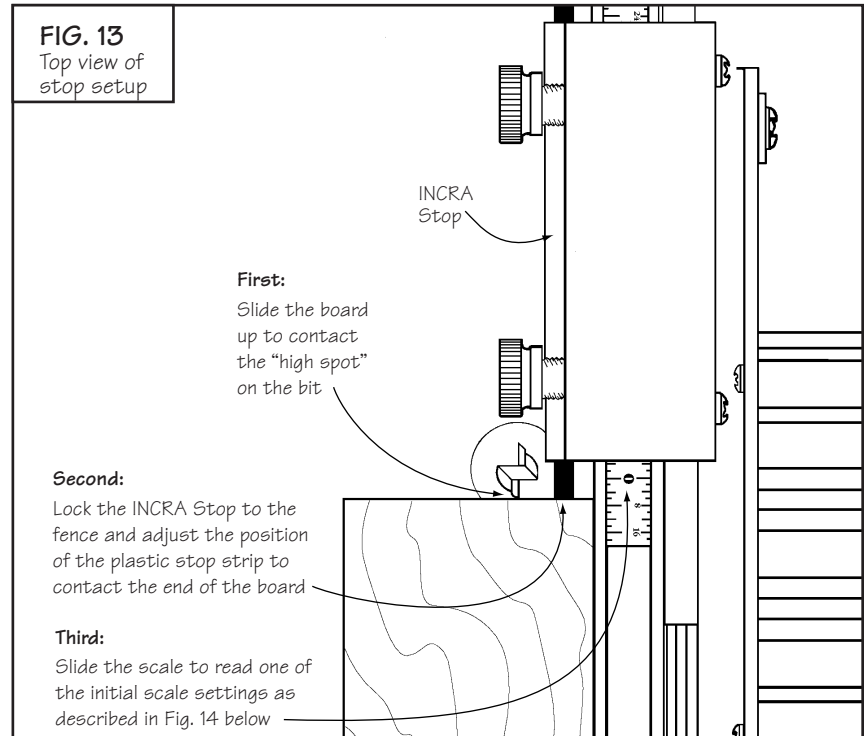
A In most cases, you will simply slide the scale to align the 0" mark on the scale with the end of the INCRA Stop nearest the bit. When set to this initial position, the scale reading at any subsequent INCRA Stop location will give you a direct readout of the total length of the cut. (See Dimension "A", Fig. 14.)

B If you wish the subsequent scale readings to reflect the distance from the front end of the board to the center of the cut (Dimension "B", Fig. 14), slide the scale to an initial reading under the end of the INCRA Stop equal to minus one half of the bit diameter. Example: If you are using a 1/2" diameter bit, complete Steps 1 and 2 above then slide the scale to read negative 1/4".

C If you want the scale reading for future INCRA Stop locations to reflect the distance between the end of the board and the outfeed edge of the cutter (Dimension "C", Fig. 14), then slide the scale to an initial reading equal to minus the bit diameter.

Dual INCRA Stop Operations

Using the same setup process described above and a second INCRA Stop, you will find the precise positioning of mortises on a board quite simple. *The INCRA Jig Projects and Techniques* book covers this technique fully and includes several unique projects which feature dual INCRA Stop operations.



X-Y Positioner for the Drill Press

Used at your drill press, your new INCRA Jig and INCRA PRO Fence System are the ultimate in X-Y positioning control. You can quickly and accurately locate and drill any pattern of holes by simply moving the INCRA Jig and the INCRA Stop to the desired settings. A cribbage board is a good example of a project that requires this ability. And since you can locate any hole to within a few thousandths of an inch, you will find this technique great for making perfect dowel joints.

Mounting an Auxiliary Fence to Your INCRA PRO Fence

If you should desire to use a router bit with a diameter greater than $\frac{3}{4}$ ", you must first mount a wooden auxiliary fence to your INCRA PRO Fence. The following information should help in determining the dimensions of the auxiliary fence, see Fig. 17.

Thickness (A): The thickness of the auxiliary fence should be $1\frac{1}{2}$ times the diameter of the router bit you plan to use. (Example: To use a 1" diameter router bit, your auxiliary fence should be $1\frac{1}{2}$ " thick.)

Height (B): The height of the auxiliary fence should be 3" minimum.

Length (C): Cut the length of the auxiliary fence to match the length of your INCRA PRO Fence, either 18" or 28".

Fence Notch Width (D): At least $\frac{1}{4}$ " greater than the diameter of the router bit.

Fence Notch Height (E): At least $\frac{1}{4}$ " greater than the maximum depth of cut you plan to use with the router bit.

To mount the auxiliary fence to your INCRA PRO Fence, you will need (2) #8-32 machine screws, (2) #8 flat washers and (2) #8-32 hex nuts. The length of the machine screws should be slightly less than the thickness of the auxiliary fence. Drill two $\frac{3}{16}$ " dia. through holes in the auxiliary fence in the locations shown in Fig. 18. Now, using a $\frac{1}{2}$ " diameter drill bit, counterbore the hole locations.

Note: Adjust the depth of the counterbore so that the screw, when installed in the counter bore with the #8 flat washer, extends slightly less than $\frac{3}{4}$ " through the back of the auxiliary fence. Loosely attach the #8-32 hex nuts to the screws then slide the hex nuts into the T-slot located on the front face of the INCRA PRO Fence. Tighten the machine screws to secure the auxiliary fence in place.

