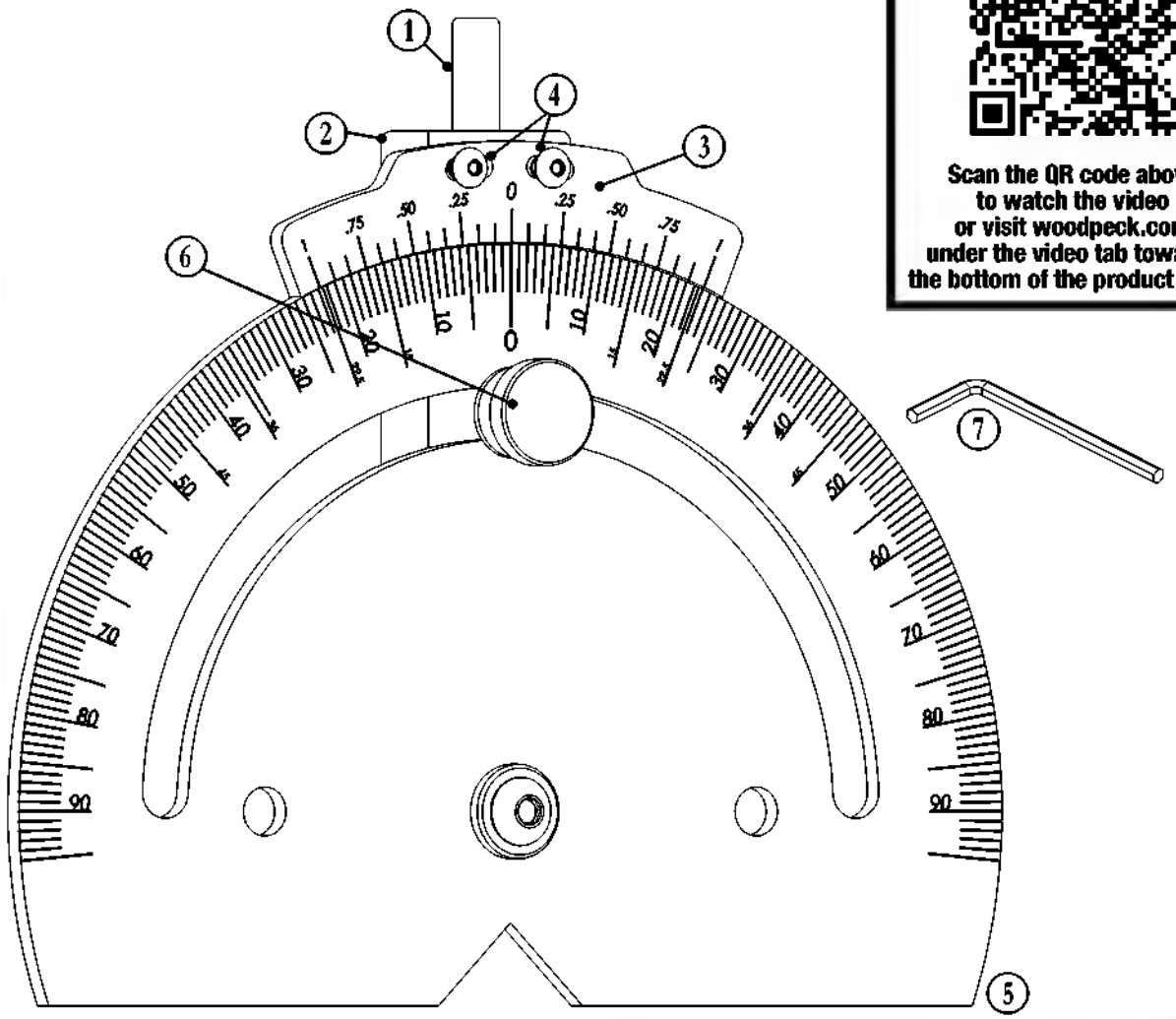
Woodpeckers®

DRILL PRESS PROTRACTOR

OWNER'S MANUAL

Scan the QR code above to watch the video or visit woodpeck.com under the video tab towards the bottom of the product page.



Thank you for your purchase of the ***Woodpeckers Drill Press Protractor.*** Start tackling angles on your projects with a high degree of accuracy. The vernier scale lets you set angles accurate to .083°. **Use at the drill press, band saw, miter gauge, or in conjunction with your bevel gauge.**

DIAGRAM NUMBER	(QTY)	PART NAME
1	(1)	Shank, 1/4"
2	(1)	Protractor Arm
3	(1)	Vernier Scale Quarter-degree segments on one side, Degrees and minutes on the other side
4	(2)	Vernier Screws
5	(1)	Protractor Scale
6	(1)	Protractor Lock Knob
7	(1)	Hex Key, .05

If you think you're missing anything, email us at mailroom@woodpeck.com.
Or, check the product webpage under the "Manuals" tab for an updated version of these instructions.
You can also call us at 800-752-0725 from 9:00 a.m. to 4:00 p.m. EST Monday - Friday.

I. ASSEMBLY

1. Insert the ① Shank into the ② Protractor Arm and tighten the Set Screw using the ⑦ .05 Hex Key. **FIGURE A.**
2. The ⑤ Protractor Scale is attached to the ② Protractor Arm using a 1/8" socket button head cap screw and uses a specially-designed nut to retain its position while allowing rotation. **Do not remove the button head cap screw.**

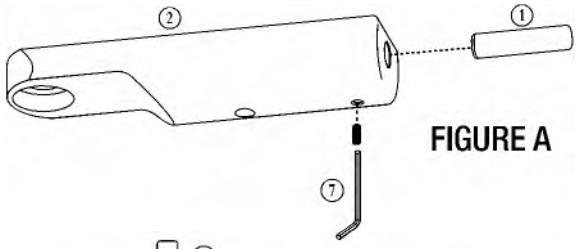


FIGURE A

II. CALIBRATION

A. The ③ Vernier Scale is squared at the factory but should be checked for accuracy. Begin by squaring the ② Protractor Arm to the ⑤ Protractor Scale with a reliable square (such as a Woodpeckers DelVe Square, *sold separately*.).

B. Loosen the ⑥ Protractor Lock Knob.

C. Register the shoulder of the square to the flat on the Protractor Scale and the perpendicular edge to the Protractor Arm. Hold in place while tightening the Protractor Lock Knob. **FIGURE B.**

D. To calibrate the Vernier Scale, first crack loose the (2) ④ Vernier Scale Screws using a 1/16" Hex Key (not included).

E. Manually adjust the scale so the "0" mark on the Vernier Scale aligns to the "0" mark on the Protractor Scale. Tighten the screws. There should be a small gap between the two scales so the Protractor Scale slides smoothly. **FIGURE C.**

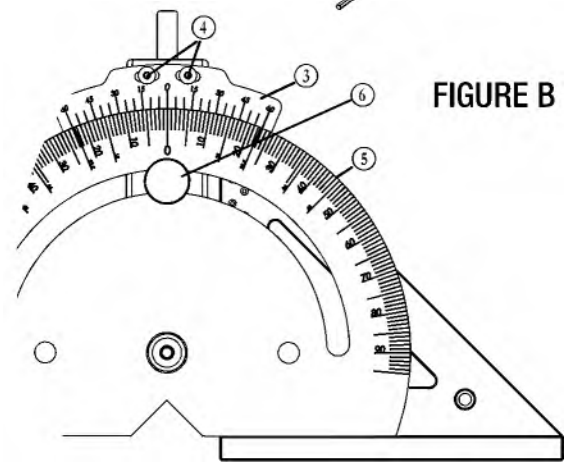


FIGURE B

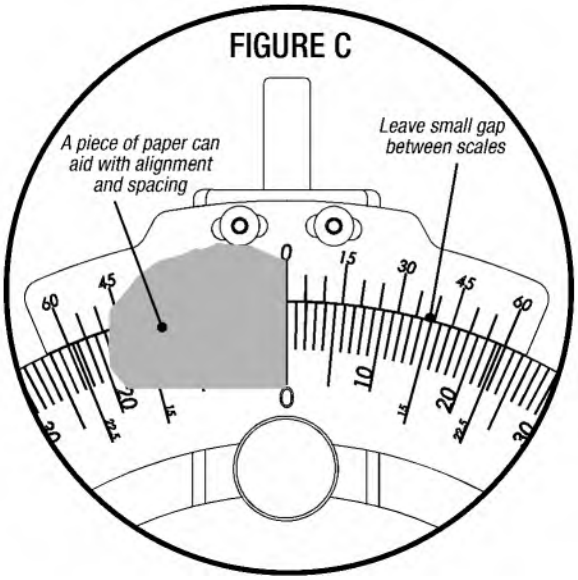


FIGURE C

PRO TIP

A post-it note can aid in marking alignment and provides a .003" spacer between the two scales.

III. SETTING ANGLE USING A VERNIER SCALE

1. A vernier is a method for accurately determining fractional segments of a measurement. Each graduation on the DPP Vernier Scale represents five minutes, or one-twelfth, of a degree. We included a quarter-degree vernier on the other side.
2. Make sure the ③ Vernier Scale is calibrated *(See Part II. Calibration).*
3. Loosen the ⑥ Protractor Lock Knob.
4. To set any whole-degree, adjust the scale so that your desired whole-degree aligns with the "0" on the Vernier Scale.
5. To dial in fractions of any degree, continue moving the Protractor Scale slightly past the whole-degree until your desired fractional-degree aligns to the nearest graduation. The example in **FIGURE D** shows a setting of 20°-30", or 20-1/2°. Note that the "0" on the vernier scale is centered between 20° and 21°, and the 30" aligns with the nearest whole graduation. A handy conversion chart is included as **FIGURE D-1.**

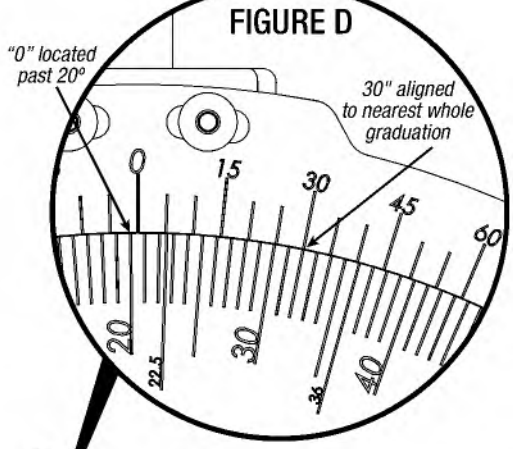


FIGURE D

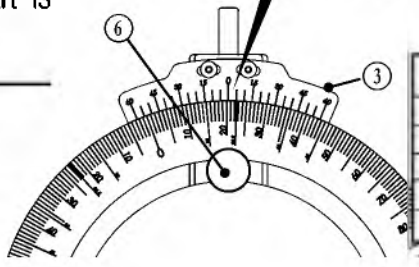


FIGURE D-1

Degree	Minutes	Fraction
.083°	5"	1/12
.25°	15"	1/4
.50°	30"	1/2
.75°	45"	3/4
1°	60"	1

IV. USING YOUR DRILL PRESS PROTRACTOR

F. SQUARING YOUR DRILL PRESS TABLE TO THE SPINDLE

1. Set the DPP to "0" and mount to the chuck on your drill press.
2. Use the quill feed wheel on the drill press table to lower the DPP to the table while adjusting the table to the flat reference on the Protractor Scale. *See manufacturer's instructions for adjusting the table.* Rotate the DPP in the chuck to ensure it doesn't bind on the table and adjust accordingly. When the DPP can spin freely, your table is perfectly square to the spindle. **FIGURE E.**
3. If you prefer, It is just as simple with your DPP set to an angle. Set the DPP to any angle (10º is sufficent). Lock the quill feed wheel on the drill press table so the DPP is nearly touching the table. Rotate the DPP in the chuck and identify the highest spot. Adjust your table according to its instructions until the DPP can rotate freely while consistently touching the table and not binding.

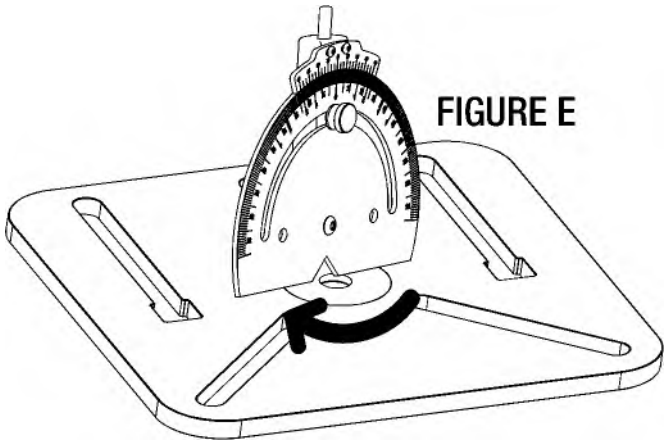


FIGURE E

B. SETTING YOUR DRILL PRESS TABLE TO AN ANGLE

4. Setting the angle of your table is simple with the DPP. Simply set the tool to your desired angle, mount it to your chuck, then align the table to the flat reference.
5. For the best results, the workpiece must be parallel to the face of the Protractor Scale. The easiest way to accomplish this is by using a fence or known straight reference (such as a Woodpeckers DelVe Square, *sold separately.*). **FIGURE F.**
   a. Place the workpiece on the table and align the drilling location to a bit. The workpiece should be at least 6" below the chuck.
   b. Move the fence to the edge of the workpiece and clamp the fence in place. Temporarily clamp your workpiece in place.
   c. Set the desired angle on the DPP and mount it in the chuck of your drill press.
   d. Adjust the anlge of the table *(see manufacturer's instructions)* to the flat reference on the Protractor Scale.
   e. Remove the DPP and install your drill bit.

      NOTE: You may need to raise or lower your table depending on your drill bit and the overall throw of the quill. To limit the rotation of the table around the drill press column, mark the center of the vee-notch you can use to align the drill bit.
   f. Align the drilling location to the bit while referencing the fence and drill your hole.

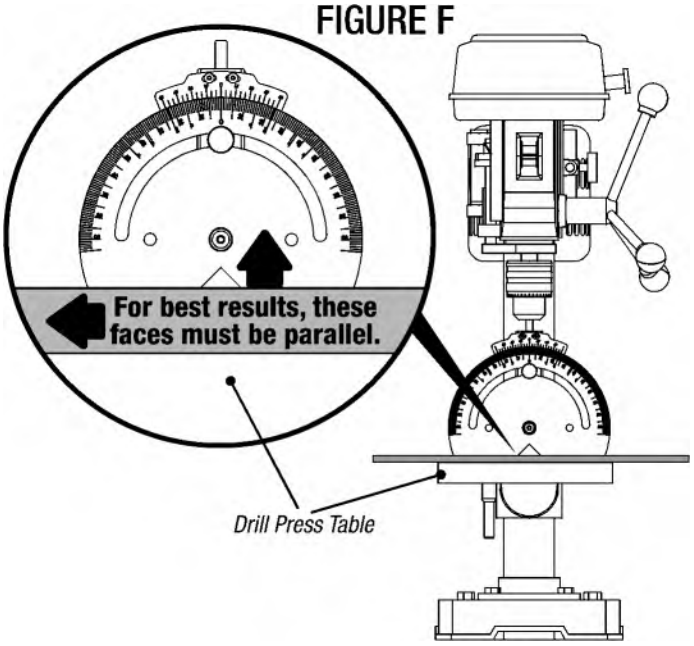


FIGURE F

C. SETTING YOUR BAND SAW TABLE TO AN ANGLE

6. Set your desired angle on the DPP.
7. With the Protractor Arm referencing the flat of the saw blade, adjust the band saw table to the flat reference of the Protractor Scale. **FIGURE G.**
8. You can quickly re-square the table by setting the DPP to "0" and repeat these steps.

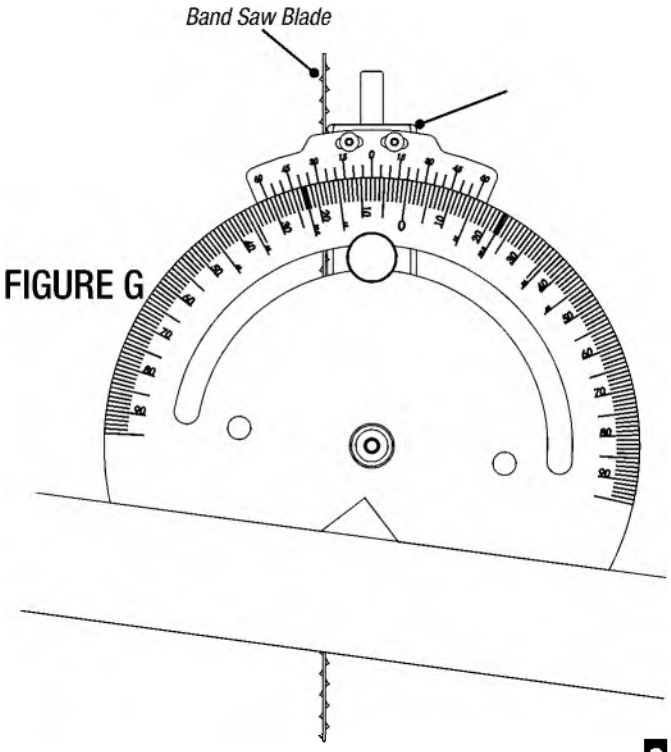


FIGURE G

D. USING THE DPP WITH A BEVEL GAUGE

9. Set your desired angle on the DPP.
10. Place the base of the bevel gauge against the flat reference of the DPP and adjust the blade to the Protractor Arm. Lock the bevel gauge. **FIGURE H.**
11. You can also use your DPP to accurately measure an unknown angle on any assembly. Simply align the Protractor Arm to the bevel gauge and read the angle.

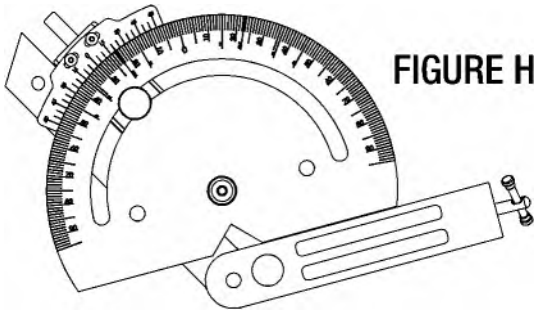


FIGURE H

E. SETTING YOUR MITER GAUGE TO AN ANGLE

12. If you don't trust (or can't read) the scale on your miter gauge, the DPP can help set your miter gauge easily.
13. Set the desired angle on the DPP.
14. With the protractor arm against the miter bar, adjust the miter gauge head or fence against the flat reference on the Protractor Scale. **FIGURE I.**

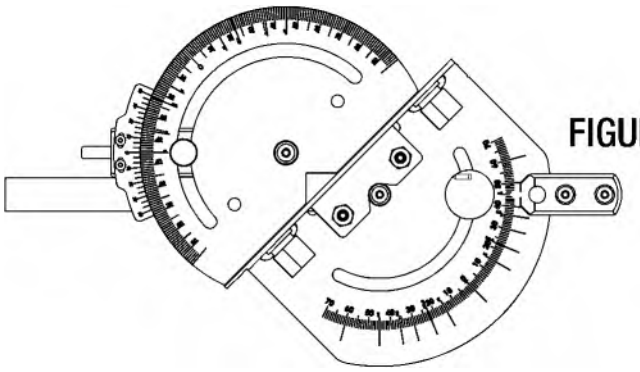


FIGURE I

F. FINDING TOP-DEAD-CENTER OF ROUND STOCK

15. DPP be used to accurately find top-dead-center of round stock.
16. With the DPP mounted to the chuck of your drill press, loosen the Protractor Lock Knob. Place the round stock perpendicular to the face of the tool and roughly centered on the vee-notch.
17. Use the quill feed wheel to lower the tool so that it straddles the stock. You should see the Protractor Scale kick to one side if it's not centered. Adjust the workpiece so that the vernier scale reads "0" and clamp the workpiece in place. Now, the spindle is perfectly centered on the top of your workpiece. **FIGURE J.**

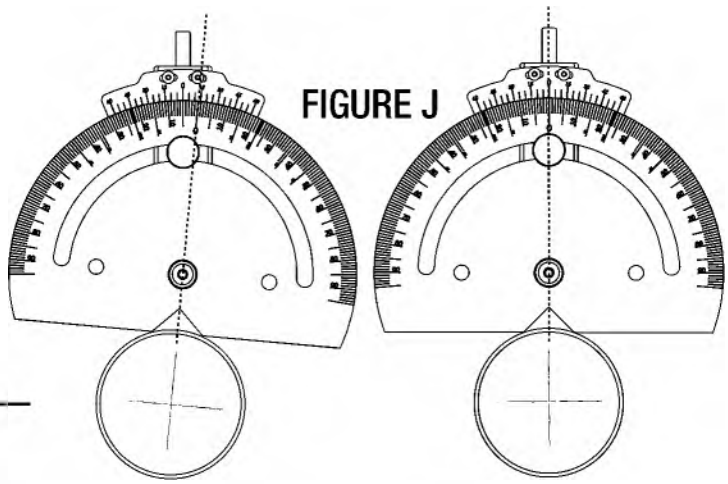


FIGURE J

WARNING! Always unplug your drill press before making any adjustments. Be sure to read, understand and follow all the manufacturers warnings and instructions prior to using the drill press or making adjustments.

WARNING! To reduce the risk of injury keep hands away from moving parts. Refer to your power tool manual for proper setup and use.

WARNING! To reduce the risk of injury, wear safety goggles or glasses with side shields, ear protection & a dust mask.

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