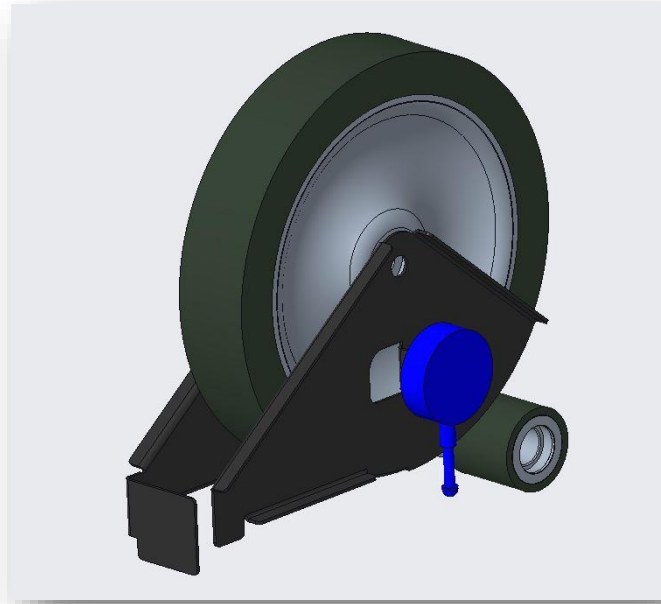
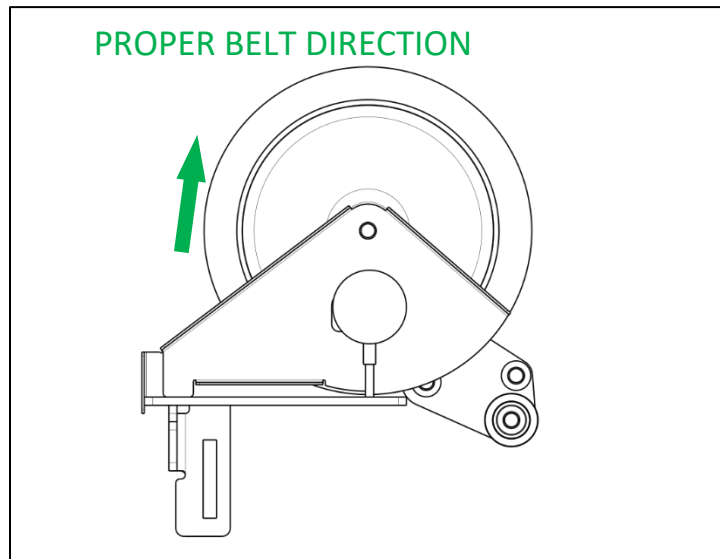


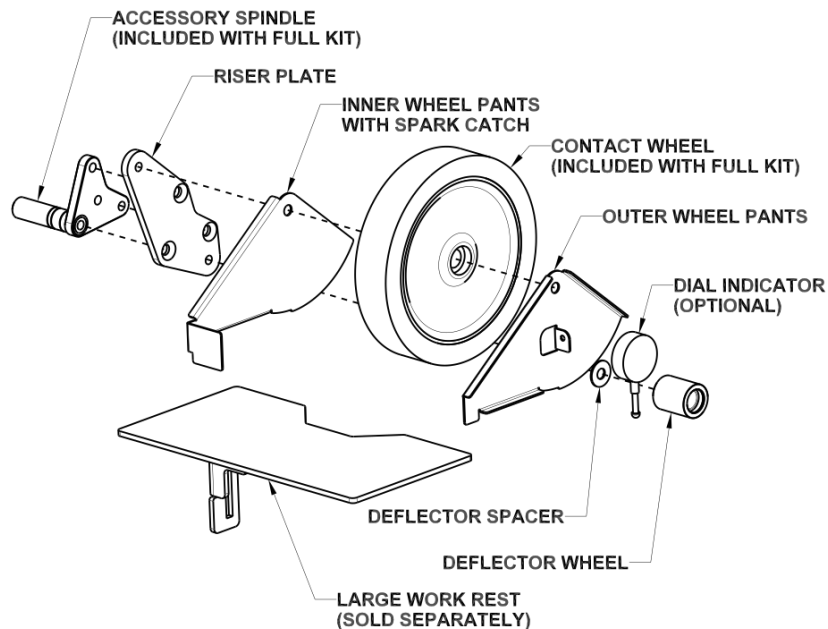
HOLLOW GRINDING JIG



CRITICALLY IMPORTANT: BELT GRINDER MUST BE RUN IN REVERSE (BELT TRAVELING UP THE FRONT OF THE CONTACT WHEEL) IN ORDER TO PREVENT SERIOUS INJURY TO THE OPERATOR OR DAMAGE TO THE EQUIPMENT.



EXPLODED VIEW:



Concept

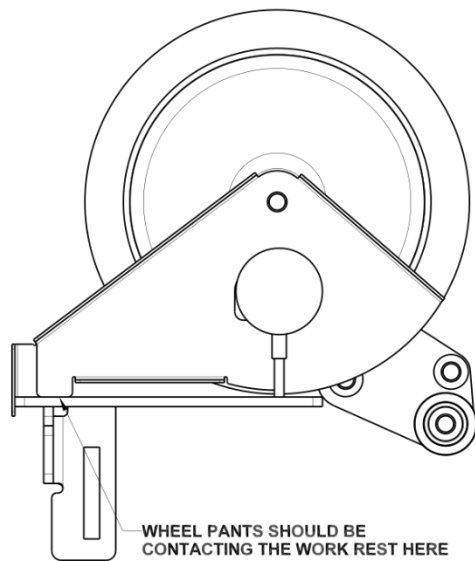
- The hollow grinding jig must be used with a large work rest (sold separately). The jig works by grinding in the gap between the work rest and the bottom of the contact wheel. By controlling the size of that gap, the user can precisely control how much material is to be removed. Since the side of the blade being ground is facing up, the user has excellent visibility to monitor the progress of the grind and which areas require more work. Furthermore, the grinding pressure from the wheel naturally keeps the blade pressed flat against the work rest for a precise result.

Components

- **Riser Plate:** The purpose of the riser plate is to get the contact wheel above the work rest and to accommodate a deflector wheel.
- **Deflector Wheel:** The abrasive belt should run over the top of the deflector wheel. This ensures the bottom of the contact wheel is the lowest point that can remove material from the blade.
- **Wheel Pants:** The wheel pants are necessary to reduce the risk of snagging a blade in the side of the rubber wheel. In the event of a snag, the pants are also intended to catch thrown parts. Additionally, the inner wheel pants have an integrated spark shield to contain hot grindings.
- **Dial Indicator:** The optional dial indicator is to take accurate measurements between the work rest and the bottom of the contact wheel (more info below). If the dial indicator is not purchased, feeler gauges or something similar can be used for setting the grinding gap.

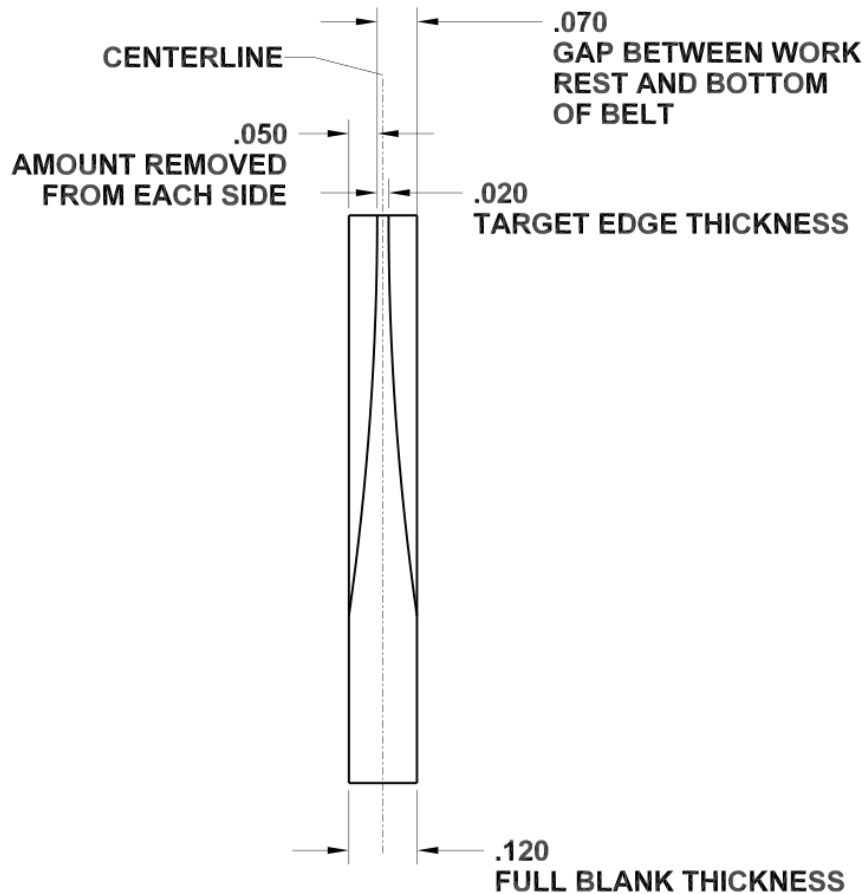
Setup

1. Install the hollow grinding jig in the upper receiver slot of your 2x72 machine
2. Install an abrasive belt making sure the belt travels over the top of the deflector wheel (i.e. abrasive side of the belt running against the small rubber wheel)
3. With proper belt tension applied (refer to grinder manual), turn the belt by hand in reverse for a few belt rotations, making any necessary adjustments to the reverse tracking knob until the belt is tracking in the center of the wheels.
4. Rotate the inner and outer wheel pants up slightly to allow room for the work rest to slide in.
5. Install a large work rest in the lower receiver slot of the machine
6. Rotate the inner and outer wheel pants back down until they contact the work rest.



7. Starting with a large gap between the bottom of the contact wheel and the work rest, place the blade blank directly under the center of the contact wheel.
8. Use the angle adjustment screw in the work rest arm to raise the work rest until the blade begins to gently contact the bottom of the abrasive belt.
9. Zero the dial indicator in this position. Do this by rotating the rim around the face of the dial indicator until the needle reads 0.000"
10. Measure the thickness of your blade. You can use a pair of calipers or conveniently place the blade under the dial indicator and read the thickness from the jig making sure to add any full revolutions of the dial. For the purposes of these directions, we will use a blade thickness of 0.120" as an example (CROSS SECTION DRAWING BELOW).
11. Determine how much edge thickness you would like to leave after grinding. For the purposes of these directions, we will use a final edge thickness of .020" as an example.
12. Use that number to calculate how much thickness will be removed from each side.
 - Subtract the edge thickness from the full thickness: $0.120 - 0.020 = 0.100$
 - Divide that in half because you will remove half of that from each side: $0.100/2=0.050$

13. Remove the blade from the work rest and raise the work rest until the dial indicator reads the number you calculated. In our example, we would raise the work rest until the indicator reads 0.050"



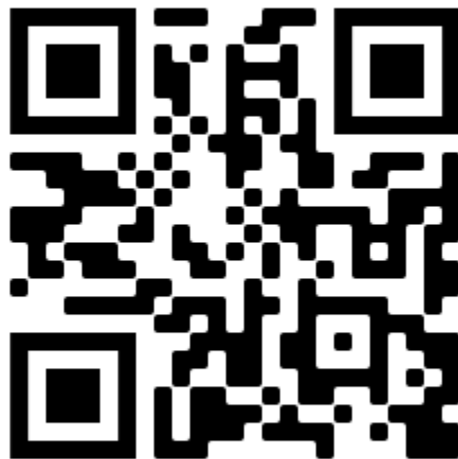
Operation

1. With the grinder turned off, make a few practice passes across the belt with the knife flat against the work rest. This will help to familiarize yourself with what the motion will feel like. Every knife requires a slightly different technique.
2. Beginning at a low speed, start the grinder running in reverse (belt should be travelling up the face of the contact wheel). Make any tracking adjustments with the reverse tracking knob. Increase the belt speed to whatever speed you would like to grind at.
3. Lay the blade blank flat on the work rest and begin to grind starting near the plunge line and working out towards the tip.
 - o CAUTION: While making passes, do not run the tip of the knife all the way off the edge of the belt. Stop the motion of the pass and release grinding pressure when the tip reaches approximately the center of the belt. This is for a couple reasons.



- 1) Running all the way off the belt-edge increases the likelihood of catching the belt-edge or the side of a wheel with the blade tip and throwing the blade.
 - 2) Running all the way off the belt edge makes it very likely you will over-grind your tip because of how little surface area is in contact with the belt at that point. The concentrated pressure on that small area will remove material very quickly.
4. Work both sides of the blade evenly until you've reached your desired edge thickness. It is useful to mark the faces of the blade with dykem and to scribe a series of bevel lines with a pair of calipers to make sure you are grinding evenly along the full bevel as you approach final thickness.
 5. Bonus Tip: Pay attention to where you see sparks coming off the blade. This will tell you exactly where you are removing material and give you even more control over how to angle the blade and apply pressure for a more even result.

Scan this QR Code with your SmartPhone's Camera to watch a detailed video demonstrating how to use the hollow grinding jig:



<https://youtu.be/Xzj9ywjOIVM>