Williams & Hussey
EJ92 Elliptical Jig

OPERATOR'S

MANUAL

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Customer Service: Monday - Friday, 8:30 AM - 4:30 PM East Coast Time

Our EJ92 ELLIPTICAL JIG provides an extension Of the capabilities of our W&H Molder Planer

We cannot overstate the respect and knowledge required to operate power tools. All safety rules and operational instructions stated in our Molder/Planer "Operators Manual" must be observed and followed.

Stock Preparation: The principle of our elliptical jig is based on the mounting of your finished stock to a template, which feeds against the bearing pressure applied to the inside and outside radius of your curved or elliptical design. Both your finished stock and template must be the *exact* width of your top profile, except when using a knife designed to cut only a portion of the width of your stock.

Make a template from 3/4" thick stock. We recommend medium density fiberboard (MDF). It is long wearing, easy to work with, and its hardness minimizes bearing-pressure impressions, and this results in a smooth flow of the stock. To properly engage the bearings, the template should have a 4" front lead before the stock engages the knife and a 4" lead on the end of the template to minimize defects in the stock exiting the machine. Minimum stock length is 9".

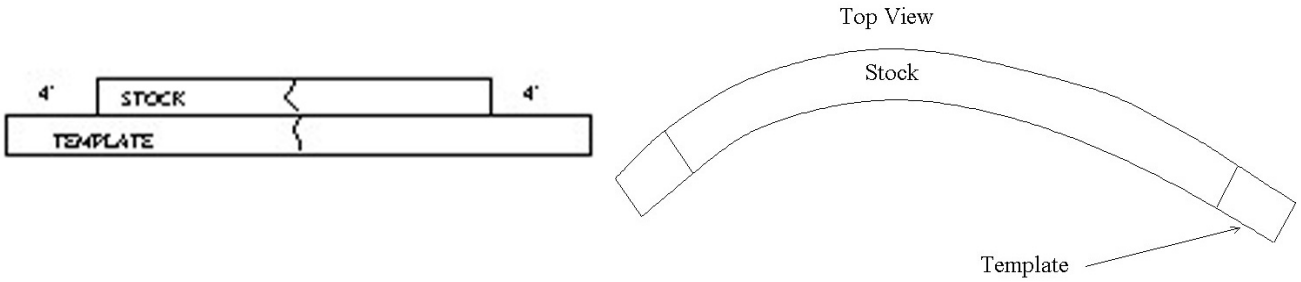
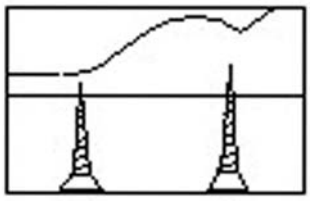


Illustration 1

Attach your stock to the template by pre-drilling and countersinking holes in the template. The location is dependent on the profile. Use appropriate length flat-head screws, which will seat below the countersink to allow smooth flow of the template on the base plate. Please exercise caution when using the template for different profiles. Relocation of stock mounting screws may be required. Remember *each* section of stock must be secured to the template.

Illustration 2



We do not recommend molding any radius smaller than 7". The deeper the profile the more difficult it will be to get high quality results on smaller radii. Two mounting positions are provided for the fixed bearing EJ-3. The outer position allows for wider stock. Maximum stock width is 6 1/2".

Some standard molding knives are manufactured with the deepest part of the profile on the post side of the machine. The best strategy is to feed the stock with the inside radius on the open side of the machine. This is how the jig was designed to function. We manufacture our custom knives with this configuration to be compatible with the elliptical jig.

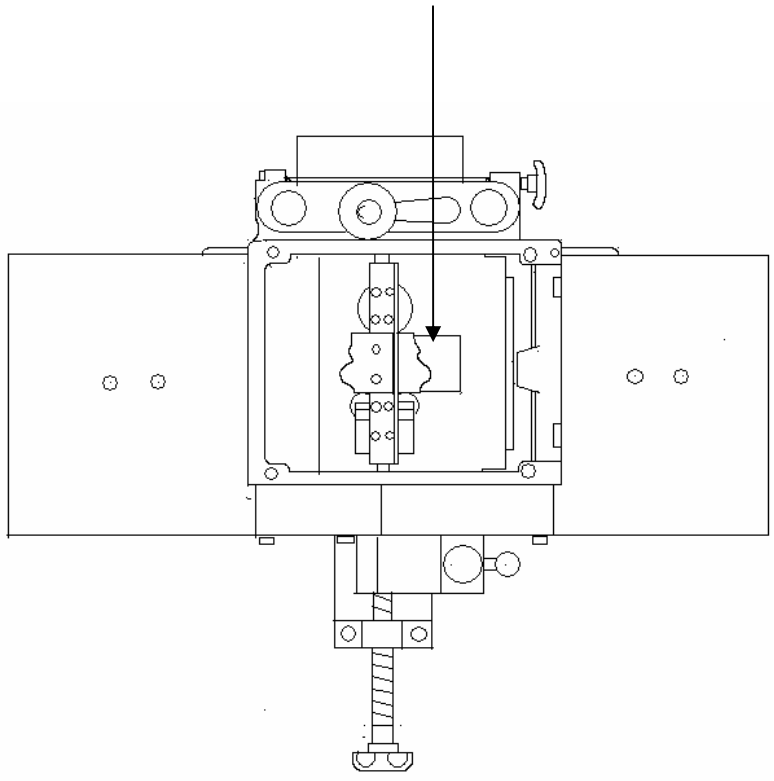
You now have your stock and template properly prepared and you are ready to proceed.

Set Up: ***<u>Disconnect power to the machine.</u>***

Remove the chip deflector. Wipe off the machine base and bottom of jig. Place jig on base.

Take a 5" length of straight stock the same width you will be molding and lightly tighten between the bearings with the acme screw. Install molding knives. (See Illustration 3).

Illustration 3
5" Long Stock
(Stock width size to suit knife)



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Position the jig so the fixed bearing aligns with the center of the machine arbor and stock aligns with knife profile. (See Illustrations 4 & 5).

Illustration 4

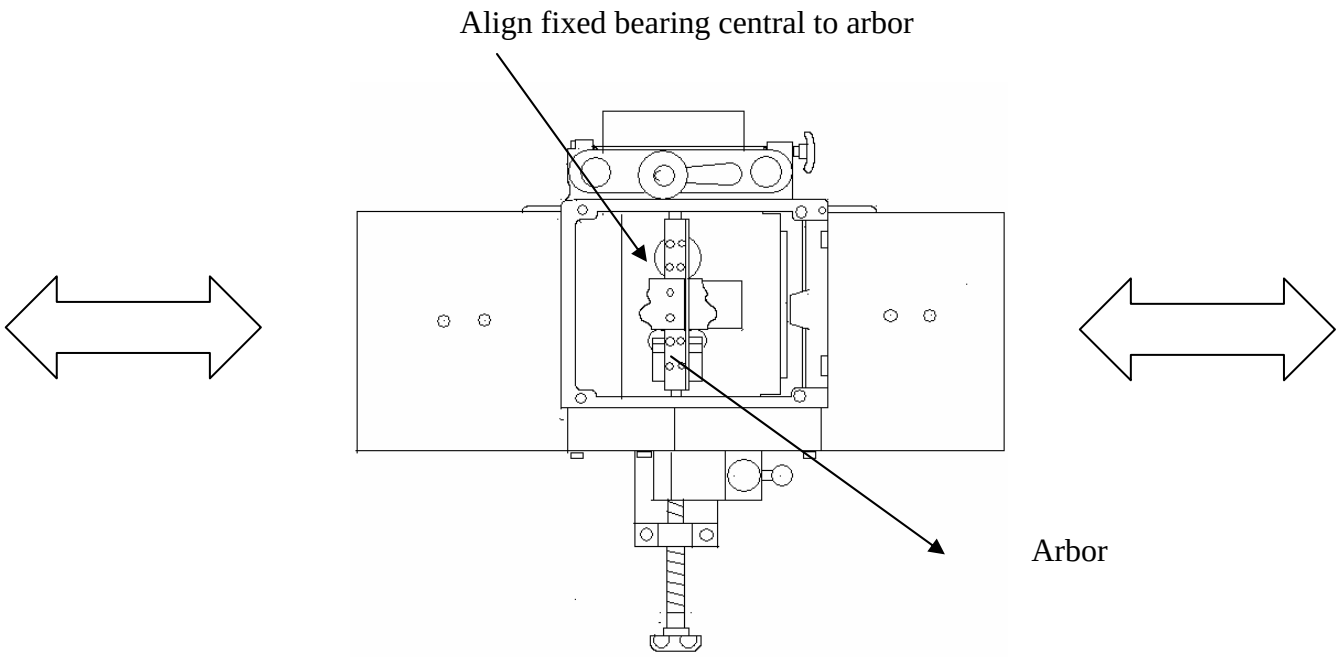
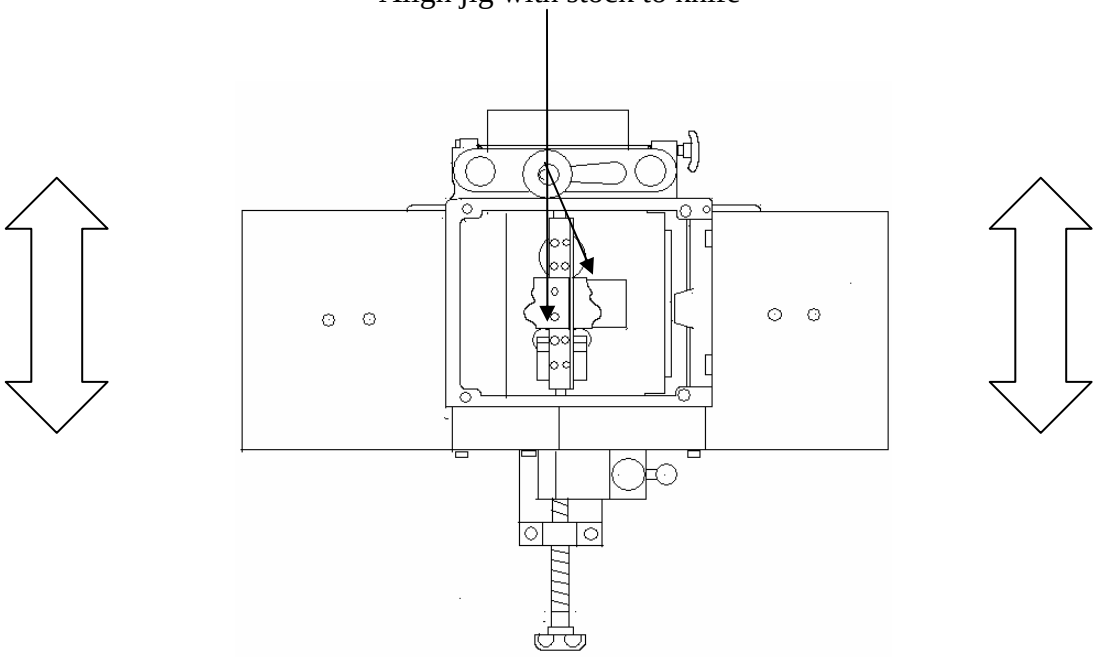


Illustration 5



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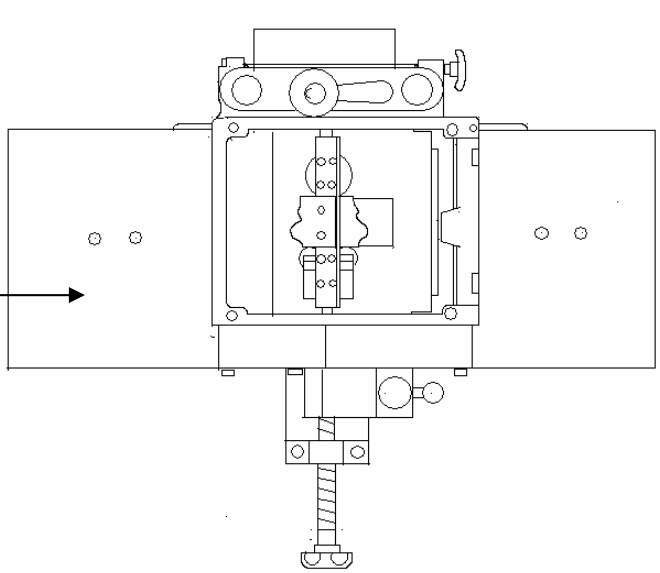
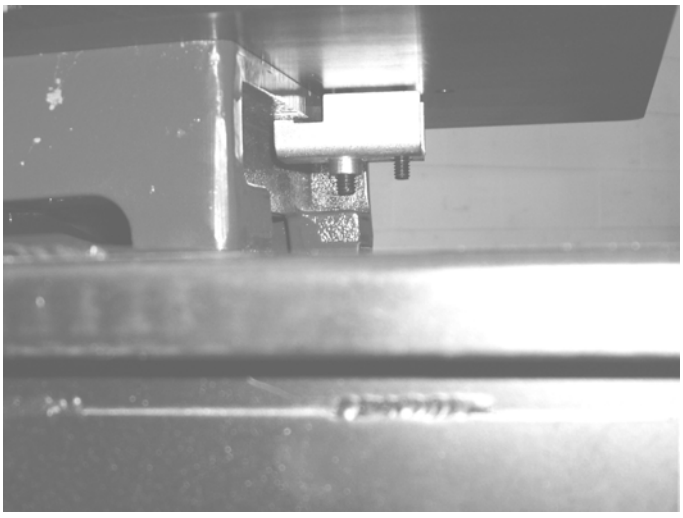
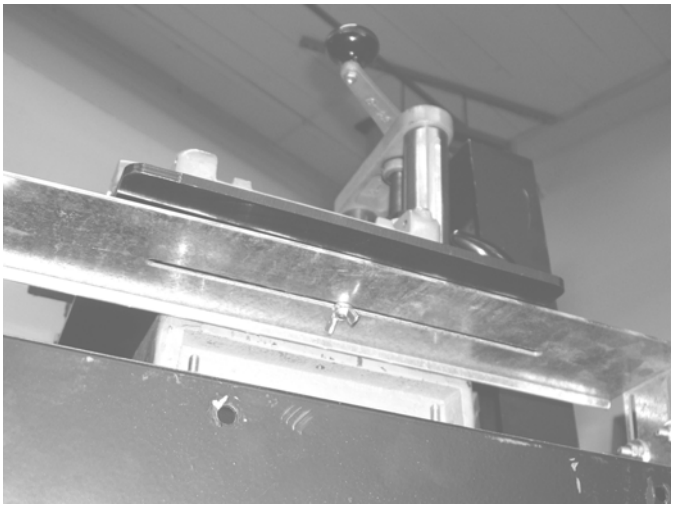
Now that your jig is aligned you will need to secure it to the machine bed or extended beds if you have them. The extended bed is part of our new guide system. The two outer holes in the base plate of the jig hold the jig to the extended beds.



The inner two mounting holes hold the jig to the machine bed.



In this picture the jig is mounted to the machine bed using the mounting clamps provided. Always adjust the outer screw to keep the clamp parallel with the jig base for a secure hold.



In this picture the jig is shown mounted to an extended bed. The 5/8” flat head screw, washer and wing nuts are for mounting the EJ-92 Jig on our *optional* GS1/GS1R Guide System. The flat head screws go in the outer two holes in the jig base plate, down through the extended bed slots of the guide system. The washer and wing nut will go on the underside of the extended bed.

CAUTION: If jig is not properly clamped to the machine base, movement could occur under operation

Remove 5" stock used in set up. Insert your 4" template lead, with your stock affixed to it, between the three bearings exerting down pressure with hand to keep tight against jig base and against fixed bearing. Turn crank handle until floating bearings make contact. After contact is made, turn acme screw ¾ of a turn to 1 turn to apply proper pressure for operation. Lightly tighten screw lock thumbscrew (EJ-11). Always loosen thumbscrew before readjusting the main jig screw (EJ-9).

Set the head on the scale setting that matches the proper height. Compensate for thickness of stock, template, and jig.

EXAMPLE:	Stock	1/2"
	Template	3/4"
	Jig Base	1/4"
	Proper Height	1 1/2"

With the head set to proper height, lock the head locking bolt firmly. This will give you proper roller tension to complete the desired profile in one pass. The machine was designed to run in this setting.

WARNING! Failure to properly set head height will create a safety hazard in that possibly not enough roller pressure will be applied, or that no roller pressure is applied at all. The incorrect setting may cause knife breakage or kick back to occur.

Do not lower the head down to stock with machine under power. You should not attempt to do continuous closed loop molding, which would require plunge molding.

Spin arbor by hand to check for free rotation of knives with no interference from the bearing block or bearings. Reattach your chip deflector.

Operation: The outfeed rollers on the stand do not support most curved and elliptical molding. When molding a longer piece of millwork, you will need to support it as it enters AND exits the machine. This will ensure the stock will not tilt up into the knife and cause a snipe, chip out, or a kick back.

Most woodworkers use the elliptical jig only for ellipses. Round Top moldings (also known as constant radius stock) can be done more efficiently without the EJ92 Jig.

For straight molding, remove the elliptical jig and follow machine operators' manual.

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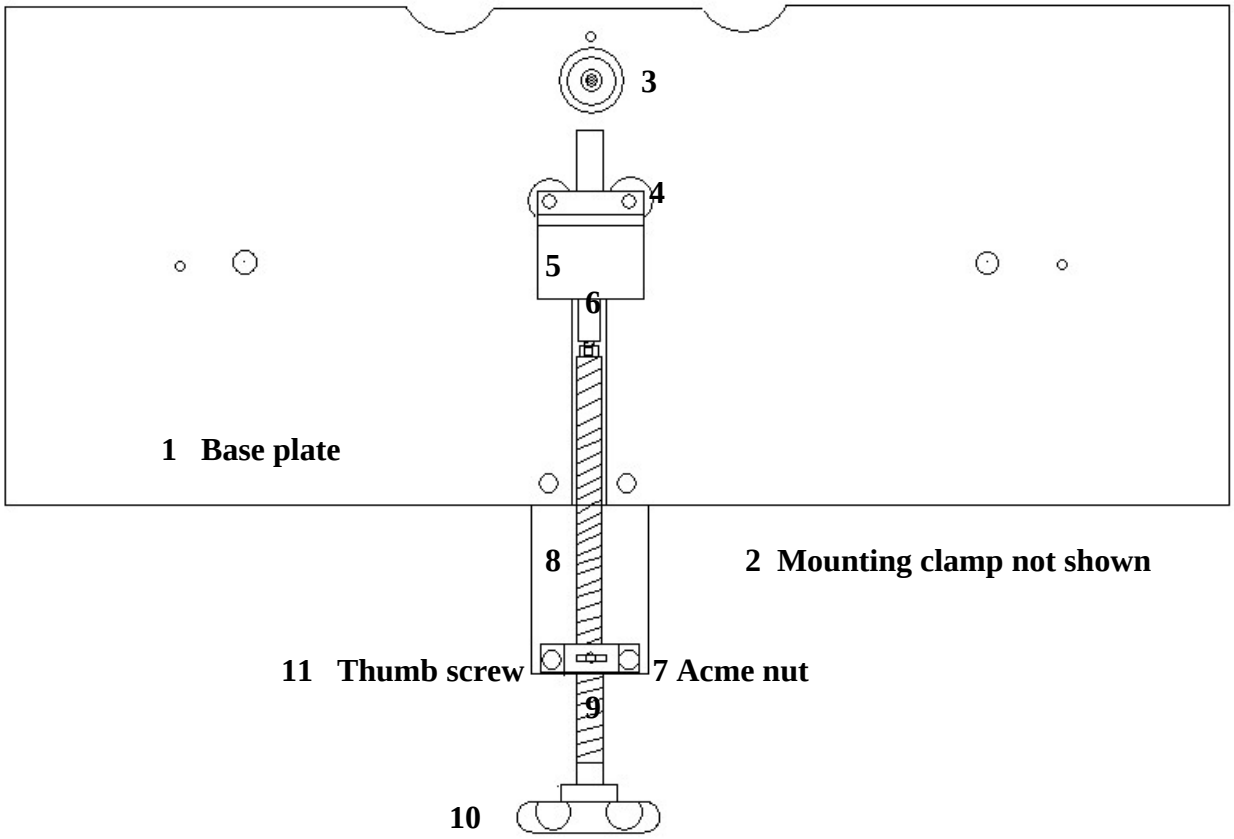

PARTS LIST

Item	EDP#	Part	Description	Hardware
1	10601	EJ-1	Base Plate	
2	10602	EJ-2	Mounting Clamps (2)	(1) 5/16-18 x 1 3/4 Flat Head Socket Cap (1) 1/4-20 x 1 Socket Head Cap Screw
3	10603	EJ-3	Fixed Bearing	(1) 5/16-18 x 1/2 Low Head Socket Cap
4	10604	EJ-4	Floating Bearing	
5	10605	EJ-5	Bearing Block	
6	10606	EJ-6	Plunger	
7	10607	EJ-7	Acme Nut	(2) 5/16-18 x 1/2 Socket Head Cap
8	10608	EJ-8	Extension Plate	(2) 1/4-20 x 1/2 Flat Head Socket Cap
9	10609	EJ-9	Acme Screw	
10	10610	EJ-10	Acme Screw Knob	(1) 10-32 x 1/4 Socket Set
11	10615	EJ-11	Thumb Screw	
13	80204		Lock Washer	(2) ¼”
14	80205		Flat Head Socket Screw	(2) ¼ - 20 x 5/8
15	80206		Wing Nut	(2) ¼ - 20
16			3/16” allen wrench	
17			3/32” allen wrench	
18			5/32” allen wrench	
19			1/8” allen wrench	