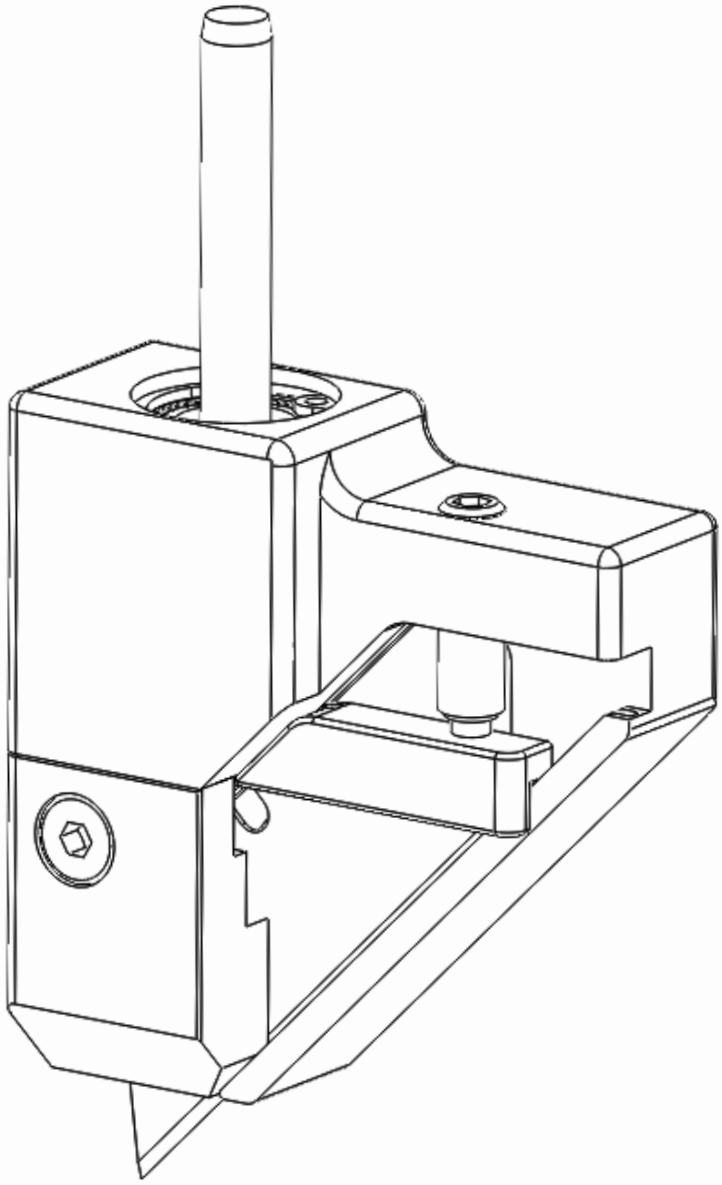
SST



COLLAPSIBLE DRAG KNIFE

SST012

GETTING STARTED

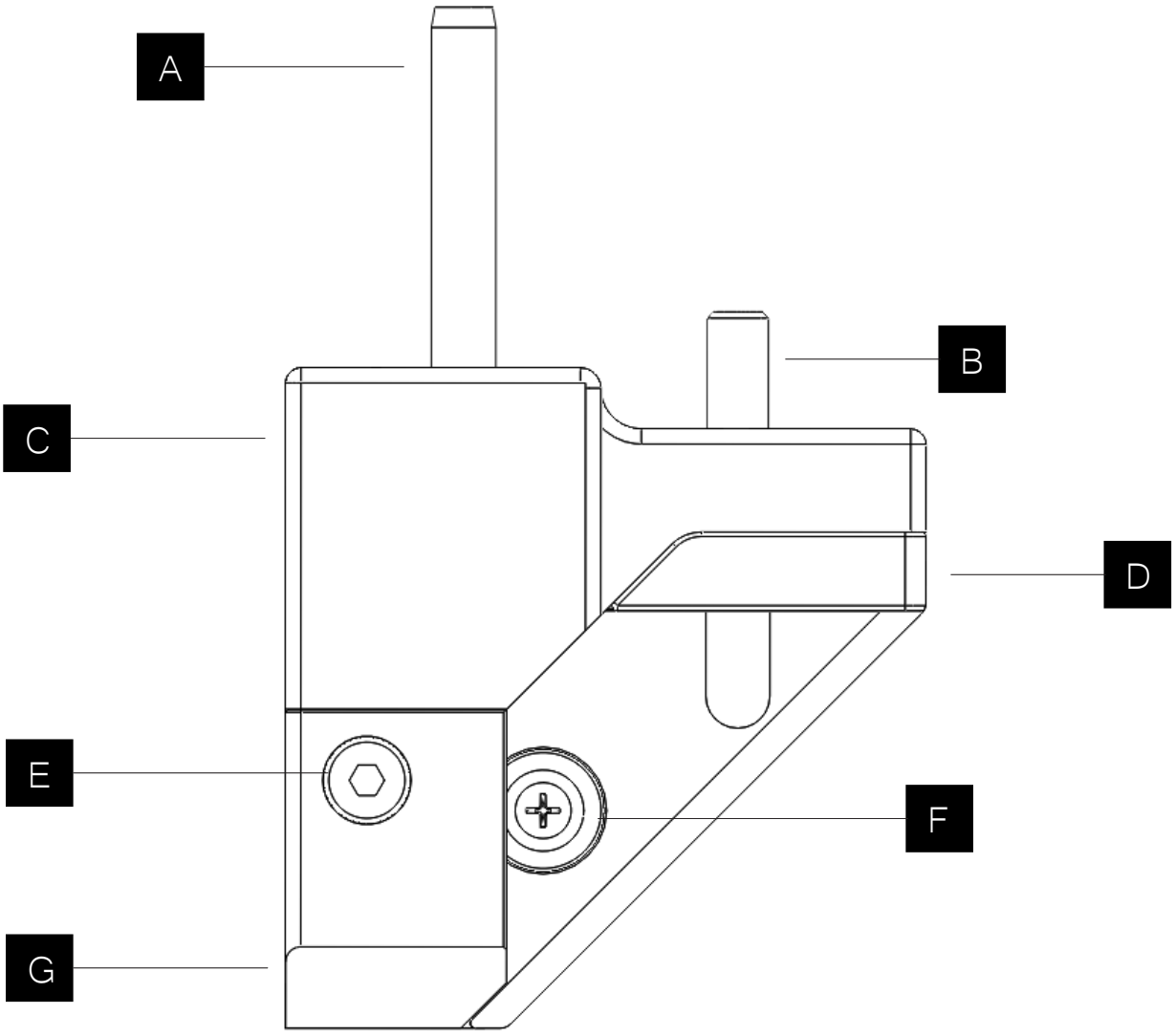
TOOL SETUP

1. Insert the 1/4" shank into your machines chuck using a 1/4" collet
2. If loading with the blade extended, ensure you don't accidentally slice your finger
3. With the tool loaded, loosen the clamp screw to allow blade movement
   a. The magnet will hold the blade in its current position
4. Turn the height adjusting set screw to desired offset
   a. The tool is capable of offering up to 15mm of blade height
   b. The blade height and blade tip - axis offset move with a 1:1 ratio.
      e.g. a 13mm blade height has its tip 13mm from the axis
5. When retracting the blade into the body, push the blade UP to ensure there is no gap between the blade and the adjustment slider
   a. The adjustment slider is a non-captive part - if it pops out during a blade swap, simply re-insert it into the body
6. Once the blade offset is set correctly, tighten the clamp screw to lock its position

CUTTING WITH THE KNIFE

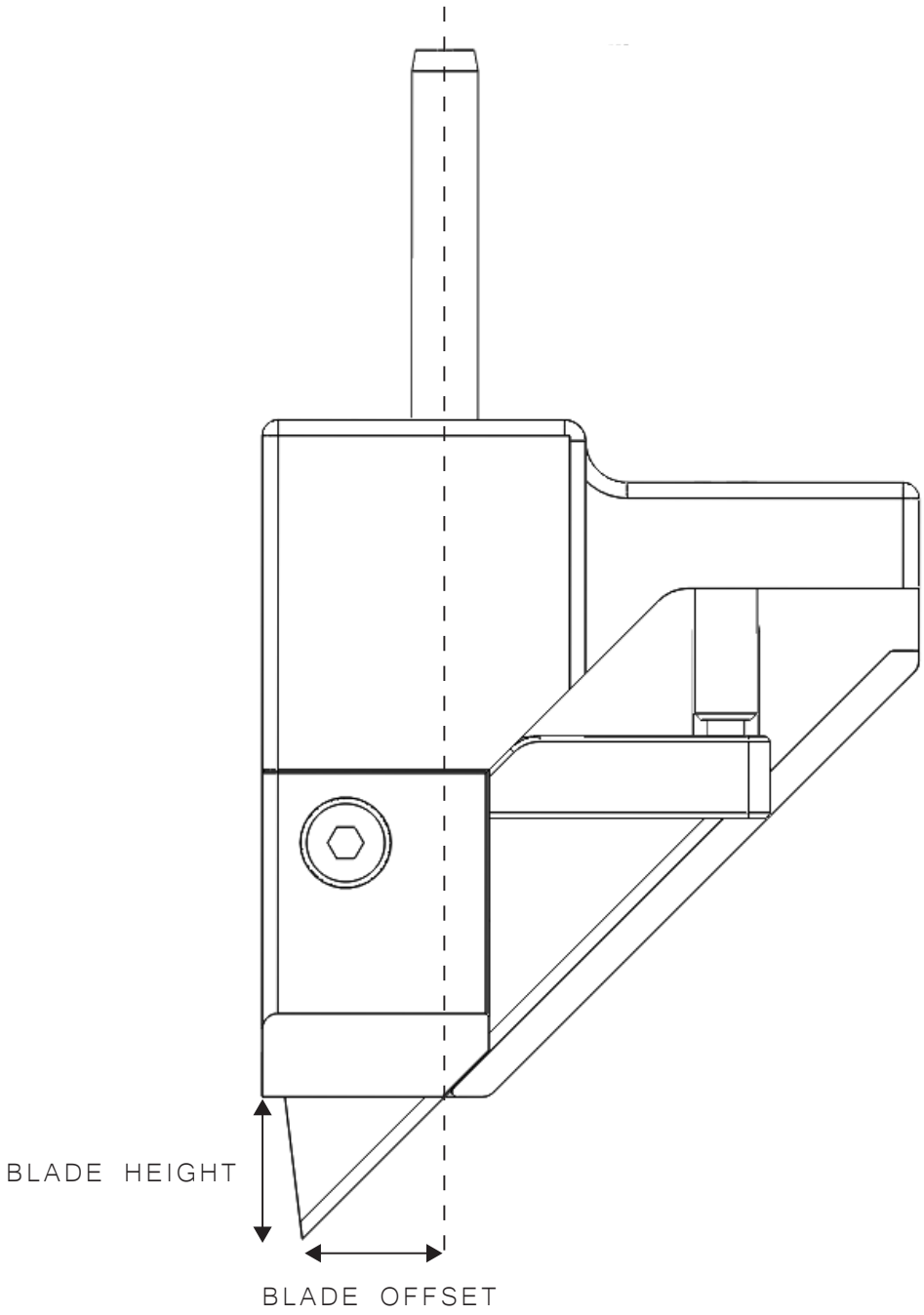
1. MAKE SURE YOUR SPINDLE IS OFF!
2. Your 'Tool Height Offset' should be established as the height where the blade tip touches the top of the material
3. Every machine and CAM package is different, however its likely that you will need a software plug-in capable of generating drag knife G-Code. V-Carve pro includes a drag knife 'gadget'v, and Fusion 360 offers a free plug-in as well.
4. WE RECOMMEND READING LAGUNA TOOL'S INSTRUCTIONS ON PROGRAMMING A DRAG KNIFE WITH YOUR CNC

info.lagunatools.com/how-to-use-a-drag-knife-with-a-cnc-router



SST012 COMPONENT LIST

A - 1/4" SHANK
B - HEIGHT ADJUSTMENT SCREW
C - DRAG KNIFE BODY
D - ADJUSTMENT SLIDER
E - CLAMP SCREW
F - MAGNET
G - BLADE CLAMP



CALCULATING BLADE OFFSET

Blade offset and height are directly proportional, in a 1:1 ratio.
BLADE HEIGHT: 0.125" == BLADE OFFSET: 0.125"
BLADE HEIGHT: 0.25" == BLADE OFFSET: 0.25"
etc.
To determine blade height, we recommend using the butt-end of a digital caliper, measuring from the bottom most surface of the red body, to the tip of the blade.

CUTTING PARAMETERS

SPEEDS + FEEDS + DEPTHS

Remember - spindle speed should ALWAYS be set to zero when using the drag knife. If possible, manually lock-out the spindle so that you don't accidentally turn it on during operation.

Cutting speeds will be dictated by your machines capabilities, the cut depth, the material resistance, and your workholding strength.

While the use of a drag knife does not invite as much lateral load on your material, you must use some form of workholding - tape, screws, bed vacuum, etc.

Maximum material thickness can be considered the drag knife's max blade height (~0.59").

We recommend a over-shooting the cut depth by ~0.01" depending on how flat your bed and worksurface is

CUTTING CORNERS

Due to the inherent process by which drag knives cut, cutting sharp corners must be accomplished through the use of added arcs. As a rule of thumb, you cannot cut a corner with radius that is less than the offset of blade.