

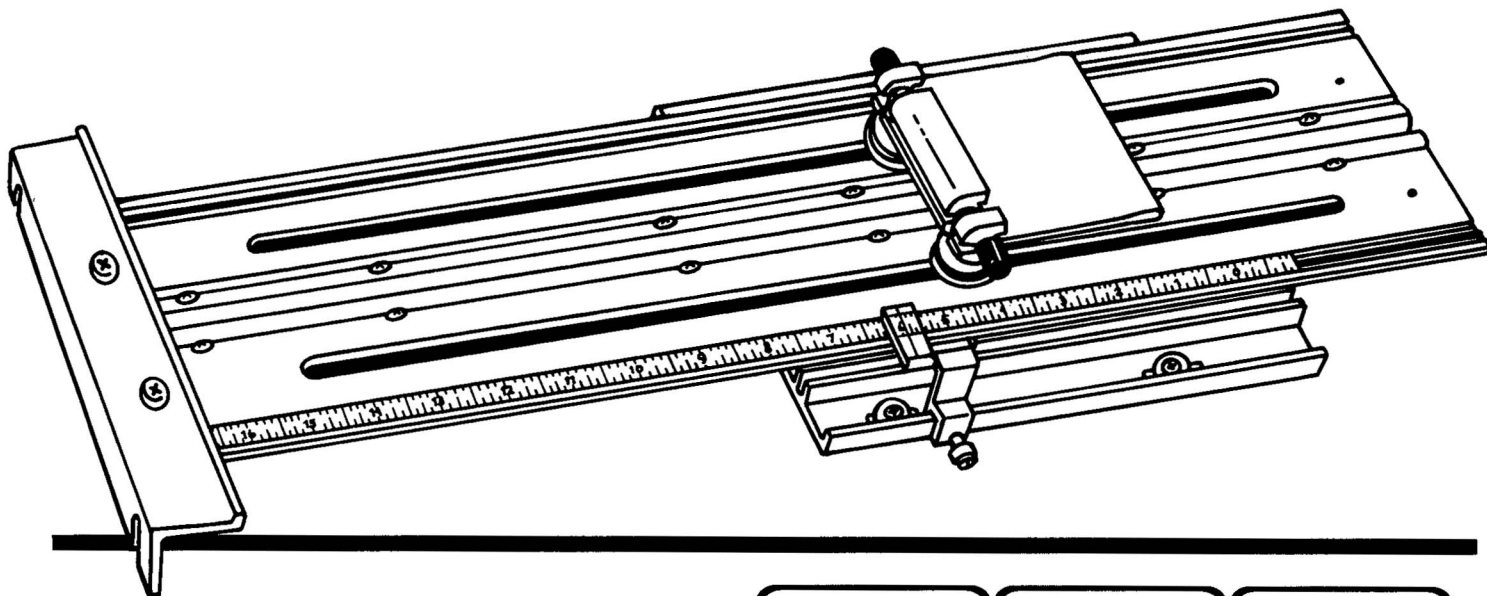
# Incra<sup>®</sup> Jig PRO

U. S. Patents #4,793,604 #5,195,730

The **PROFESSIONAL** Precision Positioning Jig

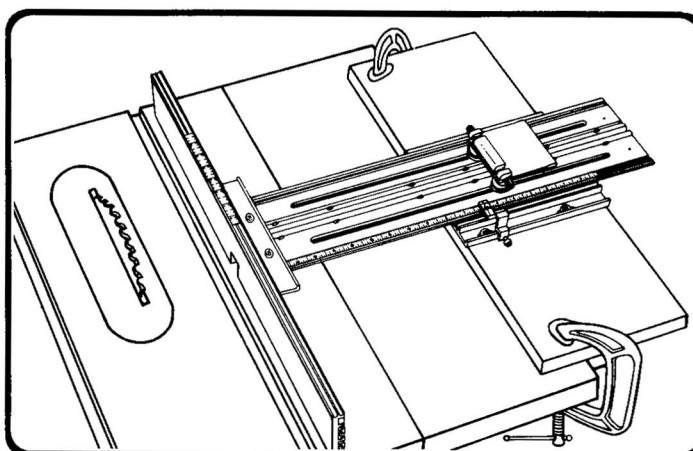
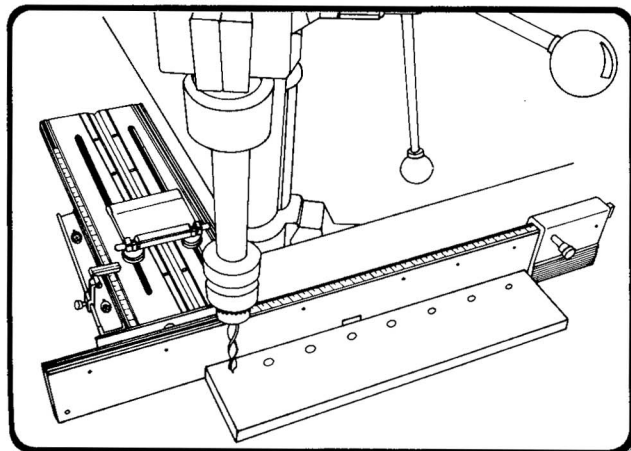
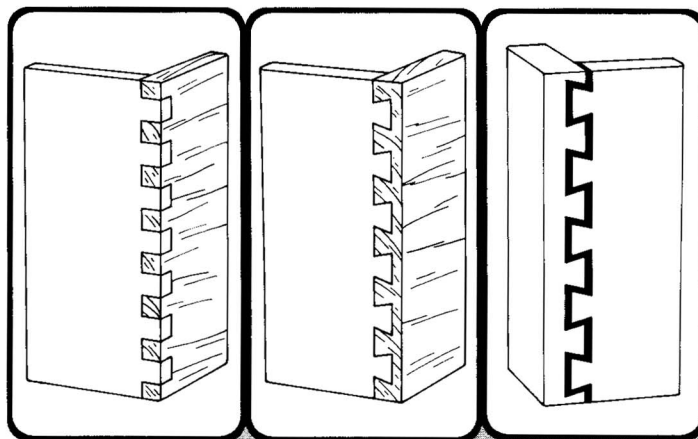
## Owner's Manual

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



### FEATURES:

- Two models with either 12" or 16" of range.
- True 'INCRA' precision over the full range.
- Rugged, solid aluminum construction.
- Quick action cam clamp instantly locks the jig in place.
- Positioning racks automatically disengage for effortless sliding action.
- Easy to read 16" top mounted sliding scale.
- Exclusive FLIPSIGHT™ hairline cursor rides on top of the scale, or flips up out of the way.
- Works with genuine INCRA JIG accessories.



# SAFETY

IMPORTANT SAFETY INSTRUCTIONS FOR USING THE INCRA JIG PRO. BEFORE USING INCRA JIG PRO, READ AND FOLLOW ALL OF THE INSTRUCTIONS AND SAFETY INFORMATION IN THIS MANUAL.

When using INCRA JIG PRO in conjunction with any other tool, first read and follow all instructions and safety information in that tool's owner's manual.

When INCRA JIG PRO is mounted to a wooden base or table surface, make sure that all four mounting screws are SECURELY TIGHTENED and the INCRA JIG PRO is firmly held in place. ALWAYS use the supplied 3/16" washers when mounting INCRA JIG PRO to the wooden base or table surface.

When using INCRA JIG PRO with a wooden base, ALWAYS make sure that the base is securely clamped, screwed, or otherwise fastened to the work surface before making a cut.

ALWAYS TURN OFF THE POWER and make sure that your bit or blade is fully stationary before changing INCRA JIG PRO to a new setting.

Before you make a cut, ALWAYS MAKE SURE THAT THE CAM CLAMP IS FULLY ENGAGED, and the jig is securely locked into place.

When using INCRA JIG PRO with other tools, make sure that all safety guards and other safety equipment supplied by the manufacturer of that tool are securely in place and functional. NEVER let INCRA JIG PRO interfere with another tool's safety equipment.

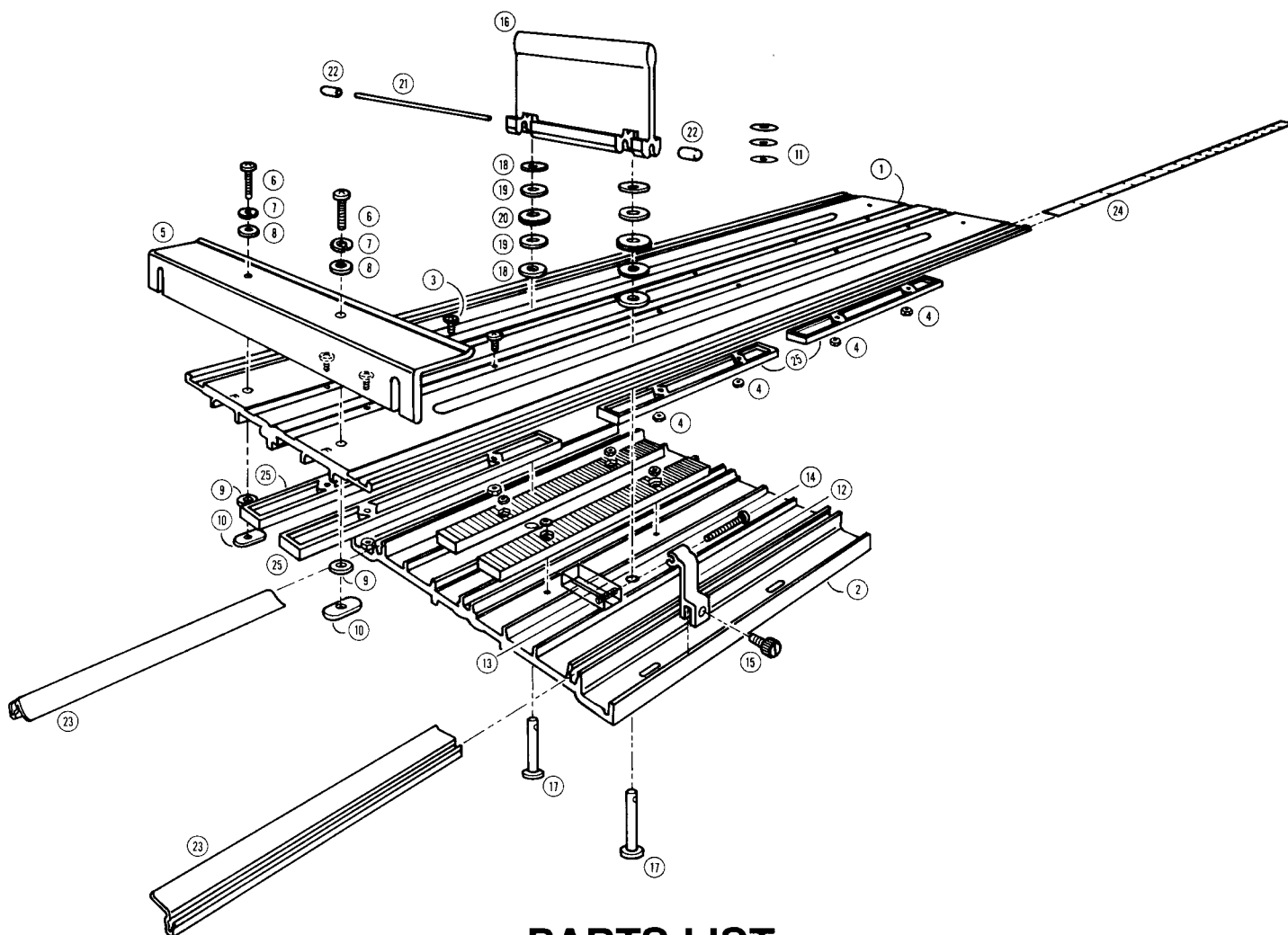
USE APPROPRIATE SAFETY DEVICES. Keep hands clear of the bit or blade. ALWAYS use a push stick, rubber soled push block, or other safety device to keep your hands safely away from the cutting tool.

WEAR SAFETY GLASSES and FOLLOW ALL NORMAL SHOP SAFETY PRACTICES.

## INCRA WOODWORKING SYSTEM

Your INCRA JIG PRO is designed to be fully compatible with all of the INCRA products listed below:

- **Metric Accessory Racks** - If you prefer to work with the metric system, a set of racks with a tooth spacing of one millimeter, and a 16" long metric scale are available.
- **INCRA PRO 28" Fence System** - Designed exclusively for use with the INCRA JIG PRO, this system features the 28" aluminum INCRA Fence, the patented INCRA Stop, the Stop Extender Bar, and extra 1/32" racks for INCRA Stop operation over the full length of the fence.
- **INCRA Fence System (18")** - Includes the 18" aluminum INCRA Fence, INCRA Stop and the Stop Extender Bar.
- **INCRA Right Angle Fixture and INCRA PRO Right Angle Fixture** - This solid aluminum fixture holds work perpendicular to the table surface for end grain cutting operations such as dovetails and box joints.
- **INCRA MIKE** - Micro adjusts your INCRA JIG to ANY position between 1/32" settings in EXACT, calibrated 1/1000" steps. For use with both the Original INCRA JIG and INCRA JIG PRO.
- **INCRA Auto Center** - Automatically centers your work on ANY board up to 16" wide. For use with both the Original INCRA JIG and INCRA JIG PRO.
- **INCRA JIG Handbook & Templates** - 100 page illustrated handbook contains detailed information on 'INCRA' techniques. Includes 17 different 8" long, pre-marked templates for making a wide variety of box joints, dovetails and INCRA Double Dovetails. These templates can be used with both the Original INCRA JIG and the INCRA JIG PRO.
- **INCRA Master Template Library** - This 50 template set features new designs in a brand new 16" length. Also includes full-sized plans for each joint. For use with both the Original INCRA JIG and INCRA JIG PRO.
- **INCRA JIG Projects & Techniques** - This 148 page book contains ultra detailed plans - with over 400 illustrations and photos - to build 14 intriguing original Projects. Also included are 11 Techniques sections that will turn any woodworker into a real "INCRA Pro", and complete instructions for making 4 exclusive new INCRA Joints.
- **The Complete INCRA JIG Video** - Get the most out of your INCRA JIG and INCRA JIG PRO. The video features the Original INCRA JIG, but all operations are applicable to the INCRA JIG PRO. Includes full video instructions and FREE plans and templates for making the INCRA Double-Double Box Joint.
- **INCRA Wooden Hinge Plans** - Bring complete wooden harmony to your next project with these beautiful, fully functional wooden hinges. These lavishly illustrated, detailed plans make these unique hinges surprisingly easy to produce. The plans include a FREE hinge drilling guide for drilling the hinge pivot pin hole.
- **INCRA Miter Slider** - These unique aluminum runners adjust to glide perfectly, or lock in place in any standard 3/4" x 3/8" table saw miter slot. Miter Slider comes with FREE illustrated plans for building a variety of table saw jigs, including some which combine Miter Slider with INCRA JIG for precise cutting operations.
- **INCRA GAUGE** - This versatile tool will greatly increase the accuracy of all your layout, setup and marking jobs, while it dramatically reduces the time and effort needed to get them done. It works as a precision marking gauge, a free-standing depth of cut gauge, a fence alignment gauge and a center finder.



## PARTS LIST

### ITEM NUMBER

- 1 1 ea. INCRA JIG PRO top
- 2 1 ea. INCRA JIG PRO base

### INCRA JIG PRO 16" - Rack Mounting Hardware

- 3 16 ea. 8-32 x 7/16" phillips machine screw
- 4 16 ea. 8-32 hex nut

### INCRA JIG PRO 12" - Rack Mounting Hardware

- 3 12 ea. 8-32 x 7/16" phillips machine screw
- 4 12 ea. 8-32 hex nut

### Fence and Jig Mounting Hardware

- 5 1 ea. aluminum fence mounting bracket
- 6 2 ea. 10-32 x 3/4" phillips machine screw
- 7 2 ea. #10 split lock washer
- 8 4 ea. #10 SAE flat washer
- 9 2 ea. 9/16" ID x 3/4" OD x 1/8" thick flat nylon washer
- 10 4 ea. 10-32 x 7/16" x 7/8" rectangular nut (includes 2 nuts for mounting fence)
- \* 4 ea. #10 x 7/8" phillips wood screw
- \*\* 4 ea. 3/16" USS flat washer
- \*\* 2 ea. 10-32 x 1/2" phillips machine screw

### ITEM NUMBER

### FLIPSIGHT™ Hairline Cursor Hardware (assembled)

- 12 1 ea. aluminum cursor bracket
- 13 1 ea. acrylic hairline cursor
- 14 1 ea. 6-32 x 1" phillips machine screw
- 15 1 ea. 10-32 x 1/2" slotted head nylon thumb screw

### INCRA JIG PRO Clamping Hardware

- 16 1 ea. cam clamp
- 17 2 ea. 3/8" dia. x 2 1/8" long vertical clamping pin (clevis pin)
- 18 4 ea. 3/8" ID x 1" OD x 0.062" thick nylon flat washer
- 19 4 ea. 3/8" ID 1" OD x 0.055" thick metal flat washer
- 20 2 ea. 3/8" ID x 1 1/8" OD x 3/16" thick rubber flat washer
- 21 1 ea. 3/16" dia. x 4 5/8" long cam clamp pivot pin
- 22 2 ea. rubber pin cap
- 11 6 ea. 3/8" ID x 1" OD x 0.010" thick nylon flat washer

### Miscellaneous

- 23 2 ea. 8" spring clamp
- 24 1 ea. 16" long, 1/32" ruled scale
- 25 8 ea. 1/32" racks (for PRO - 16)
- 25 6 ea. 1/32" racks (for PRO - 12)
- 1 ea. Owner's Manual

\* Not shown here, see pg. 9, FIG. 1. \*\* Not shown here, see pg. 9, FIG. 3

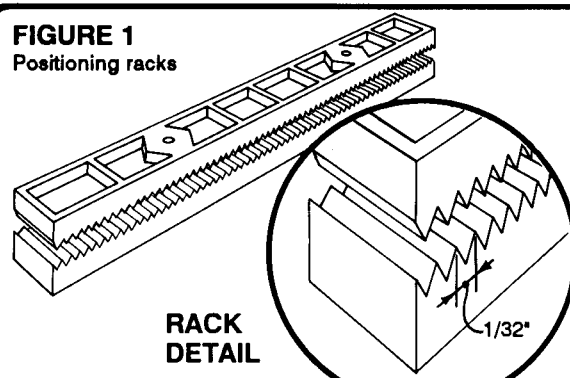
# SYSTEM DESCRIPTION

The INCRA JIG PRO consists of five distinct functional elements which are described below. Familiarize yourself with this tool by reading this section first before proceeding to the ASSEMBLY, OPERATIONS, and APPLICATIONS sections later in this manual.

## POSITIONING CONTROL

INCRA JIG PRO obtains its great accuracy and repeatability from the precision cast sawtooth positioning racks which position the jig in EXACT increments of  $1/32"$ . Standard  $1/32"$  (blue) racks are supplied with each INCRA JIG PRO. Metric (green) racks with a tooth spacing of one millimeter are available as an option. (See order form in the back of this manual.) The  $1/20"$  decimal (yellow) racks are intended for use with the Original INCRA JIG only.

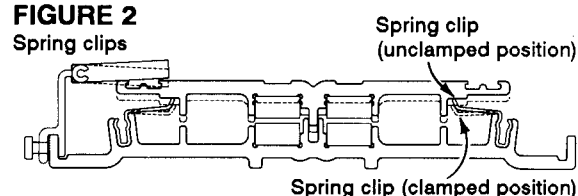
**FIGURE 1**  
Positioning racks



## SPRING CLIPS

The spring clips, which snap or slide into channels on the INCRA JIG PRO base, serve two distinct purposes. They spring the top and base apart to disengage the racks when the cam clamp is released, and they provide a low friction support on which the top glides freely when moving the jig to a new position.

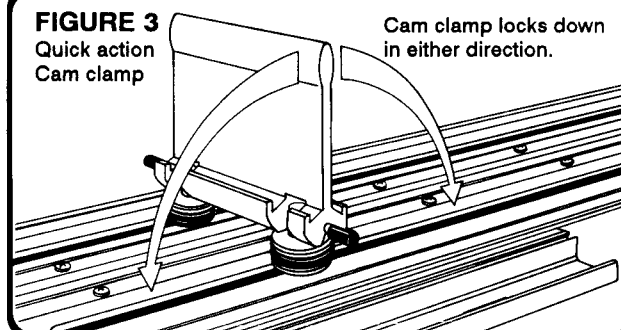
**FIGURE 2**  
Spring clips



## CLAMPING ASSEMBLY

After setting INCRA JIG PRO to a new position, the bi-directional cam clamp securely locks it in place with a quick, single downward motion of the hand. The handle is shock mounted on a special combination of nylon, metal, and rubber washers to deliver optimum clamping pressure under all conditions.

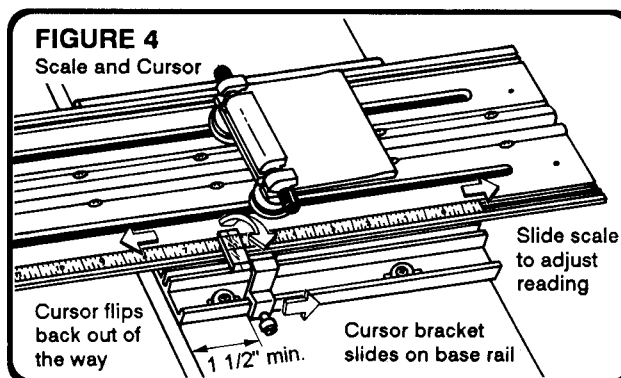
**FIGURE 3**  
Quick action  
Cam clamp



## SLIDING SCALE AND FLIPSIGHT™ HAIRLINE CURSOR

INCRA JIG PRO's position is indicated by sighting through the FLIPSIGHT hairline cursor to read the scale. Both the scale and the cursor can be slid to any position for optimum viewing in different applications.

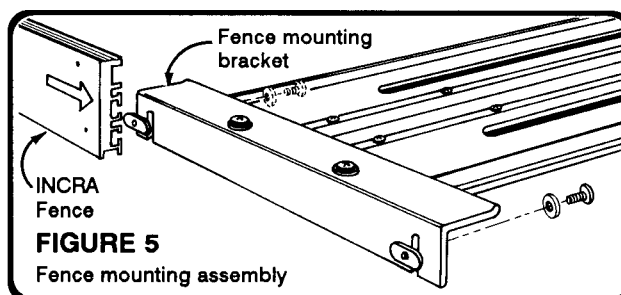
**FIGURE 4**  
Scale and Cursor



## FENCE MOUNTING ASSEMBLY

A right angle mounting bracket is used to attach a fence to the INCRA JIG PRO. The optional INCRA Fence shown in the drawing is available in either an 18" or 28" model. A home built wooden fence, described on page 18, can also be used if desired.

**FIGURE 5**  
Fence mounting assembly



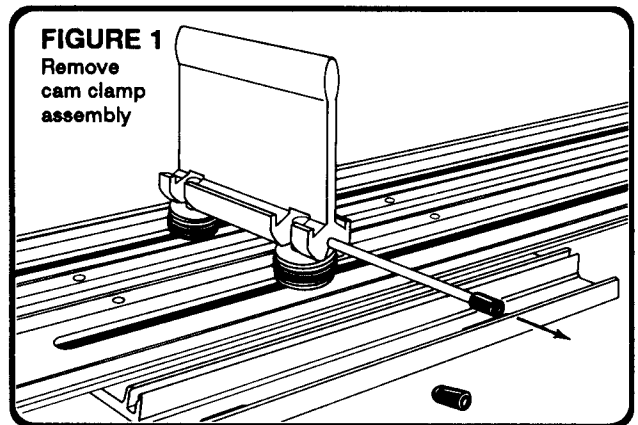
# ASSEMBLY

The INCRA JIG PRO comes with the cam clamp assembly already installed and set to the clamped position. This insures that the various components will stay firmly packed together in the box.

## STEP 1 - Remove the cam clamp assembly

With the cam clamp in the UP (unclamped) position, remove one of the rubber end caps from the pivot pin and pull the pivot pin out of the clamp handle. (See FIGURE 1.) Remove the clamp handle, then the stack of nylon, metal and rubber washers from each vertical cam clamp pin (clevis pin) and set them aside. **BE SURE TO LEAVE THEM STACKED IN THE SAME ORDER AS SHOWN IN THE EXPLODED VIEW ON PAGE 6, FIGURE 9.** Remove the INCRA JIG PRO top and the two vertical cam clamp pins and set them aside.

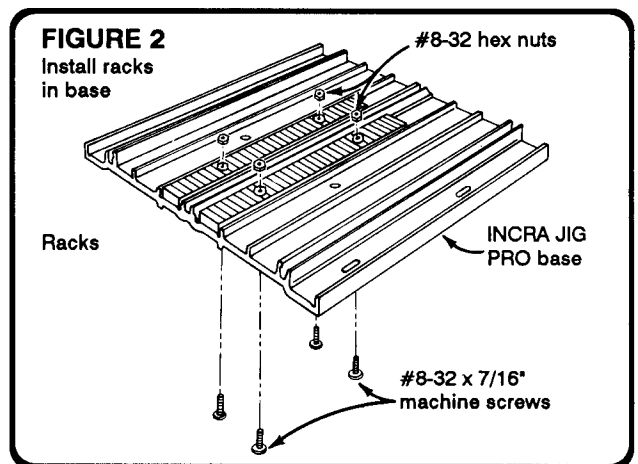
**NOTE:** Four of the blue racks will be packed LOOSELY inside, so be careful not to drop them.



## STEP 2 - Install the racks in the INCRA JIG PRO base

Using four of the supplied #8-32 x 7/16" machine screws and hex nuts, install two racks in the INCRA JIG PRO base as shown in FIGURE 2. Make sure the two racks are securely tightened in place before continuing to the next step.

**CAUTION:** DO NOT substitute longer #8-32 x 1/2" screws, as these will interfere with the proper meshing action of the racks and may damage the rack teeth.



## STEP 3 - Install the 1/32" scale in the INCRA JIG PRO top

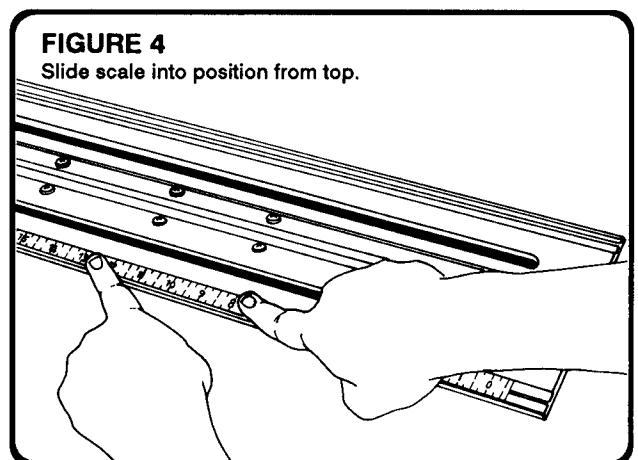
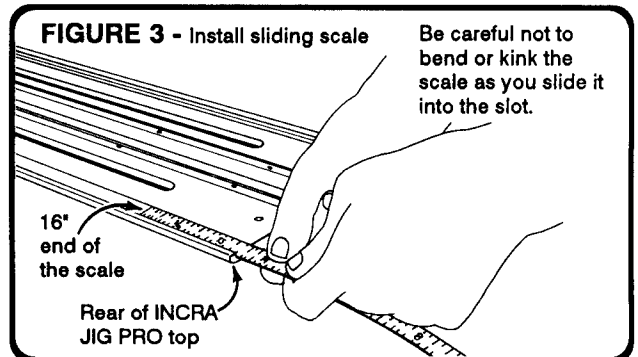
Both the 12" and the 16" INCRA JIG PRO are supplied with a 16" long scale. If you have purchased the 12" model, it will be necessary to trim the scale to the proper length. To do this, simply cut the scale with a pair of scissors at 12 5/8" on the scale. **DO THIS FOR THE 12" MODEL ONLY.**

The "front" or "fence" end of the INCRA JIG PRO top is stamped with two "F"s. Place the top on a table with the "front" to your left. Insert the 16" (or 12") end of the scale into the REAR end of scale slot nearest you. Keep your fingers close to the back edge of the top to prevent bending the scale as you slide it in. (See FIGURE 3.)

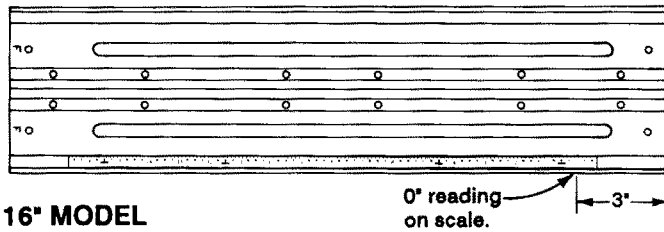
**NOTE: BE CAREFUL NOT TO BEND OR KINK THE SCALE AS YOU SLIDE IT INTO THE SLOT.**

Once you have slid the scale in an inch or two, continue to move it by pushing it in the slot with your fingers on top, as shown in FIGURE 4.

**IMPORTANT:** If it ever becomes difficult to slide the scale, apply paste wax, or preferably Top-Cote™ (available from your INCRA dealer), on the inside of the scale slot to reduce friction.

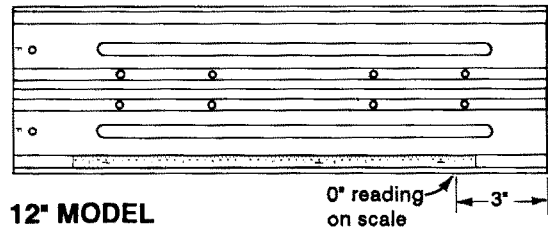


**FIGURE 5**



**16" MODEL**

**FIGURE 6**



**12" MODEL**

Continue to slide the scale until the 0° (zero) is positioned 3" from the rear end of the scale slot. (See FIGURES 5 and 6.) This is an INITIAL scale placement, and will be adjusted further in a later step.

#### STEP 4 - LOOSELY install the racks in the INCRA JIG PRO top

Install each of the remaining four racks (12" model), or six racks (16" model) in the INCRA JIG PRO top. Fasten each rack **LOOSELY** in place using the supplied #8-32 x 7/16" machine screws and hex nuts. **DO NOT TIGHTEN AT THIS TIME.** With the racks **LOOSELY** installed, you should be able to shift each rack from front to back about 1/16" **EASILY** with your finger.

#### STEP 5 - Install spring clips and vertical cam clamp pins

Install the two vertical cam clamp pins through the 3/8" diameter holes in the base. Slide the two spring clips into place as shown in FIGURE 8. They can also be snapped in place from directly above the slot.

**IMPORTANT:** The spring clips will be just a little bit stiff when they are first installed. This may cause the top half of the jig to move with a slight amount of resistance until the spring clips have been "broken in" by leaving the jig in the clamped position for an hour or two. (See the bottom of the Trouble Shooting guide on page 19.)

**NOTE:** The "front" end of the INCRA JIG PRO base is the end where the two blue racks are closest to the edge.

#### STEP 6 - Install the cam clamp assembly

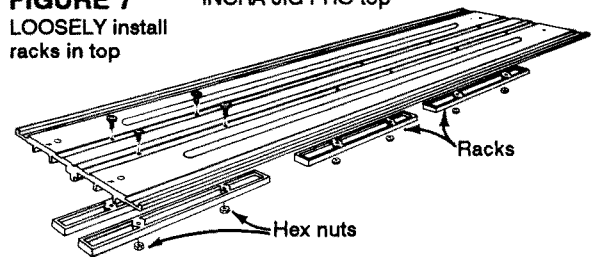
Position the INCRA JIG PRO base on a table with the "front" end to your left. Place the INCRA JIG PRO top on the base with its front end also to your left. The two vertical cam clamp pins should pass through the long slots in the INCRA JIG PRO top. Place the nylon, metal and rubber washer combinations on each of the two pins. **IT IS VERY IMPORTANT THAT THE FIVE WASHERS ASSOCIATED WITH EACH VERTICAL PIN ARE ARRANGED IN THE EXACT ORDER SHOWN IN FIGURE 9. FAILURE TO DO SO MAY RESULT IN IMPROPER OPERATION. ALSO, BE SURE TO USE THE CORRECT NYLON WASHER. THIS IS ITEM #18 ON THE PARTS LIST DRAWING ON PAGE 3. THIS WASHER IS 1/16" THICK AND MUST NOT BE CONFUSED WITH THE THIN SHIM WASHERS (ITEM #11), OR THE 1/8" THICK FENCE BRACKET MOUNTING WASHERS (ITEM #9).**

Place the cam clamp handle in the upright position on top of the two stacks of washers. Insert the pivot pin, as shown, into the cam clamp handle and through the holes in each of the two vertical cam clamp pins.

**FIGURE 7**

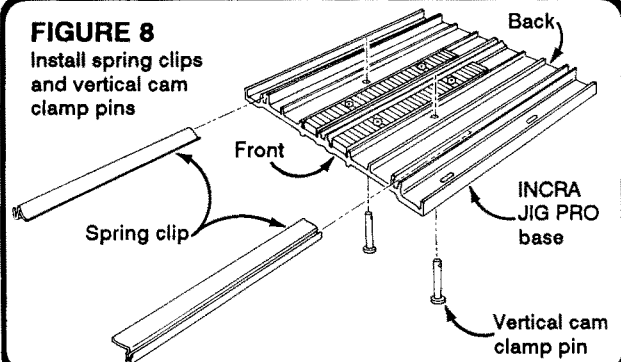
INCRA JIG PRO top

LOOSELY install racks in top



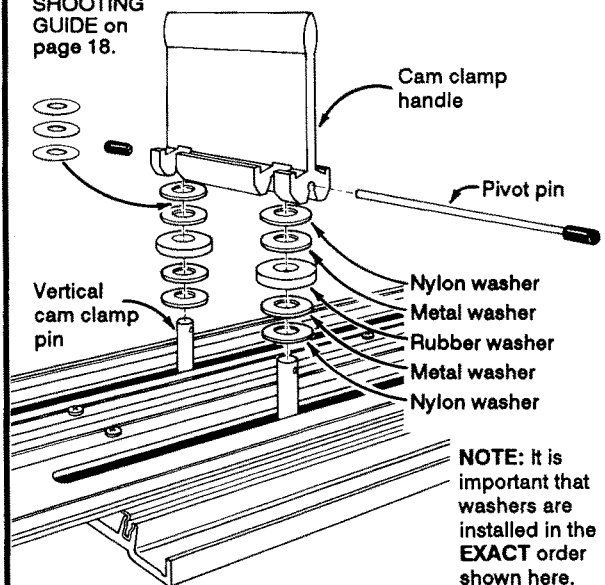
**FIGURE 8**

Install spring clips and vertical cam clamp pins



**FIGURE 9** Install cam clamp assembly

Install nylon "shim" washers **BETWEEN** the top metal and nylon washer on **EACH** vertical pin as needed for optimum clamping pressure. See top of TROUBLE SHOOTING GUIDE on page 18.



**NOTE:** It is important that washers are installed in the **EXACT** order shown here.

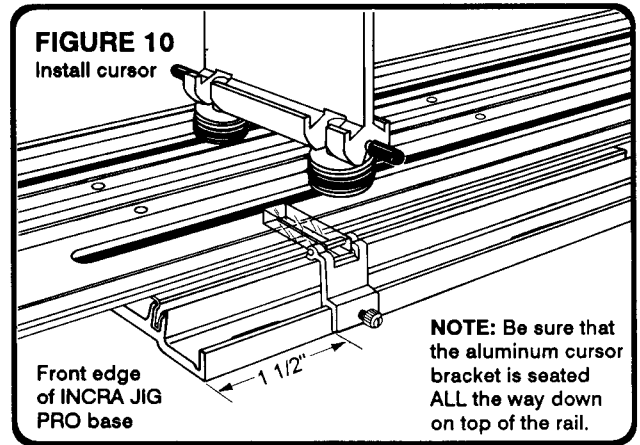
## STEP 7 - Install the FLIPSIGHT™ hairline cursor

Orient the FLIPSIGHT cursor as shown, with the clear acrylic hairline piece on your left. Position the aluminum cursor bracket 1 1/2" from the "front" end of the INCRA JIG PRO base. Tighten the nylon thumb screw to secure it in place on the rail.

**CAUTION:** The cursor bracket should never be positioned closer than 1 1/2" from the front end of the base.

When oriented as shown, the black hairline should be on the **BOTTOM** of the clear acrylic part. If it is not, unscrew it, turn it over, and screw it back on the #6-32 machine screw. Also, be sure that the clear acrylic part rides on top of the jig, and does not get jammed in the scale slot during installation.

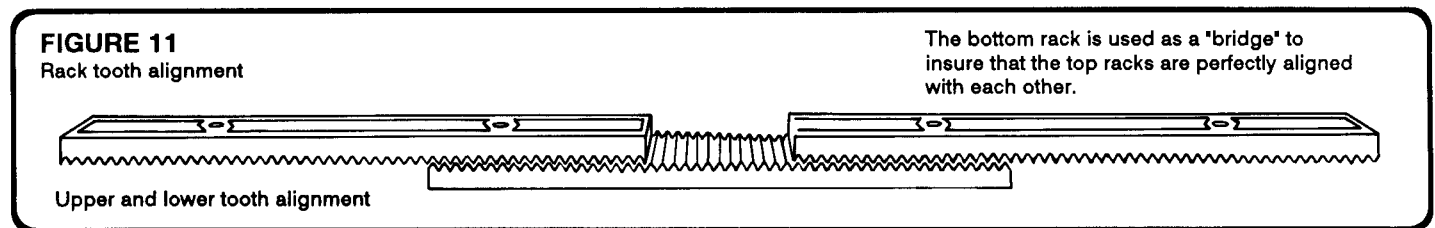
**NOTE:** To insure that the hairline cursor reads properly, be sure that the aluminum cursor bracket is seated all the way down on top of the rail.



## STEP 8 - Align racks and tighten top rack mounting screws

There are two sets of two racks in the top of the 12" model, and three sets of two in the 16" model. It is important that each pair of top racks is properly aligned with each other, and that they also mesh perfectly with the bottom racks. Fortunately, this is easily accomplished by using the racks already installed in the INCRA JIG PRO base as a bridge to force each pair of top racks into perfect end-to-end alignment. (See FIGURE 11.) This is simply a matter of setting the jig to a position where the pair of untightened top racks is "bridged", then engaging the cam clamp and securely tightening the top rack mounting screws. Separate instructions are given for the 12" and the 16" model. Read and follow these instructions very carefully.

**NOTE:** THE TOP RACKS SHOULD STILL BE LOOSELY INSTALLED AT THIS POINT.

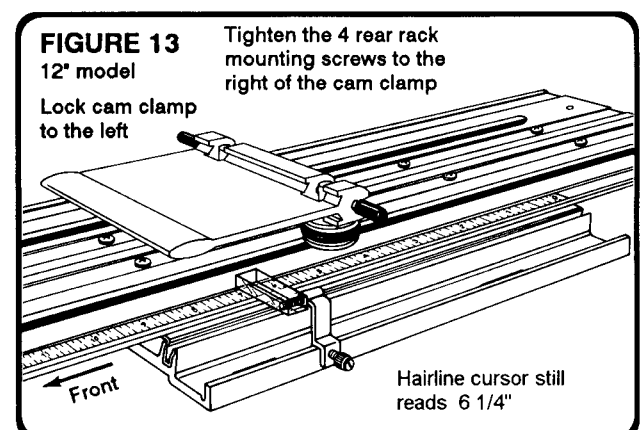
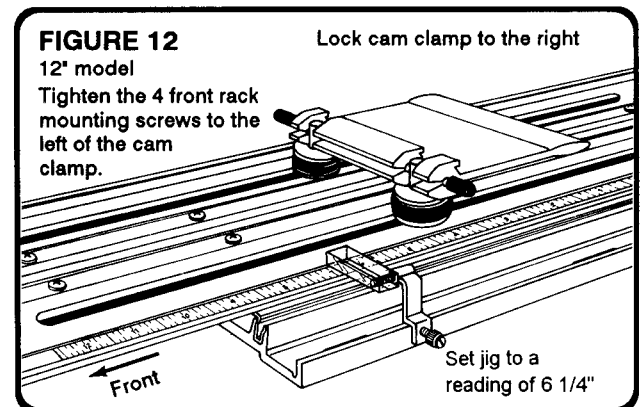


## Rack alignment and rack mounting screws INCRA JIG PRO - 12" MODEL

Position the 12" INCRA JIG PRO on a table with the front end to your left. With the cam clamp in the unlocked position, slide the INCRA JIG PRO top to a scale reading of **APPROXIMATELY 6 1/4"** and lock the cam clamp in place by pushing it down to the **RIGHT**. (See FIGURE 12.) With the cam clamp still locked in place, adjust the 1/32" scale by sliding it to the left or right under the hairline cursor so that it reads **EXACTLY 6 1/4"**. Now tighten the four front rack mounting screws to the left of the cam clamp.

**NOTE:** Refer to FIGURE 2 on page 10 for the best method of sliding the scale.

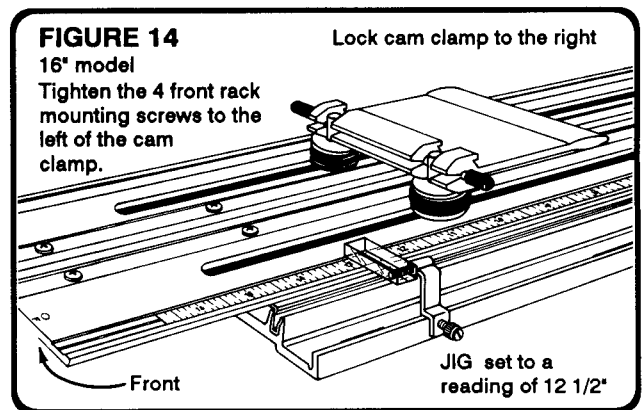
Release the cam clamp, then re-clamp at the same position by pushing the cam clamp down to the left. (See FIGURE 13.) The INCRA JIG PRO should still be set to a scale reading of **EXACTLY 6 1/4"**. Now tighten the four rear rack mounting screws to the right of the cam clamp.



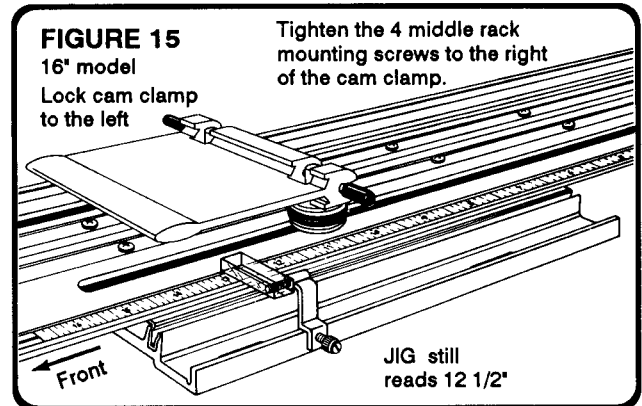


## Rack alignment and rack mounting screws INCRA JIG PRO - 16" MODEL

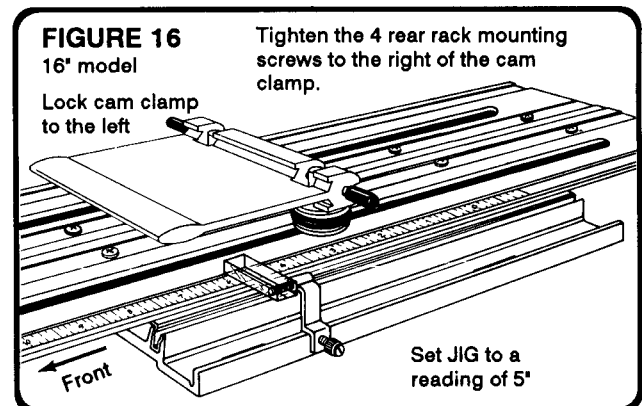
Position the INCRA JIG PRO on a table with the front end to your left. With the cam clamp in the unlocked position, slide the INCRA JIG PRO top to a scale reading of **APPROXIMATELY 12 1/2"** and lock the cam clamp in place by pushing it down to the right. (See FIGURE 14.) With the cam clamp still locked in place, adjust the 1/32" scale by sliding it to the left or right under the hairline cursor so that it reads **EXACTLY 12 1/2"**. Now tighten the four front rack mounting screws to the left of the cam clamp.



Release the cam clamp, then re-clamp at the same position by pushing the cam clamp down to the left. (See FIGURE 15.) The INCRA JIG PRO should still be set to a scale reading of **EXACTLY 12 1/2"**. Now tighten the four middle rack mounting screws to the immediate right of the cam clamp.



Release the cam clamp and slide the INCRA JIG PRO top to a scale reading of **5"**. Lock the cam clamp in place by pushing it down to the left. (See FIGURE 16.) Tighten the four rear rack mounting screws to the right of the cam clamp.



## STEP 9 - Final scale/cursor alignment

Open your 12" or 16" model INCRA JIG PRO to its fullest extension and lock the cam clamp in place. Slide the 1/32" scale in the slot to the left or right under the hairline cursor so that it reads exactly 0" (zero). Now set the jig to several positions over its full range, and make sure that you have the best possible alignment between the cursor and the scale for every position. If the reading is off slightly at either end of the scale, set the jig to mid position (6" for the 12" model, or 8" for the 16" model). Then, lock the cam clamp and slide the scale under the cursor until the 6" or 8" mark is **EXACTLY** under the hairline.

**IMPORTANT:** Whenever you set the INCRA JIG PRO to any new position, make sure that the scale mark is aligned **DIRECTLY** under the hairline before engaging the cam clamp. Also, to prevent accidentally sliding the scale out of place, be careful not to drag your fingers over the scale while setting the jig to a new position.

## FENCE INSTALLATION

INCRA JIG PRO is designed to be used with either the 18" or 28" INCRA Fence. (It will also work with the older 26" model.) All INCRA Fences work with the patented INCRA Stop for precise stopping control along the length of the fence. The 18" Fence is appropriate for smaller router tables, the drill press, band saws and other smaller machines. The 28" Fence is suggested for the table saw, large router tables and other larger stationary woodworking machines. The 28" Fence is also useful where greater INCRA Stop range is desired. INCRA JIG PRO is designed to work **ONLY** with **GENUINE INCRA** Fences. Substitution of other non-INCRA Fences is not recommended. However, for some applications you can also make your own wooden fence using the plans on page 18.

**NOTE:** The 28" INCRA Fence is used with a single INCRA JIG PRO. This fence cannot be used with the Original INCRA JIG.

**IMPORTANT:** The fence mounting process described in the next few steps **MUST** be done with the cam clamp in the down or **LOCKED** position.



## STEP 1 - Attach INCRA JIG PRO assembly to 3/4" plywood base

Begin with a flat piece of 3/4" plywood (or hardwood) that is 8" wide. The length of the plywood should be the same as the width of your table saw or router table. Clamp the plywood to a flat surface using (2) C-Clamps. Center the INCRA JIG PRO assembly on the plywood base as shown in FIGURE 1. Align the front end of the INCRA JIG PRO base with the front edge of the plywood and secure in place through the four slotted holes in the base using the four supplied #10 x 7/8" wood screws and 3/16" washers. The wood screws should thread into 1/8" diameter pilot holes.

## Mounting the Fence

**NOTE:** Before proceeding further, check the manual that came with your INCRA Fence. If your Fence manual has specific instructions for mounting the INCRA Fence to the INCRA JIG PRO, follow those instructions. If your Fence manual does not include mounting instructions, follow STEPS 2-4 below.

### STEP 2 - Attach the fence mounting bracket

Mount the fence bracket to the end of the INCRA JIG PRO top marked with the two "F"s. Use the machine screw/washer/rectangular nut arrangement as shown in FIGURE 2. Be sure to securely tighten the two screws before continuing.

### STEP 3 - Attach the fence

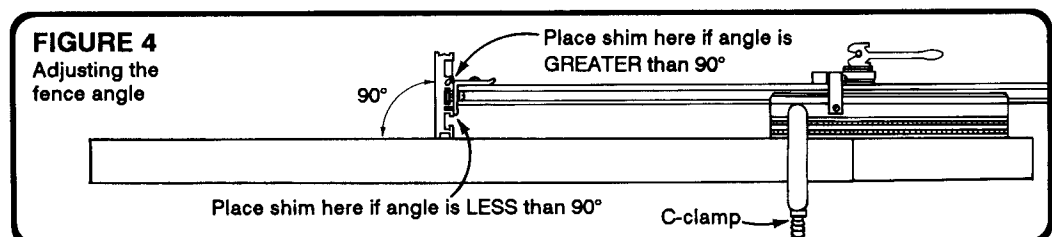
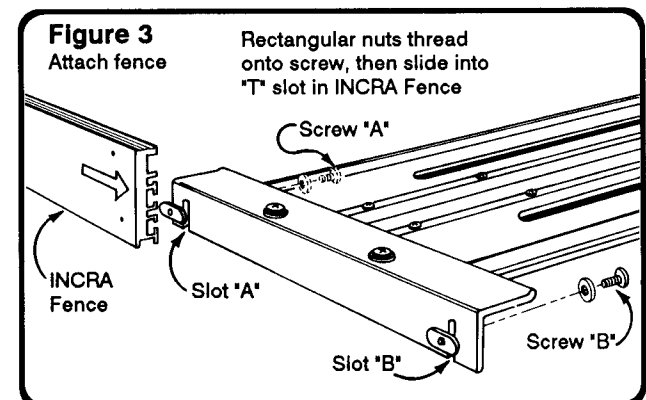
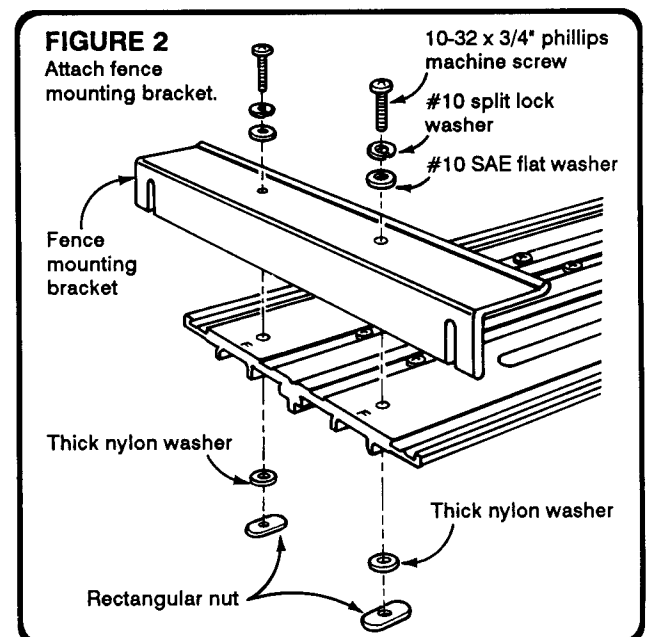
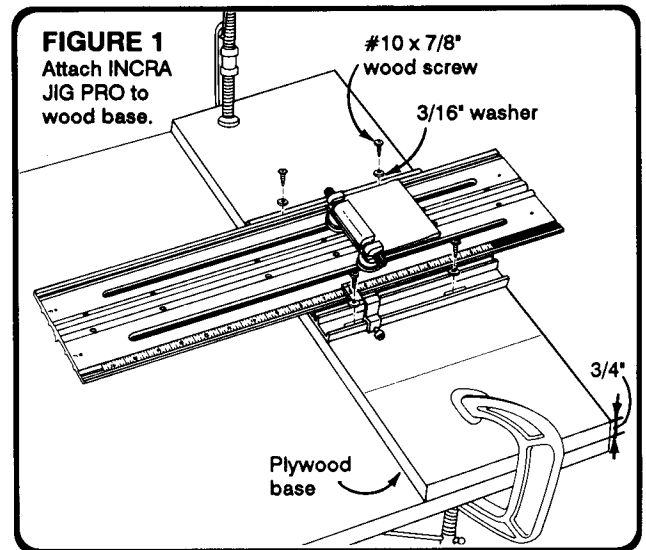
**NOTE:** The FENCE INSTALLATION shows the optional INCRA Fence which is sold separately. If you wish to make your own wooden fence, refer to the instructions on page 18.

**IMPORTANT:** The cam clamp must be in the locked position before installing the fence.

Insert machine screw "A" through the flat washer then through slot "A". (See FIGURE 3.) While holding the screw in place, thread the rectangular nut onto the screw. **MAKE SURE THAT THE FLAT SIDE OF THE RECTANGULAR NUT FACES THE FENCE MOUNTING BRACKET.** With the rectangular nut still loose, slide your INCRA Fence onto the rectangular nut so that the nut is captured in the center "T"-slot on the back of the fence. Repeat the above fastener installation for screw "B". Continue sliding the fence until the rectangular nut on screw "B" is also captured in the "T"-slot. Position the fence so that the mounting bracket is centered on the length of the fence and securely tighten the two machine screws.

### STEP 4 - Adjusting the fence angle

Clamp the INCRA JIG PRO to the stationary tool of your choice and, with the jig set to mid range, check the angle of your fence to the table surface 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 FIGURE 4.



# OPERATION

**REMEMBER:** Whenever moving the INCRA JIG PRO to a new position along the scale or template, always locate the jig top so that the mark on the scale or template is aligned directly under the hairline cursor before locking the cam clamp in place. This is necessary because the INCRA JIG PRO's upper and lower racks "mesh" in increments of 1/32" ONLY. Any attempt to "force" down the cam clamp while the cursor is positioned between scale marks may cause the racks to temporarily "hang up" before meshing in place.

To use your INCRA JIG PRO, clamp the plywood base to the stationary tool of your choice. (See the **APPLICATIONS** section beginning on page 12 for specific set up recommendations for the router table, table saw and drill press.) Moving the fence to a new position is simple. First, release the cam clamp, then grasp the fence mounting bracket (as shown in FIGURE 1) and slide the fence to the new position. **CAUTION: FOR YOUR SAFETY, KEEP BOTH HANDS BEHIND THE FENCE WHEN MOVING TO A NEW POSITION.**

Now sight straight down through the FLIPSIGHT (making sure that the new scale mark is aligned with the cursor) and lock the cam clamp in place. When moving INCRA JIG PRO to a new position, take care not to accidentally slide the scale in its slot.

## USING THE FLIPSIGHT™ HAIRLINE CURSOR AND THE SLIDING SCALE

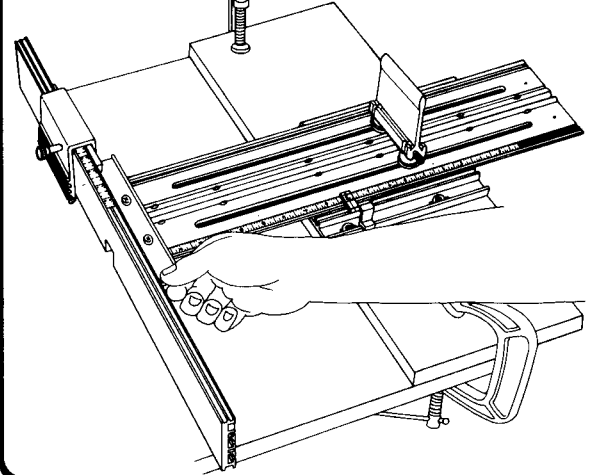
The sliding scale and moveable FLIPSIGHT hairline cursor allow for a great variety of scale/cursor alignment positions. For greater versatility, both are designed to be used on EITHER the left or right side of the INCRA JIG PRO. Remember, when changing scale and cursor alignment positions it is important to do so with the cam clamp in the locked position. To change the scale position, simply slide the scale to the left or right by pushing it in the slot with your fingers on top as shown in FIGURE 2. (**NOTE:** Refer to the Trouble Shooting section on page 18 if the scale is difficult to slide.) To change the FLIPSIGHT position, loosen the nylon thumbscrew that secures it to the INCRA JIG PRO base and slide the aluminum cursor bracket to the left or right as desired. Tighten the nylon screw making sure that the aluminum cursor bracket is seated all the way down on the rail.

**CAUTION:** DO NOT position the aluminum cursor bracket any closer than 2" from the front of the INCRA JIG PRO base. Any closer and it is possible for the fence mounting bracket to hit the FLIPSIGHT when closing the jig.

**NOTE:** Once you have the cursor set to the desired initial position, it is generally not necessary to move it again.

**FIGURE 1**

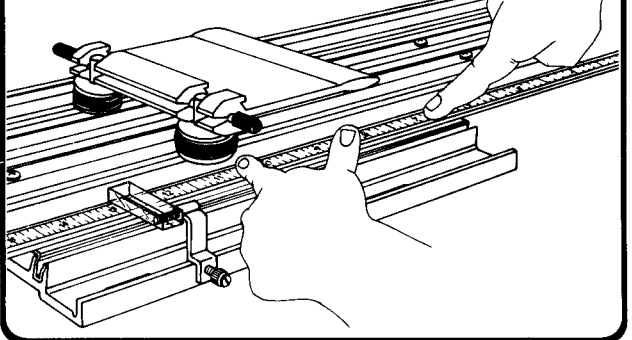
Moving the fence to a new position



**CAUTION:** Keep both hands behind the fence when moving to a new position.

**FIGURE 2**

Moving the sliding scale



## HELPFUL TIPS

Here are some helpful ideas that will make your INCRA JIG PRO even more useful.

### Micro-adjusting INCRA JIG PRO to any position between 1/32" steps

By using paper shims, your INCRA JIG PRO can very easily be set to any position between 1/32" steps.

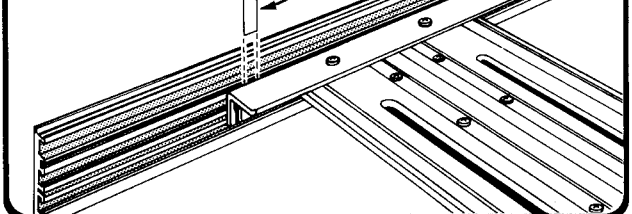
**STEP 1** - With the INCRA JIG PRO assembly secured to your stationary tool (table saw, router table, etc.), open the jig up to a scale reading of about 8" and lock the cam clamp in place.

**STEP 2** - Loosen one of the machine screws that secure the fence to the mounting bracket (See FIGURE 3.)

**STEP 3** - Place a shim of the desired thickness between the end of the mounting bracket and the fence, then re-tighten the machine screw. (A piece of paper is about 0.004" thick.)

**STEP 4** - Repeat STEPS 2 & 3 for the other end of the fence mounting bracket. This simple operation introduces a known offset equal to the thickness of the shim into every INCRA JIG PRO setting. You can easily return to your former position by removing the shims.

**FIGURE 3**  
Micro-adjusting  
INCRA JIG PRO



## Recording your own custom series of INCRA JIG PRO settings

If you want to make your own custom series of cuts, it is often easier to first make a template before you start cutting. To do this, place a strip of SCOTCH Brand Magic™ Tape on top of the 1/32" scale. (Take care not to slide the scale in the slot.) Then, with a ball point pen, place a mark on the tape at all of the settings involved in the series. This enables you to quickly align your INCRA JIG PRO on the marks without having to remember the actual scale readings. By folding one end of the tape over on itself to create a tab, the tape can be easily removed.

## USING INCRA TEMPLATES WITH THE INCRA JIG PRO

To make template assisted joinery even easier, use pre-marked, reusable INCRA Templates. The **INCRA Master Template Library** contains 50 16"-long INCRA Templates for making a wide variety of joints. The set includes full instructions for using these templates with your INCRA JIG PRO. The 17 8"-long templates included with the **INCRA JIG Handbook and Templates** can also be used with the INCRA JIG PRO by following the instructions below.

### For joinery less than 8" in length

When using the Original (8") INCRA Templates with your INCRA JIG PRO for joinery less than 8" long, the template can be adhered to the top of the 1/32" scale anywhere between the scale's endpoints. (See FIGURE 1.) To install the template, set your INCRA JIG PRO to a scale reading of 8" for the 16 inch model, or 6" for the 12 inch model and lock the cam clamp. Slide the template under the FLIPSIGHT and align any of the marks on the template directly under the hairline cursor. **THE ARROW ON THE END OF YOUR TEMPLATE SHOULD POINT TOWARDS THE FENCE.** (NOTE: The one exception to this rule is the INCRA Double Double Box Joint template. When using this template, the arrow must point **AWAY** from the fence as shown in the Complete INCRA JIG VIDEO.) Now press the template down along its length so that it adheres to the top of the scale as shown in the cross section in FIGURE 2. Take care not to slide the scale when installing or removing the template. Make sure after installing the template that the template mark is directly under the hairline cursor. **(FOR MORE INFORMATION ON USING TEMPLATES: Refer to the INCRA JIG Handbook & Templates and The Complete INCRA JIG Video.)** Once the template is in place, follow the instructions in the Handbook & Templates for making box joints and dovetails.

**NOTE:** The Original INCRA Templates were designed with a thicker mark for ease of visual alignment when used with the Original INCRA JIG. If you prefer, these same INCRA Templates are now available in a new "Thin Line" version. See the last page of this manual for order information.

### For joinery greater than 8" in length

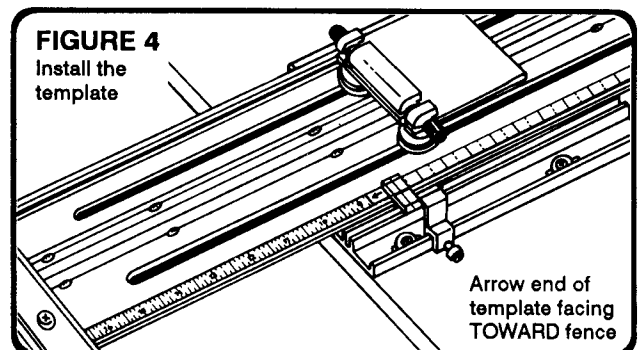
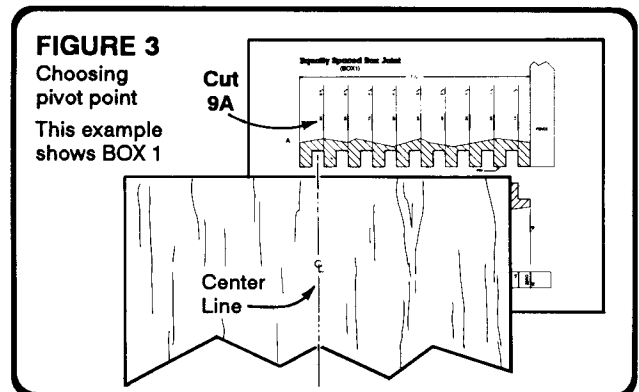
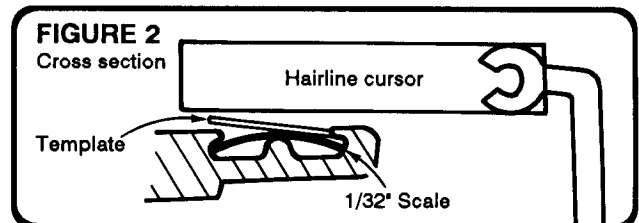
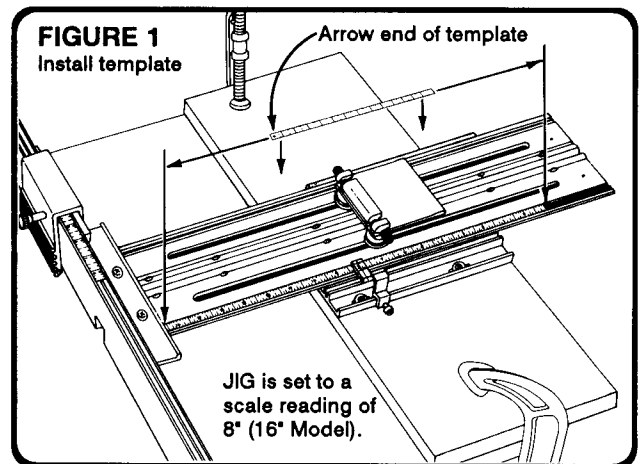
By pivoting an 8" template on the last cut, you can double the length of the joinery. This works best on joints 12" or less.

#### STEP 1 - Choose the "pivot" point

Mark the center of the stock to be cut. Place the stock on top of the drawing for the selected joint in the INCRA JIG Handbook and Templates. Align the mark on the board with the center of the last slot on either the "A" or the "B" side of the drawing. This last slot will be the pivot point. In the example shown in FIGURE 3, cut 9A is the pivot point. Placing the stock on the drawing in this manner allows you to predetermine whether there will be a slot or a pin on the outside edges of your stock. (When using the "centering" method of fence alignment described in Chapter 3 of the INCRA JIG Handbook and Templates, the pivot point will also serve as your center cut.)

#### STEP 2 - Install the template

If you are using the 16" model, set the unit to a scale reading of 8" (6" for the 12" model), and lock the cam clamp. Slide the template under the FLIPSIGHT cursor and align the pivot point directly under the hairline. The arrow on the end of the template should point **TOWARD** the fence. (See FIGURE 4.)



Now press the template down along its length so that it adheres to the top of the scale as shown in FIGURE 2. (Again, if you are using the INCRA Double Double Box Joint template the arrow must point **AWAY** from the fence as shown in the video.)

### STEP 3 - Position the INCRA JIG PRO using the "Centering" method

Using the pivot point as your center cut, proceed with the "centering" method of fence alignment described in Chapter 3 of the INCRA JIG Handbook and Templates. This method is ideal for creating perfectly centered joinery without mathematics.

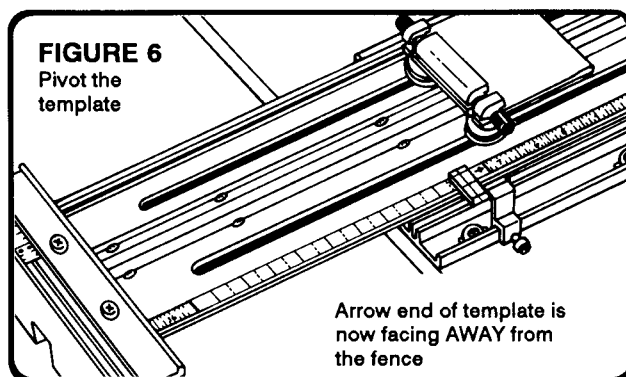
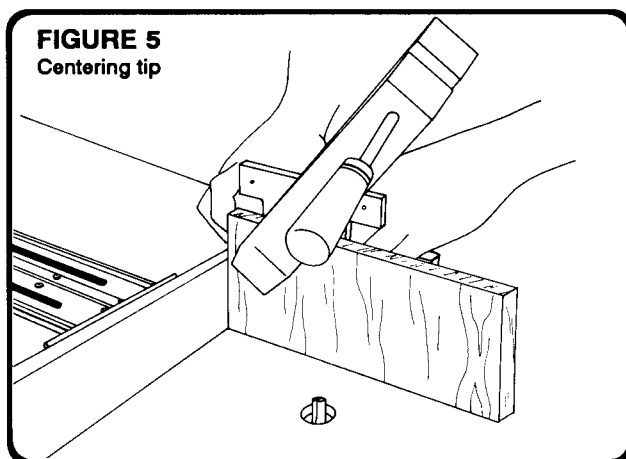
**TIP:** In FIGURES 7 and 8 on page 15 of the INCRA JIG Handbook and Templates, a scrap piece of wood the same width as the stock to be joined is used to establish the initial fence setting. A groove is made along the length of this scrap. (The scrap should always be longer than its width.) In order to save wood when using the "centering" method for longer joinery, you may prefer to make this groove across the end grain of a piece of scrap stock. Clamp the scrap to your INCRA Right Angle Fixture as shown in FIGURE 5. This way you can use a much shorter piece of wood. Again, the scrap should be the same width as the stock to be joined.

### STEP 4 - The "A" Cuts

After centering, attach the stock to be joined to the right angle fixture. Make all of the "A" cuts up to AND INCLUDING the pivot point (cut 9A in the example shown. See FIGURE 3, page 11.) Now with the cam clamp in the locked position and the hairline cursor still aligned directly over the pivot point (cut 9A), pivot the template. To do this remove the template, turn it so that the arrow on the template is pointing **AWAY** from the fence and position the pivot point (cut 9A) directly under the hairline cursor. (See FIGURE 6.) Press the template down along its length so that it adheres to the top of the scale. You may now continue cutting. Since you have already made the pivot point cut (9A), move on to the next cut (8A), then continue on to cut the rest of the "A" series. After making all of the "A" cuts on all of the joints you wish to make, proceed to the "B" cuts.

### STEP 5 - The "B" Cuts

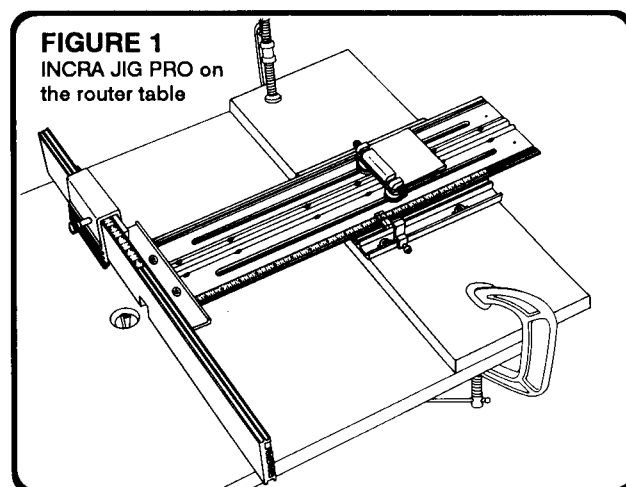
Move the fence to set the pivot point (cut 9A in the example) directly under the hairline cursor and lock the cam clamp. Pivot the template as described above so that the arrow on the template again points **TOWARD** the fence. Make all of the "B" cuts to the right of the pivot point. Now move the INCRA JIG PRO to set the pivot point (cut 9A) directly under the hairline cursor and lock the cam clamp. Pivot the template as described above so that the arrow on the template is pointing **AWAY** from the fence. You may now continue by making all of the "B" cuts to the left of the pivot point. **REMEMBER**, before pivoting the template you must always first move the INCRA JIG PRO to align the chosen pivot point directly under the hairline cursor and lock the cam clamp.



## APPLICATIONS

### INCRA JIG PRO on the router table

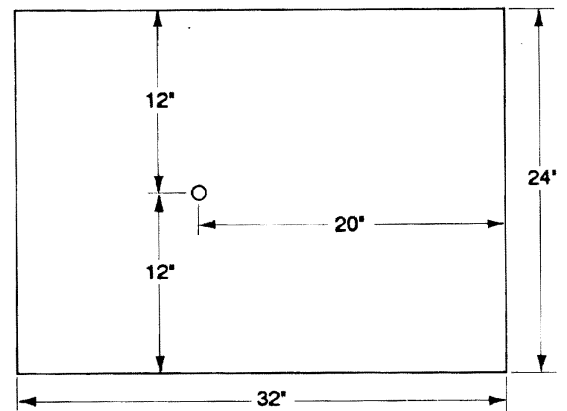
INCRA JIG PRO is unsurpassed for making **DOVETAILES** on the router table. Just about any dovetail is possible - sliding, half blind, or through - both equally and variably spaced. Even imaginative joints, like the INCRA Double Dovetail can be made. But INCRA JIG PRO is much more than a dovetail jig. You can also make perfect **BOX JOINTS** with any pin spacing imaginable. And with INCRA JIG PRO's precise positioning capabilities, **GEOMETRIC PATTERNS** for things such as trivets or decorative panels are both easy and fun. If you are interested in making **PRECISE, INTRICATE MODELS**, you will find that INCRA JIG PRO is just what you have been looking for. In general, any operation on the router table requiring a fence will be accomplished with much greater accuracy, speed, and ease using INCRA JIG PRO.



To use INCRA JIG PRO on your router table, position the 3/4" plywood base on your table top as shown in FIGURE 1 on page 12. The fence should always be on the right hand side of the router bit as seen from the operator's side of the table. If you do not yet own a router table top, the dimensions shown in FIGURE 2 will produce a comfortable table size which allows enough room to use the full range of your INCRA JIG PRO.

**FIGURE 2**

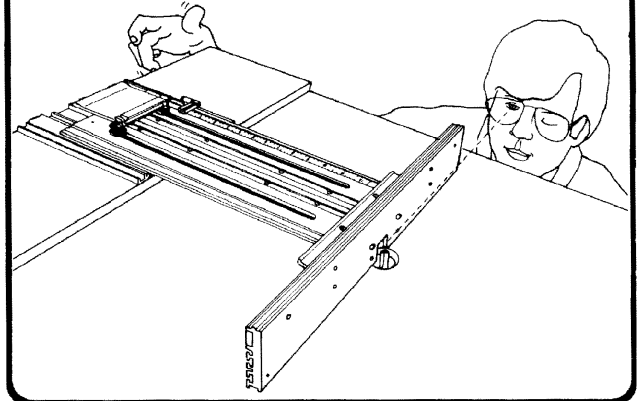
Router table top (suggested minimum dimensions)



### "Zeroing" the bit to the fence

If you wish to set the fence to bit distance equal to zero, open the INCRA JIG PRO to a scale reading of 0" and lock the cam clamp in place. With the router turned off and unplugged, sight down the fence as shown in FIGURE 3 and tap the wooden base to move the fence towards the bit. With each tap, the gap of light between the fence and the outer cutting wing of the bit will get smaller. Continue tapping carefully until one last tap causes the gap to disappear. When this happens, the bit will be "zero" distance from the fence. Check to make sure that the bit is centered in the notch. Securely clamp the plywood base to your router table with (2) C-clamps as shown in FIGURE 1 on Page 12. You have now positioned your fence so that all of your cuts will be made relative to the edge of your stock. (Example: By setting your INCRA JIG PRO to a scale reading of 1" and making a cut, you will produce a slot 1" from the edge of your stock.)

**FIGURE 3**



### "Centering"

Although the "zeroing" method above can be used to create a centered joint, it requires that your stock be cut to specific widths, as described later in the **BOX JOINT** and **DOVETAIL** sections on pages 15-17. If you are using INCRA JIG PRO with any of the 17 templates for the INCRA JIG HANDBOOK and Templates, refer to Chapter 3 in the Handbook for a "centering" method which positions the fence relative to the center of your stock. This method of fence positioning is great for producing perfectly centered joinery on any width of stock within the INCRA JIG PRO's range. **FOR MORE INFORMATION ON CENTERING:** Refer to the **INCRA JIG HANDBOOK & Templates** and **The Complete INCRA JIG Video**.

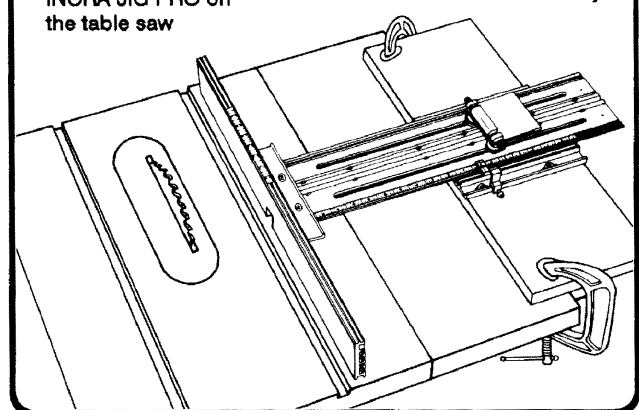
## INCRA JIG PRO on the table saw

Another way of making box joints is to use INCRA JIG PRO as an incremental fence or stop block on the table saw. Its usefulness on this machine is also evident in its ability to cut uniform thin strips off the outside edge of a board. Or, if you ever need to cut a precisely spaced series of grooves, INCRA JIG PRO on the table saw will handle it with ease. Have you ever tried to EXACTLY duplicate a cut after moving your old fence system? With INCRA JIG PRO on your table saw, duplication becomes effortless. No more trial and error cuts. In fact, within its 12" or 16" range, you'll not find a more accurate table saw fence on the market today.

To use INCRA JIG PRO on your table saw, position the 3/4" plywood base on your table top as shown in FIGURE 1. For best results on the table saw, we recommend that you use the optional 28" INCRA Fence which can be purchased from your INCRA dealer. If you wish to cover the notch on the INCRA Fence, the aluminum is pre-drilled to accept a wooden auxiliary fence. See FIGURE 2 on page 14 for dimensions and hole/counterbore locations to make an auxiliary fence. Place a #10 washer into each counterbore, then mount the auxiliary fence using (2) #10-24 x 1 1/2" machine screws. Secure in place with (2) #10 washers and (2) #10-24 hex nuts.

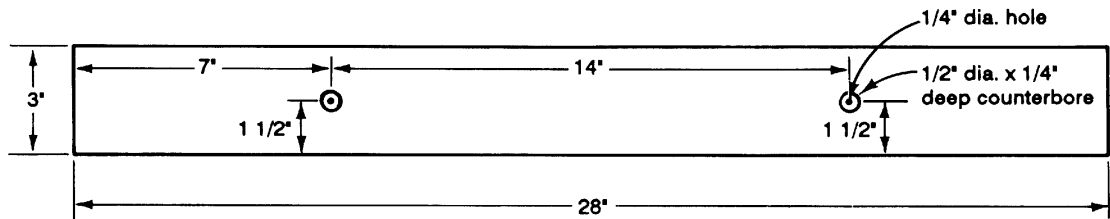
**FIGURE 1**  
INCRA JIG PRO on  
the table saw

Blade guard shown  
removed for clarity



**FIGURE 2**

Auxiliary fence



### "Zeroing" the fence to the blade

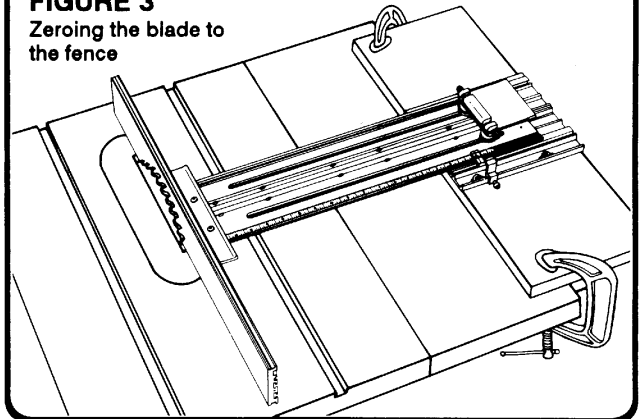
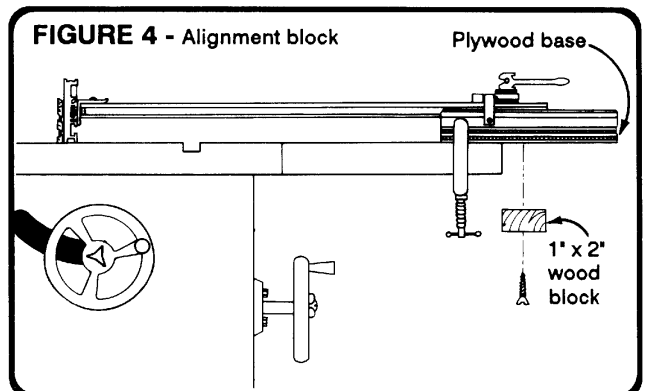
With the motor unplugged, raise your table saw blade to about 2". Open the INCRA JIG PRO to a scale reading of 0" and lock the cam clamp in place. Now, very carefully slide the INCRA JIG PRO assembly and fence up to the blade, making sure the fence is centered on the area between the front and back edge of the table top. (See FIGURE 3.) Be gentle when positioning the fence adjacent to the saw blade so that you don't deflect the blade. The fence should be just "kissing" the blade, with the INCRA JIG PRO set to a scale reading of 0".

You have now positioned the fence parallel to the blade and set the fence to blade distance at zero. Clamp the plywood base to the table top using (2) C-clamps. Be careful not to shift the plywood base while clamping. To check this, release the cam clamp and move the INCRA JIG PRO to a scale reading of 1" and then back again to 0". Now, as you lock the cam clamp in place, watch the sawblade to make sure the fence does not deflect it.

**TIP:** Once you have "zeroed" the INCRA JIG PRO on your table saw, glue and screw a 1" x 2" piece of hardwood to the underside of the plywood base adjacent to the right edge of your table saw. (See FIGURE 4.) The 1" x 2" piece should be about as long as the plywood base. Make sure it is butted up against the right edge of the table saw before screwing in place. Now, should you need to remove your INCRA JIG PRO from the table saw, you can quickly re-install it in the exact position as before by butting the 1" x 2" against the right edge of the saw and clamping the plywood base to your table saw.

**FIGURE 3**

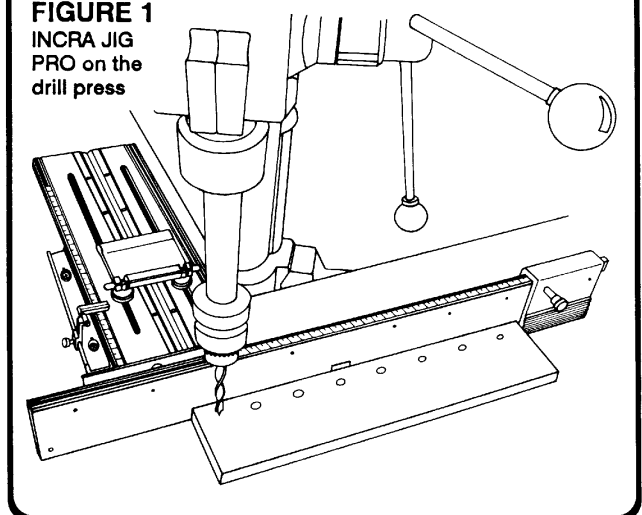
Zeroing the blade to the fence

**FIGURE 4 - Alignment block**

### INCRA JIG PRO on the drill press

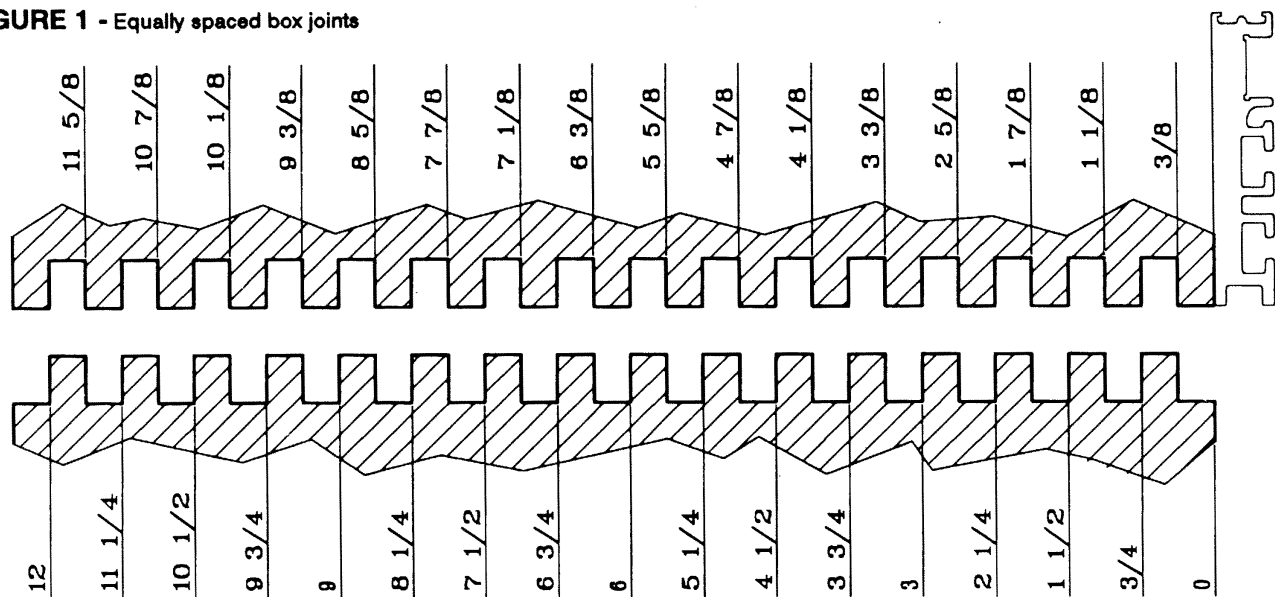
Another common shop tool that is greatly enhanced by INCRA JIG PRO is the drill press. Used as a variable stop block, it gives you precise, single axis positioning control. When INCRA JIG PRO is used in conjunction with the INCRA Fence and INCRA Stop, you have an ultra accurate X-Y positioner. (See FIGURE 1.) You can quickly, easily and accurately locate and drill any 2- dimensional array of holes by simply moving the INCRA JIG PRO 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, INCRA JIG PRO on the drill press is great for making perfect dowel joints.

**FOR MORE INFORMATION ON USING INCRA TOOLS ON THE DRILL PRESS:** Refer to the **INCRA JIG Handbook & Templates** and **The Complete INCRA JIG Video**.

**FIGURE 1**  
INCRA JIG PRO on the drill press

# MAKING BOX JOINTS ON THE ROUTER TABLE

**FIGURE 1 - Equally spaced box joints**



The diagram in FIGURE 1 above, shows the INCRA JIG PRO settings for equally spaced box joints. All of the cuts are made with a  $\frac{3}{8}$ " straight bit. The depth of cut should be just slightly greater than the thickness of your stock, but remember, **NEVER CUT ANY DEEPER THAN THE DIAMETER OF YOUR BIT IN ANY SINGLE PASS**. As an example, if you wanted to cut an equally spaced  $\frac{3}{8}$ " box joint in  $\frac{3}{4}$ " stock, first make all of the cuts with the depth of cut set at  $\frac{3}{8}$ ". Then raise the bit to  $\frac{3}{4}$ " and repeat all of the cuts.

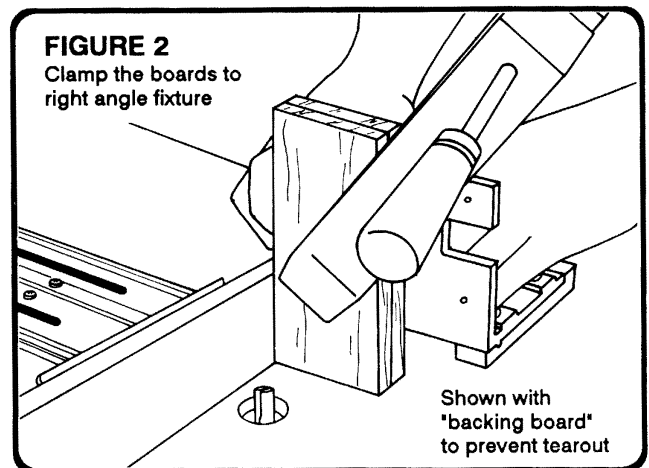
To cut the joint in the diagram, open your INCRA JIG PRO to a scale reading of 0" and "zero" the fence to the bit as described on page 13. In order to create a centered joint using the "zeroing" method of fence alignment, it will be necessary to cut the width of your stock to any of the dimensions on the TOP half of the diagram in FIGURE 1. (For example  $5 \frac{5}{8}$ ", or  $7 \frac{1}{8}$ ", or  $9 \frac{3}{8}$ ", etc.) The "centering" method described in the INCRA JIG Handbook and Templates produces centered joinery on any width of stock, so keep this in mind.

Clamp your board to the INCRA Right Angle Fixture as shown in FIGURE 2. Now simply set the INCRA JIG PRO to each of the measurements shown on the TOP half of the diagram in FIGURE 1 above and make the cuts.

Clamp your board for the other half of the joint to the INCRA Right Angle Fixture and make all of the cuts as shown on the BOTTOM half of the diagram in FIGURE 1 above.

You have now created a perfect equally spaced  $\frac{3}{8}$ " box joint. You are by no means limited to this pattern. Once you see how they are made, you will find it easy to experiment with the unlimited other combinations of pin and groove spacing.

**FOR MORE INFORMATION ON MAKING BOX JOINTS:** See **The INCRA JIG Handbook & Templates** and **The Complete INCRA JIG Video**.



## Half Blind Dovetails on the router table

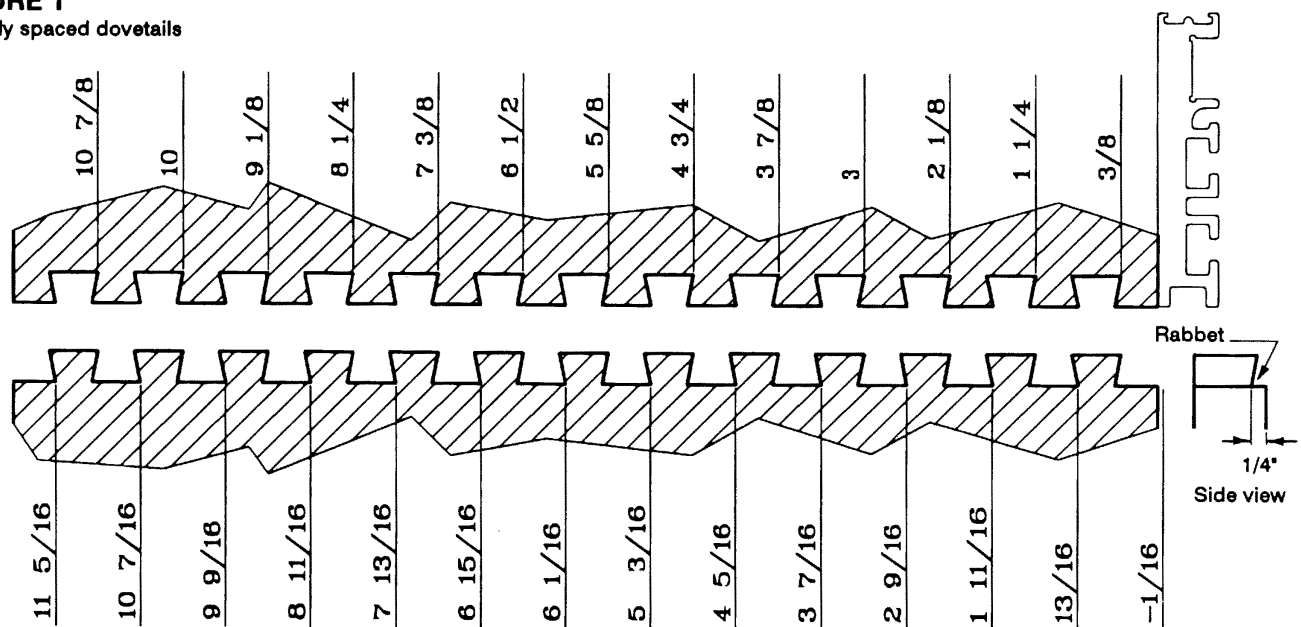
### Initial set up

The diagram in FIGURE 1 on page 16 shows the INCRA JIG PRO settings for equally spaced dovetails. All of the cuts are made with a  $\frac{17}{32}$ " or  $\frac{1}{2}$ " -  $14^\circ$  dovetail bit. You will notice that the first cut on the top half of the diagram requires a negative fence setting. In order to achieve a negative setting with your INCRA JIG PRO, set up as follows. Set the INCRA JIG PRO to a scale reading of  $\frac{1}{2}$ " and lock the cam clamp in place. Now slide the scale to the left under the FLIPSIGHT and align 0" directly under the hairline cursor. You have now positioned the scale so that you will have up to  $\frac{1}{2}$ " of negative fence settings. Next, chuck the  $\frac{17}{32}$ " or  $\frac{1}{2}$ " -  $14^\circ$  dovetail bit in your router. Set your INCRA JIG PRO to a scale reading of 0" and lock the cam clamp in place. Zero the fence to the bit as described on page 13.



**FIGURE 1**

Equally spaced dovetails



### Set the depth of cut

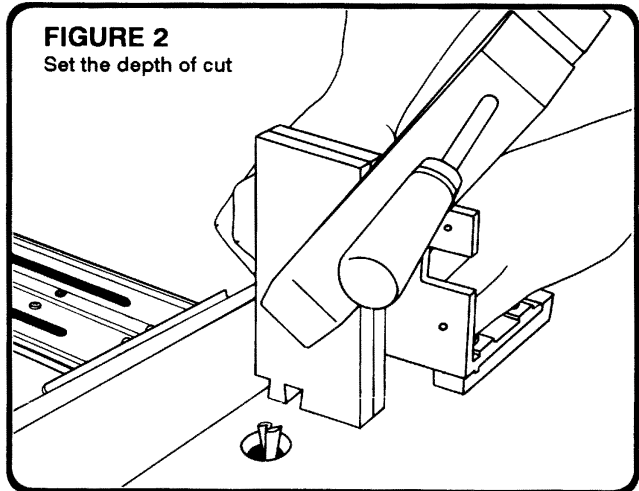
As with any dovetail jig, a little trial and error is needed to set the optimum depth of cut. You will need two scrap boards 5" long and 3" wide. Any thickness will do. Set the initial depth of cut to 1/4".

Clamp the two boards to the INCRA Right Angle Fixture as shown in FIGURE 2, and make the first two cuts shown on the BOTTOM half of the diagram in FIGURE 1 above. To do this, set your INCRA JIG PRO to a scale reading of -1/16" (a negative fence setting), lock the cam clamp and make the cut. Then move your INCRA JIG PRO to a scale reading of 13/16", lock the cam clamp and make the cut. Take the boards off the INCRA Right Angle Fixture and check the fit by joining the pieces end to end as shown in FIGURE 3.

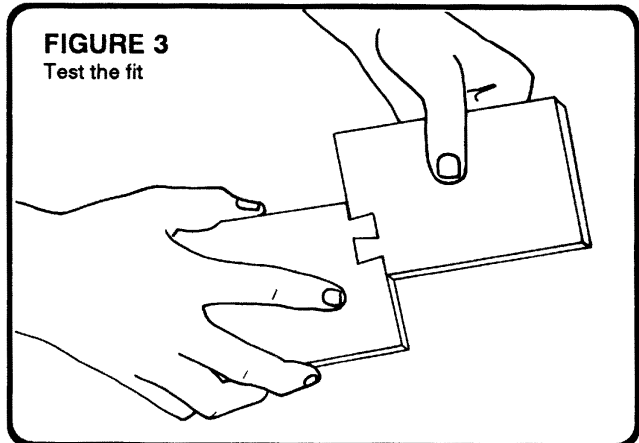
Use the following rule to further adjust the depth of cut: **HEIGHTEN TO TIGHTEN, LOWER TO LOOSEN**. If the fit is too loose, raise the bit slightly. If the fit is too tight, lower the bit slightly. Adjust your depth of cut as necessary, then place the two scrap boards back on the INCRA Right Angle Fixture with the uncut end against the table and repeat the two cuts. Again, check the fit and adjust the depth of cut as necessary. After a few trials you will arrive at a perfect depth of cut. When you are satisfied with the fit, mark and save the scrap piece that has the correct depth of cut. Each time you set up that particular dovetail bit, you will be able to use this scrap as a depth gauge to quickly set your bit at the correct height.

**FIGURE 2**

Set the depth of cut

**FIGURE 3**

Test the fit

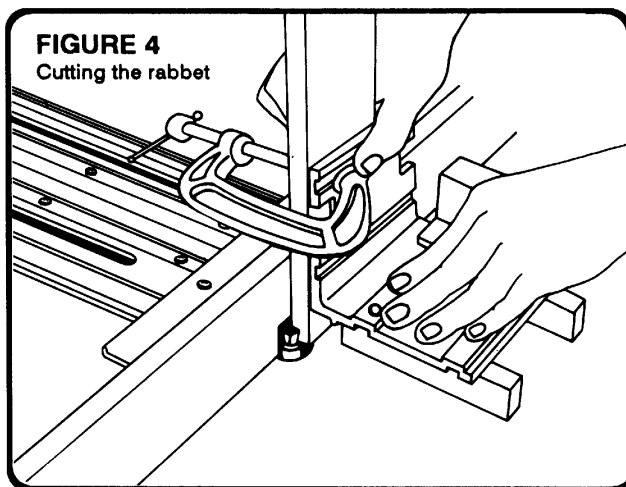


### Cut your stock to width

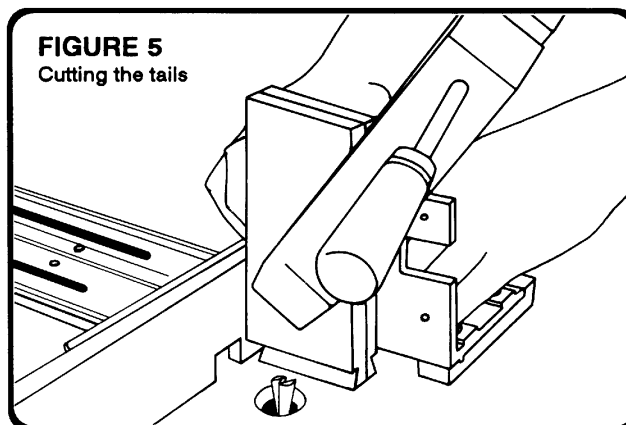
In order to create a centered joint using the "zeroing" method of fence alignment, it will be necessary to cut the width of your stock to any of the dimensions shown on the TOP half of the diagram in FIGURE 1 above. (For example: 2 1/8", 3", 3 7/8", etc.) For half blind dovetails, the thickness of your stock must be greater than the depth of cut.

## Make the TAIL sections

The first step in making the tails is to cut a dovetail shaped rabbet in the back of each tail piece. Clamp one of the tail sections to the right angle fixture as shown in FIGURE 4. The rabbet will be made in three light passes. Set the INCRA JIG PRO to a scale reading of  $-15/32"$  (a negative fence setting) and make a pass over the bit. Next, set the INCRA JIG PRO to  $-13/32"$  (a negative fence setting) and make a second pass. Now, set the INCRA JIG PRO to  $-11/32"$  (a negative fence setting) and make the final pass.



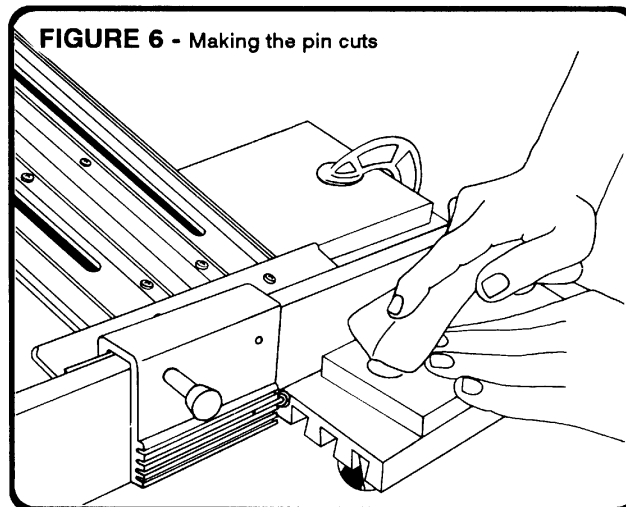
Now you can cut the dovetails in the tail sections. Clamp both boards to the INCRA Right Angle Fixture as shown in FIGURE 5. Set INCRA JIG PRO to each of the measurements shown on the BOTTOM half of the diagram in FIGURE 1 on page 16, and make the cuts.



## Make the PIN sections

The pin sections require short, stopped cuts made with the stock lying face down on the table. Set the INCRA JIG PRO to the first measurement on the TOP half of the diagram shown in FIGURE 1 on page 16. Position an INCRA Stop on the outfeed side of the fence at a point such that the nylon stop screw is as close as possible to the outfeed side of the bit without actually touching it. This position will usually stop the slot a little short, but after making the cuts on one piece you can check the fit and lengthen the stopped cut as needed.

Now set the INCRA JIG PRO to each of the measurements shown on the TOP half of the diagram in FIGURE 1 on page 16 and, using a good rubber soled push block, make the cuts. (See FIGURE 6.) If you have set the dovetail bit to the right depth of cut, you are guaranteed a perfect fit.



### FOR MORE INFORMATION ON MAKING DOVETAILS:

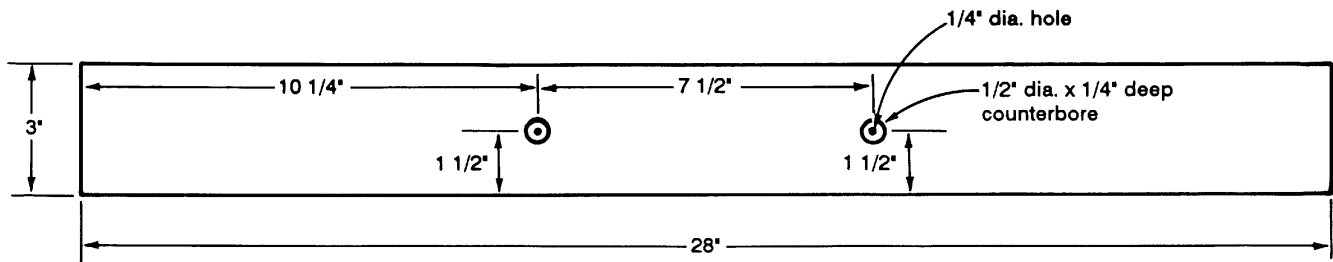
Refer to the **INCRA JIG Handbook & Templates** and **The Complete INCRA JIG Video**.

## CUTTING MULTIPLE THIN SLICES ON THE TABLE SAW

You can use your INCRA JIG PRO on the table saw to cut thin uniform slices off the outside edge of your board. Suppose, for example, you wanted to cut several  $1/8"$  strips of wood. If your blade has a standard kerf of  $1/8"$ , all you have to do is move the fence  $1/4"$  closer to the blade after each cut. ( $1/8"$  for the kerf plus  $1/8"$  for the strip.) If you wanted to make your strips  $1/16"$  thick, you would move the fence  $3/16"$  between cuts. ( $1/8"$  for the kerf plus  $1/16"$  for the strip.) With a good blade, you can easily shave off dozens of paper thin strips, all of which are exactly equal in thickness.

**FIGURE 1**

Shop-made wooden fence

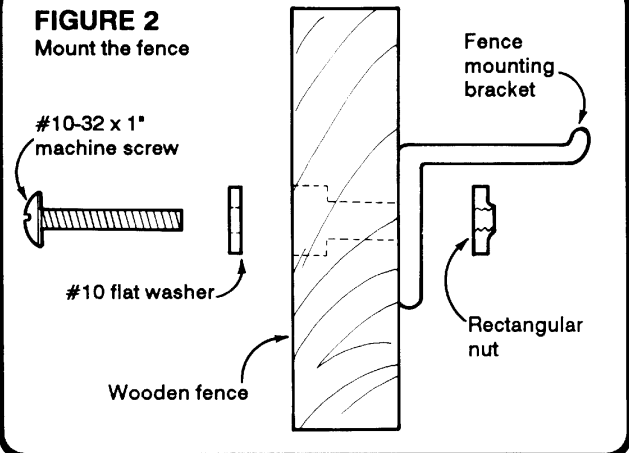


## MAKING A WOODEN FENCE

If you would like to make your own wooden fence, use the dimensions shown in FIGURE 1. Use good quality 3/4" plywood or hardwood which is flat and square. Drill and counterbore as shown. Mount the fence to the fence bracket on your INCRA JIG PRO using (2) #10-32 x 1" machine screws, (2) #10 flat washers and (2) #10-32 rectangular nuts. (See FIGURE 2.) The rectangular nuts are supplied with your INCRA JIG PRO.

**FIGURE 2**

Mount the fence



## TROUBLE SHOOTING GUIDE

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Cam clamping pressure is too loose.	Cam clamp is not adjusted properly	Add more shim washers. (See page 6, FIG. 9.)
Cam clamping pressure is too tight.	Cam clamp is not adjusted properly	Remove shim washers. (See page 6, FIG. 9.)
Lexan™ scale is difficult to slide.	Scale slot has become dirty	Remove the scale, then clean the slot thoroughly with paste wax, or preferably Top-Cote (available from your INCRA dealer). Then slide the scale back in the slot. <b>CAUTION:</b> Be careful not to bend or kink the scale when installing it in the scale slot.
Racks do not mesh properly when engaging the cam clamp.	Racks have become clogged with sawdust or pitch.	Remove all debris from the racks' teeth with a stiff brush, such as a toothbrush. ( <b>DO NOT</b> attempt to clean the racks with solvents of any kind, as this may permanently damage them.)
	Scale mark is not aligned directly under the hairline cursor.	Set the jig to mid position and engage the cam clamp. Then position the scale so that the 8" mark is aligned directly under the hairline. (Use the 6" mark for the 12" model.) When setting the jig to a new position, always make sure that the scale mark is aligned directly under the hairline cursor <b>BEFORE</b> engaging the cam clamp.
	Top set of racks are improperly aligned with the bottom racks, or with each other.	Re-align the racks as described on pages 7 & 8. Be sure that all racks are securely re-tightened before using the jig.

## TROUBLE SHOOTING GUIDE (continued)

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Racks grind slightly when the jig is moved near either its fully closed or fully opened position.	Fence is improperly mounted on the fence bracket.	If the fence is properly mounted, the top half of the jig will be perfectly parallel to the table when it is in the clamped position. If the fence is mounted either too high or too low on the bracket, it will force the top half into a non-parallel alignment with the table top. In some instances, this can cause the racks to come in contact near either the fully closed, or fully opened position. If this is the case, loosen the screws holding the fence to the bracket, and re-align as per the fence mounting instructions on page 9, STEP 3.
	Surface of table is not flat.	Bumps or dips on the table surface can force the top of the jig into a non-parallel alignment with the bottom, and in some cases cause the racks to grind. The solution is to use a table whose surface is as flat as possible. This is also important from a woodworking standpoint because errors in the surface of the table will translate directly into errors in your finished work.
Fence is not square to the table surface at all jig positions.	Fence is improperly mounted on the fence bracket.	If the fence is mounted either too high, or too low on the bracket, it can change the angle of the fence relative to the table when it is moved from one position to another. If this is the case, loosen the screws holding the fence to the bracket and re-align. (See mounting instructions, page 9, STEP 3.)
	There are several possible causes: Jig mounting board is not flat, table is not flat, sawdust between table and mounting board, or sawdust between the mounting board and the jig.	If you identify any of these, take steps to correct the problem. You can also use shims to bring the fence into perfect squareness as per the instructions on page 9, FIGURE 4.
When the jig is moved to a new position the top does not glide easily.	Spring clips are not fully relaxed.	As mentioned on page 6, STEP 5 the spring clips need to be broken in slightly. To do so, leave the jig in the clamped position for an hour or two. <b>NOTE:</b> If the jig is left unclamped for an extended period of time, it may be necessary to break the spring clips in again.
	The surfaces on the underside of the jig that ride on the top of the spring clips have become too rough.	Use paste wax, or preferably Top-Cote™ on these surfaces to improve the operation of the jig.
	Fence is improperly mounted on the fence bracket.	If the fence is mounted too high or too low on the bracket, it can cause resistance when moving from one position to another. If this is the case, loosen the screws holding the fence to the bracket, and re-align. (See instructions, page 9.)
	Too many shim washers in cam clamping assembly.	Too many shim washers can force the top down excessively on top of the spring clips. Remove one or two of the shim washers from each vertical pin to correct this situation. (See page 6, FIG 9.) <b>CAUTION:</b> Be certain that there is still adequate clamping pressure when cam clamp is engaged.

# SPARE PARTS ORDER LIST

ITEM NUMBER (See Exploded View, PG. 3)	PART DESCRIPTION	PRICE
24	16" long scale (1/32")	\$2.95
Not shown	16" long scale (Metric)	\$2.95
12, 13, 14, 15	FLIPSIGHT™ Hairline Cursor assembly	\$5.95
10	Square nuts (package of 8)	\$1.25
18, 19, 20, 19, 18	Cam clamp washers (2 sets of 5 washers)	\$2.95
11	Shim washers (package of 10)	\$1.25
23	Spring clips (set of 2)	\$2.95
Not shown	Metric (green) positioning racks (set of 8 plus one 16" long metric scale.)	\$11.95
Not shown	INCRA 'Thin Line' Templates - This template sheet contains the same 17 joint patterns featured in the INCRA JIG Handbook & Templates. (Template sheet only. Handbook and joint plans are not included. To purchase the INCRA JIG Handbook and Templates, see your INCRA dealer.)	\$9.95

1/32" (blue) racks are not sold separately. Contact your INCRA dealer to purchase any other INCRA tools.

**TO ORDER:** Send check or money order (no credit card orders accepted) along with the Item Number, Part Description, and quantity of each item you wish to order. **Add \$3.50 for shipping and handling to each order.** Texas residents add 8.25% sales tax.

Mail orders to: TAYLOR DESIGN GROUP, INC., Attn. Order Department, P.O. Box 810262, Dallas, TX 75381  
Please allow approximately 3 weeks for delivery.

## WARRANTY

Taylor Design Group 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 below. This warranty does not apply to parts which have been subjected to improper use, alteration, or abuse. Please fill out and return the registration card within 30 days of purchase to place the warranty in effect.

**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, to the address below. Allow 3 weeks for delivery.

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

Made in America by:

**TAYLOR DESIGN GROUP, INC.**

P.O. Box 810262

Dallas, TX 75381

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