

KENNEDY SLIP JOINT FIXTURE GUIDE

This guide is intended to be a resource for the basic uses of the Kennedy Slip Joint Fixture when making a Slip Joint Folding Knife. It is not intended to be a full resource for Slip Joint Knife Making. For more detailed instructions we highly recommend these books:

Slip-joint Folder Designing and Building by Steve Culver

Making a Slip Joint Knife by Weldon Whitley

Pocketknife Making for Beginners by Stefan Steigerwald & Peter Fronteddu



Key Terms to Understand

Rise and Fall – refers to the movement of the spring as the blade is positioned in the open, mid-point, and closed positions.

Rough In – the process of initial design and development of liner, blade and spring. Rough In is a common term for adjusting and fine tuning the blade to spring settings. The initial rough in should be done “soft” (not heat treated).

Primary Positions – refers to up to 3 positions of the blade as it sits against the spring. Fully open and fully closed are the 2 primary positions. Most custom knifemakers also include the mid-point as a third measuring position while production knives will frequently be rounded for faster production.

Pre-Load Spring – this is the act of setting the tension of your spring so it applies the appropriate amount of pressure to the blade during movement. A pre-loaded spring is generally set from .015 to .030 of rise and fall movement.

Adjustment Features

Spring Actuator (Spring Retractor)

- Allows safe spring tension reduction while making blade and spring adjustments. Pulls the spring back from the blade so the blade can be easily removed for adjusting without changing the position of the relation to the liner and blade.
- Hardened Spring Pull to reduce wear over time for long use.
- Three-Dimensional adjustment options include front to back, parallel along blade, and height adjustment.
- Removes easily with included allen wrench to allow for easy indicator measuring during your template design.

Hole Alignment Spacers

- Three Precision Ground Spacers provide a level work surface.
- Each spacer has 1.5” of parallel alignment along the length of the blade and turns 360° allowing access to multiple holes for maximum flexibility.

- JS500 Slip Joint Fixture comes standard with 1-1/4" wide spacers with 3/32 and 1/8 setting holes. Includes 3 dowels of each size.
- Additional Hole Alignment Spacers are available in 5/8" wide or 1/2" wide with 2mm and 1/16 setting holes with 3 dowels of each size.

Dial Indicator

- 0-1 Dial Indicator reads in 0.001 graduations; includes 0.062 indicator tip and standard round tip.
- **Dial Indicator Key** (pictured) easily holds indicator in retracted position during adjustments allowing you to leave settings in place.
- Adjusts parallel along the length of the knife allowing you to check spring tension on single or multiple blade design.
- Height adjustable up to 1/2 to accommodate multi-blade templates.



Using the Fixture

The primary purpose of the Kennedy Slip Joint Fixture is to measure the Rise and Fall of the spring as the blade moves through primary positions allowing the maker to adjust the blade design so the spring tension is set optimally. When properly used, the spring will be in perfect height of liners as the blade opens or closes at all key positions.

Only experimentation and experience will teach you the optimal settings for your specific knife. The design shown in the included photos is merely an example of slip joint components at the roughed-out stage ready to be fine-tuned. There are many slip joint folder designs that can be properly set for the rise and fall using the Kennedy Fixture.

Initial Adjustment

Once you have your blade, liner and spring designed, you can set them up on your Fixture.

With the blade in the fully open position, the dial indicator should be set to zero.

Move your blade through the primary positions – fully open, mid-point, and fully closed.

Note the dial indicator settings at each position. These readings will guide you in making the adjustments and determining the amount of material to remove on each axis of the blade for perfect fitting.

At a “perfect” fit, the dial indicator will read “zero” at each of the primary positions.



Experienced folder makers understand that the dial indicator settings may be +/- the zero setting and they will make these adjustments at a later time. Generally, these adjustments are made during peening and fitting. The adjustments vary between folder design and maker preference.

Setting the Tension

The next step is to pre-load the spring, or set the tension of the spring. As a general rule, spring tension for slip joint folders is set between .015 to .030 of rise and fall movement as indicated on the dial indicator. Experience and experimentation will help you determine the proper tension for your knife. Commonly, smaller knives use less pre-load and larger knives use more pre-load.

Set the tension (pre-load) your spring, by removing the blade and moving the spring toward you (facing the dial indicator) .015 to .030 on the dial indicator. Since you are moving the spring toward you, refer to the red numbers on your dial indicator for proper reading.



When the spring is at the desired tension, clamp or otherwise affix in place.

Mark your liner through the middle hole in the spring using a drill, punch or marking instrument to indicate correct location to drill the liner hole.

Drill both liners at the same time to assure correct alignment of spring between liners.

We recommend you align the liners with pins (i.e. pivot hole, back spring hole) to assure the liners are in a paired position.

Fine Tuning

All adjustments to the rise and fall have now been set enough to heat treat your parts. Remember, liners are not heat treated.

We suggest you may want to complete your nail nick and any other machining prior to heat treating.

Once heat treat is complete, you can return your parts to the fixture to set the center pin in the spring.

Continue fine tuning the rise and fall in the open, mid, and closed positions.

When rise and fall is set to your standard, it is time to complete the slip joint folder.
