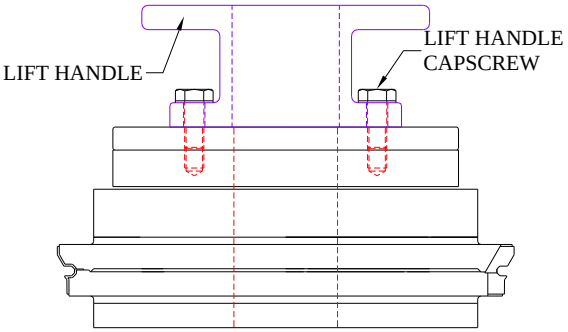
Great Lakes
Custom Tool Mfg., Inc.
Your American Cutting Tool Partner
Phone: 800-873-4528

Dual Hydro Expansion Matcher
Mounting & Adjustment Instructions

Note: Instructions are for a typical cutter. The cutter shown may not look identical to your cutter.

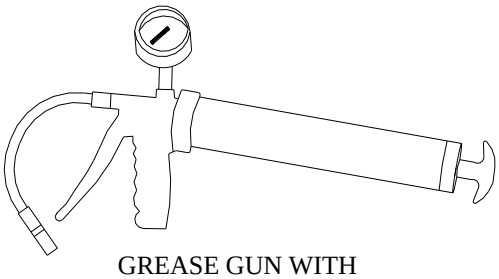
Great Lakes Custom Tool recommends the use of **safety glasses at all times.** When the cutter is mounted on the machine, be sure to **follow LockOut/TagOut procedures** and use all appropriate personal protection equipment.

Important: The Hydro Expansion Matcher must not be pressurized without being mounted on a spindle! The expansion matcher must be fully engaged the length of the bore with the spindle or damage to the bore will occur.



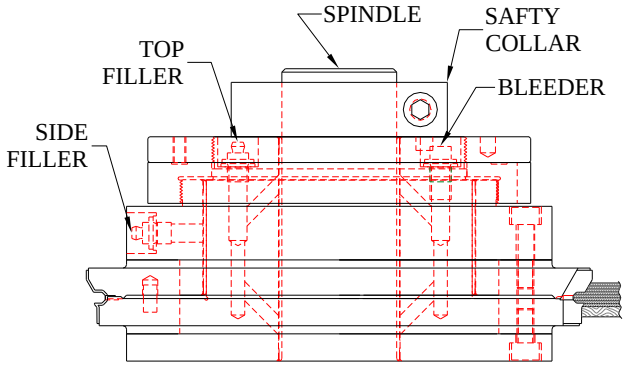
Mounting Instructions

1. Clean the spindle and bore of the expansion matcher before assembly. Apply an anti-corrosion oil film on the spindle (e.g. WD40). Using the lifting handle position the Hydro Expansion Matcher Assembly onto the spindle. Remove the bolts and lifting handle from the cutter assembly. Use Grease gun (GLCT Part No. M06) with pressure gauge, to pressurize the hydro sleeve assembly through the top filler. **Pressurize to a working pressure of 400-450 bar (5800-6500 psi). It is recommended to check the pressure once a day before start up.** The expansion matcher is a hydraulic clamping joint. It consists of two sleeves with a pressure medium (grease) between them. When pressurized the inner sleeve is forced to make contact with the spindle. This eliminates play between the tool and the spindle.



GREASE GUN WITH PRESSURE GAUGE

The cutter assembly has been factory set to your cutting requirements. **A side filler that hydraulically centers and clamps the upper cutter to the expansion matcher main sleeve needs to be pressurized to 400-450 bar (5800-6500 psi).** It is recommended to **check the pressure once a day** before start up.



2. Place a safety collar with pins above the dual hydro expansion matcher assembly. Position the collar so the pins engage the holes of the hydro sleeve. Tighten the clamping screw in the collar using a hex key.

Safety Collar No.	Spindle Dia.
WNW-101719	1 13/16”
WNW-101720	2 1/8”

3. When it becomes necessary to remove the expansion matcher assembly from the spindle, loosen the clamping screw in the safety collar and remove the collar. Using a hex key loosen the screw in the top bleeder to release the pressure in the expansion sleeve. Bolt on the lift handle to remove the expansion matcher assembly from the spindle.

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Adjustment Instructions

The hydro expansion matcher assembly is adjusted to widen or narrow the cut for the profile as required to maintain the proper part dimensions.

1. Determine the amount that the adjustable sleeve assembly must be adjusted by measuring the profile of several samples just machined.

2. Measure the distance **"D"** between the top surface of the flange of the upper hydro sleeve and the bottom surface of the lower hydro sleeve flange or place a dial indicator on the top surface **"T"** of the upper hydro sleeve to measure the movement (up or down) of the upper hydro sleeve with cutter.

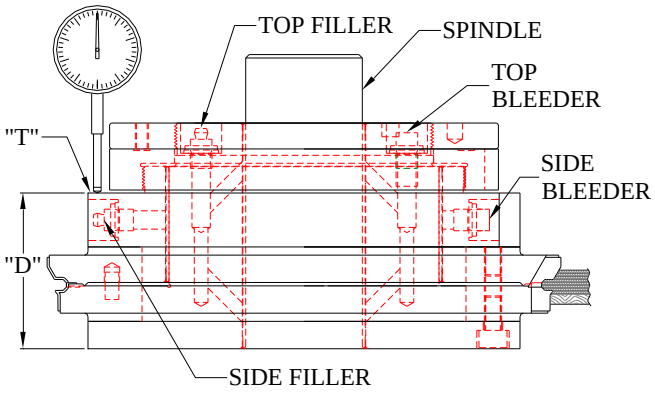
3. The adjustment nut will only need to be rotated a few degrees to make the desired adjustment. **Use the chart at the side as a guide.**

4. Using a hex key, loosen the (3) set screws located on the top surface of the locknut. Loosen the locknut using a spanner wrench (GLCT Part No. 935-17900-0000). Turn the locknut counterclockwise (ccw) to loosen. **Loosen locknut just enough to allow for adjusting the adjustment nut. (Loosen locknut no more than ¼ turn.)**

5. Using a 3-millimeter hex key loosen the screw in the side bleeder to release pressure in the upper hydro sleeve. Turn the adjustment nut using a spanner wrench (GLCT Part No. 6975A26) in the desired direction.
   Close to narrow the cut. (ccw)
   Open to widen the cut. (cw)

6. After adjustment, use a grease gun with a pressure gauge to pressurize the upper hydro sleeve assembly. **Apply grease into the side filler**. Make sure the bleeder screw has been closed. **Pressurize to 400-450 bar.** Using the spanner wrench tighten the locknut, then tighten the 3 setscrews in the top surface of the locknut.

7. Pressurize the top filler to **400-450 bar** and reinstall the safety collar.



Rotation of Adjustment Nut (Degrees)	Change in Dimension "D" (Inches)
5˚	.0008
10˚	.0017
15˚	.0026
20˚	.0034
25˚	.0043