



μGrind Automatic Chuck

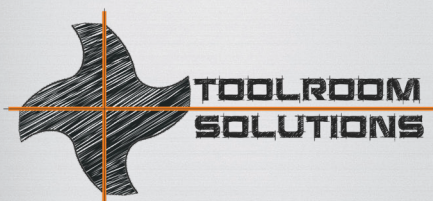
μGrind HPS 20 on
Drake machines

Setup **guideline**

(to be used in conjunction with GDS μGrind Einstell Video.mp4)

Step 1: Ensure that the C-axis spindle mounting face is flat and clean. Bolt the appropriate chuck adapter (Ex. TL-AD-0017-01) to the C-axis face “finger tight.” Radially adjust the chuck adapter runout to within about 5 microns and tighten the bolts.

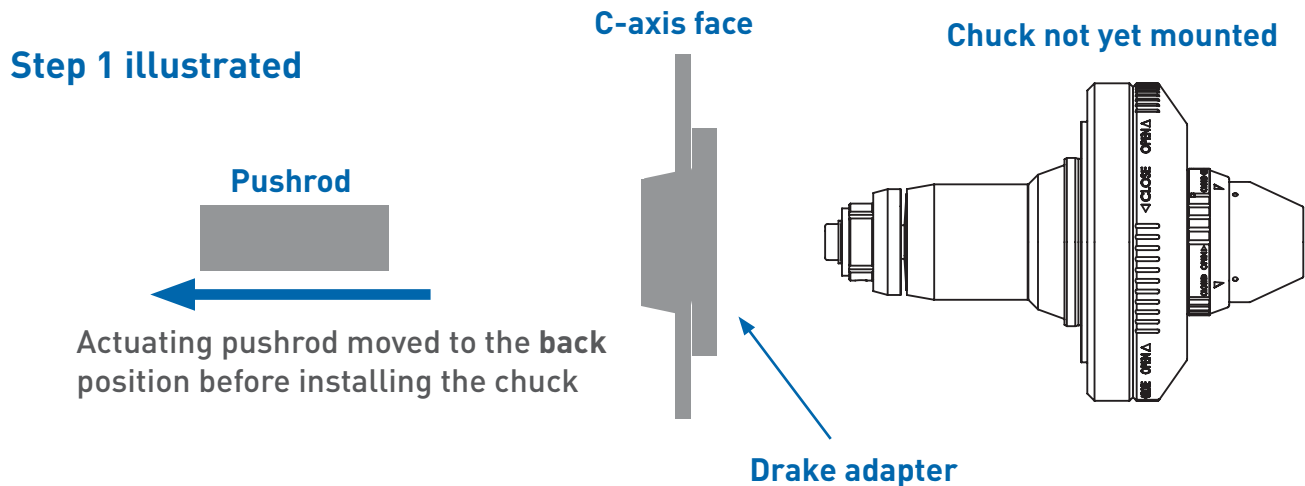
Step 2: Confirm that the distance from the face of the chuck adapter to the face of the pushrod (Ex. LD-AD-0018-01) is 110 mm when in the forward position and at least 118 mm when in the rear position. This will compress the button at the back of the chuck 7.6 mm when in the forward position. (The length of the chuck from the mounting surface to the end of the button is 117.6 mm.) If not, adjust the position of the clamping cylinder so that the pushrod will be **off the chuck when back and compress the button at least 6 mm but no more than 8 mm when forward.**



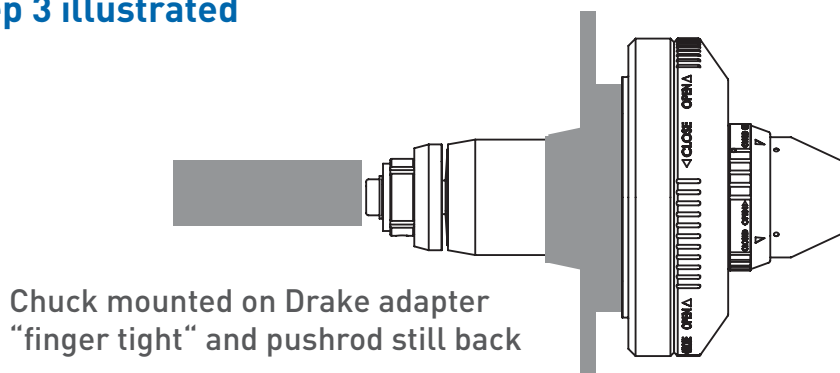
GDS
Made in Germany

GDS μ Grind HPS 20 with Drake adapter

Step 3: Move the pushrod to the rear (“clamped”) position. Ensure that the face of the Drake adapter is flat and clean and that the μ Grind is at ambient temperature. Bolt the μ Grind to the face of the Drake adapter using the T-handle wrench provided. Secure the bolts “finger tight.” **NOTE:** Use the ANSI M8 x 20 mm bolts (normally in the chuck when shipped). The M8 x 15 bolts are for machines with shorter thread depths.

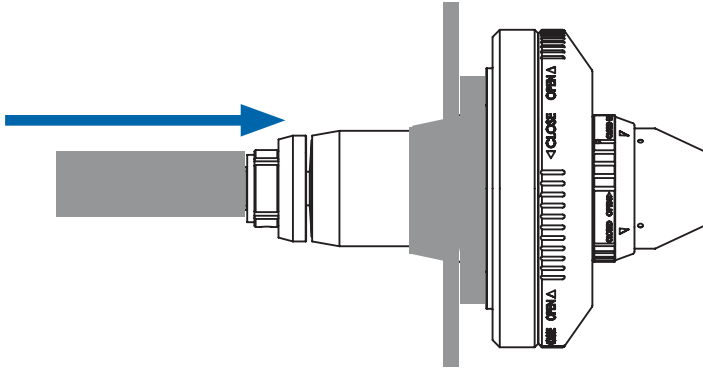


Step 3 illustrated

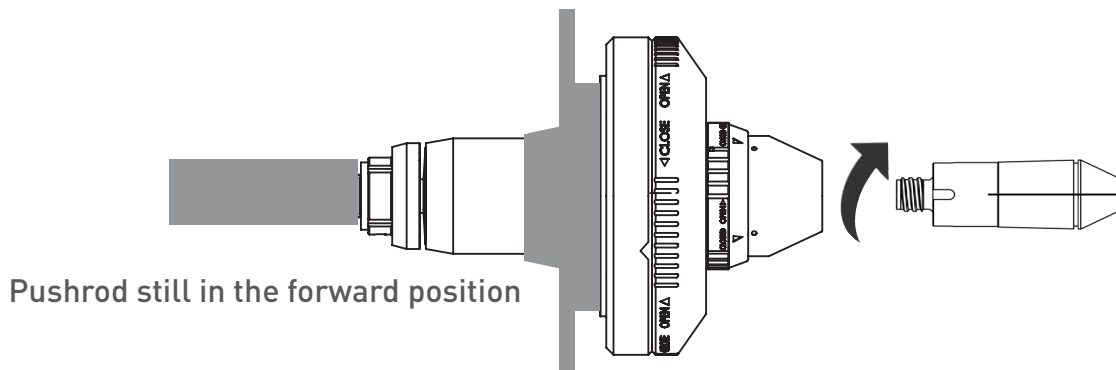


GDS μ Grind **HPS 20** with Drake adapter

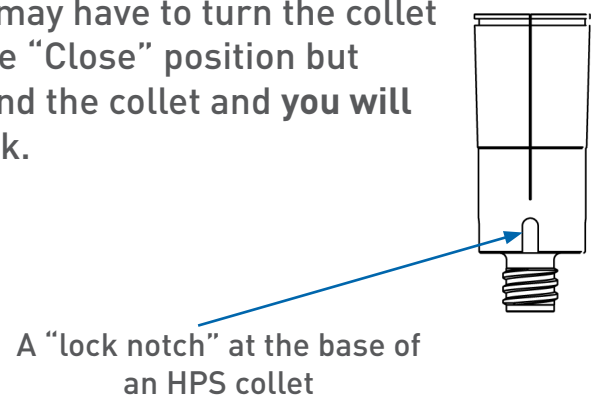
Step 4: Use the machine control to move the actuating pushrod into the forward position. This “opens” the chuck.



Step 5: Screw in the desired collet as shown in the video. Turn the collet clockwise until you feel resistance but do NOT tighten! Then turn the collet counterclockwise roughly 1/4 turn until the next slot aligns with the dimple on the chuck’s nose. Turn the blue sleeve counterclockwise until the two “Close” indicators align with the dimples at the rear of the chuck’s nosecone. Check that you are now **unable** to turn the collet more than a tiny bit in either direction.

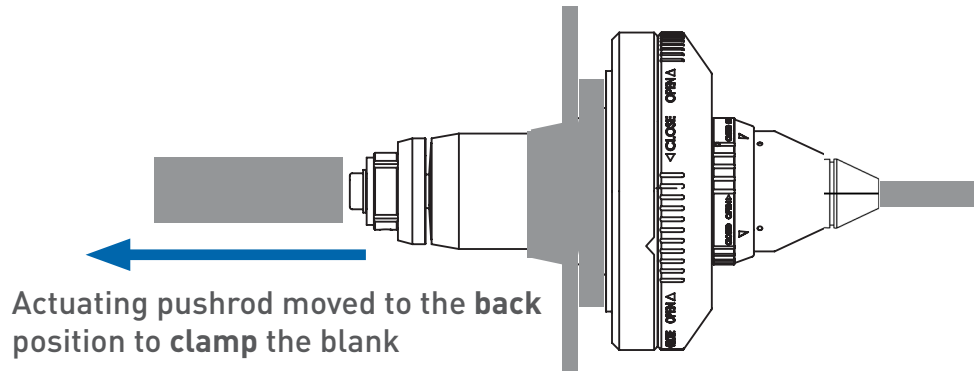


NOTE: Turning the blue sleeve from “Open” to “Close” moves a pin into one of the notches at the base of the collet, locking it in place. If you are unable to turn the blue sleeve fully to the “Close” position, you may have to turn the collet slightly. Conversely, if the blue sleeve is in the “Close” position but you are able to turn the collet, the pin is behind the collet and **you will damage it** when clamping your first tool blank.

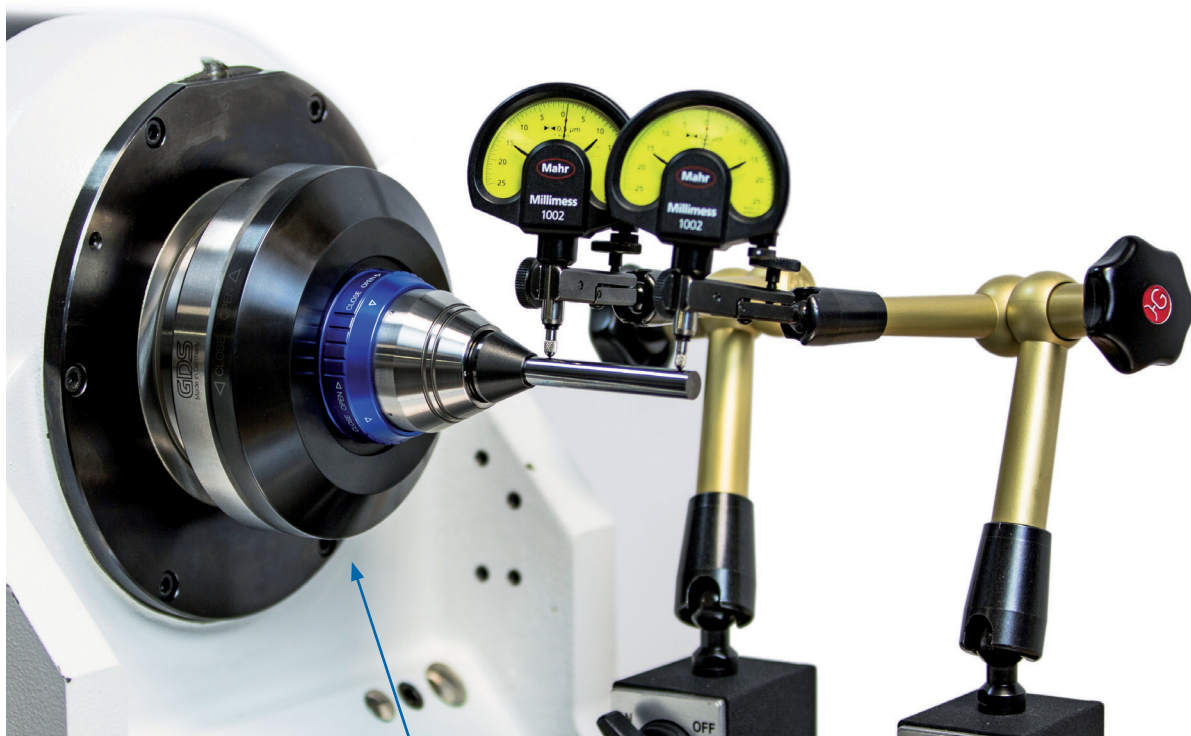


GDS μ Grind **HPS 20** with Drake adapter

Step 6: Insert a good blank of the appropriate size all the way into the collet. Use the machine control to move the pushrod back. This **clamps** the blank. Unclamp and clamp the blank roughly 20 times to ensure the collet is “settled in.” **NOTE:** Do **not** move the pushrod back without a blank in the collet.

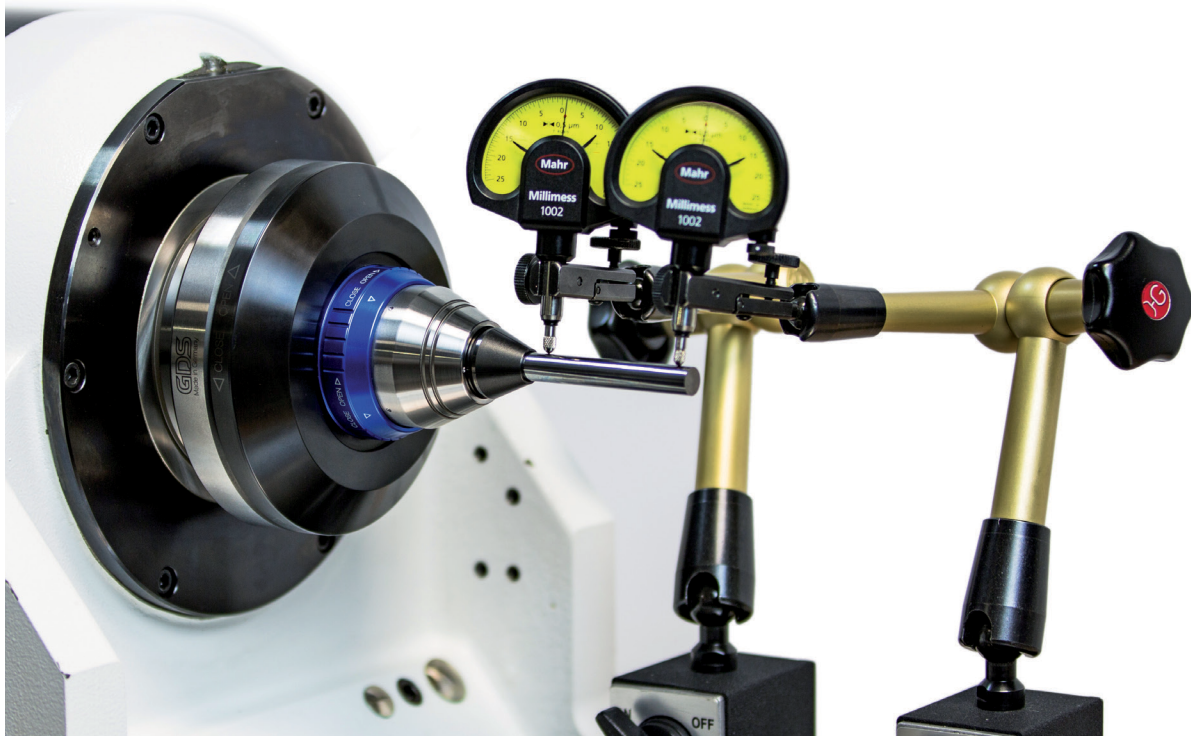


Step 7: Setup two gauges as shown below and in the video and rotate the A-axis until you reach the “high spot” as indicated on the rear gauge.



The swarf shield would **not** be on while adjusting the chuck

Adjust **concentricity** // Eliminate **runout**



Step 8: As shown in the video, use the plastic tipped mallet supplied with the chuck to “tap down” the runout. Rotate the C-axis periodically to ensure that you have achieved the desired precision. Tighten the face bolts when satisfied.

Step 9: As shown in the video, rotate the C-axis until you reach the “high point” as indicated by the forward gauge. Then, using the T-handle wrench supplied with the chuck, rotate the nearest jack screw clockwise until it aligns with the gauge. Tighten the screw **slightly** to eliminate axial runout (“weeble-wobble”). Repeat this process until satisfied and snug down all four jack screws (do not tighten).

Step 10: Unclamp and re-clamp the blank three times and re-check the runout. (Ensure that the blank is against the backstop so you are measuring at the same point.) Make any final adjustments and attach the swarf shield as shown in the video. You are ready to grind!

Step X: Check the runout after grinding roughly 20 tools as temperature changes may have affected things. Depending on your operation, you may find it helpful to check periodically after 1,000 to 5,000 tools.

Changing collets

Step 1: Move the actuating pushrod forward to “open” the chuck and remove the last tool from the first run.

Step 2: Turn the blue sleeve from “Close” to “Open” and unscrew the collet.

Step 3: Screw in the new collet and secure it as per **Step 5** above.

Step 4: Insert a new blank and clamp it as per **Step 6** above. You do NOT have to re-measure the chuck. It will repeat within 2 microns from collet to collet.

Removing the chuck

Step 1: Move the actuating pushrod forward to “open” the chuck and remove the last tool.

Step 2: Turn the blue sleeve from “Close” to “Open” and unscrew the collet.
Never leave a collet in the chuck when not in use!

Step 3: Remove the swarf shield and use the chuck’s T-handle wrench to loosen the four “weeble-wobble” jack screws.

Step 4: Move the actuating pushrod to the **back** position

Step 5: Loosen the four mounting bolts and remove the chuck. Secure the chuck in its case. Remove and pack the Drake face mount adapter. Remove the actuating pushrod, wrap it in its oil paper, and secure it in the case.

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