



MOUNTING INSTRUCTIONS for HARDINGE 16C PRECISION EXPANDING COLLETS



Figure 1 - Hardened and Ground
Expanding Collet



Figure 2 - Emergency Expanding Collet

DESCRIPTION

Expanding collets offer precision internal chucking for all Hardinge machines equipped with 16C spindles. Hardened and ground expanding collets are available in standard round sizes from .375 to 3.000 inches and metric equivalents.

Emergency soft expanding collets are available in the same size ranges for use when an odd size is needed or when there is not time to order a hardened and ground collet. These collets can be machined to the exact size required.

Figure 1 shows a hardened and ground collet and Figure 2 shows an emergency collet.

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To Mount A Hardened and Ground Expanding Collet

1. Install draw collet "A", Figure 3, in the spindle.
2. Mount spindle collar "B", Figure 4, to the spindle with four screws.

- NOTE -

Work locating stops can be machined to any required diameter and length. If a work locating stop is to be used, proceed with step 3. If a work locating stop will not be used, go to step 6.

3. Mount the work locating stop "C", Figure 5, to the spindle collar with three screws.
4. Machine the work locating stop to the required length and internal diameter.
5. Remove the work locating stop.
6. Install four concentricity adjustment screws "D", Figure 6, in the spindle collar.
7. Place expanding collet "E" in the spindle collar and tighten adjustment screws "D" until the collet is held securely.
8. Place expanding collet draw plug "F", Figure 7, through the expanding collet and screw it into the draw collet until it is flush with face of the collet.
9. Install the work locating stop if it is to be used.

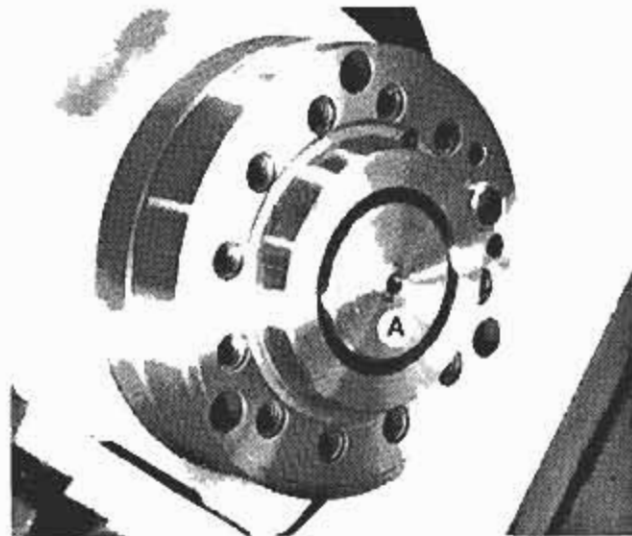


Figure 3 - Draw Collet

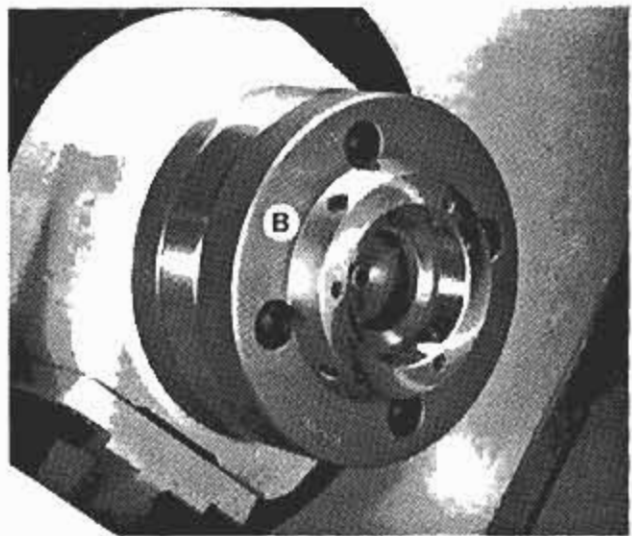


Figure 4 - Spindle Collar

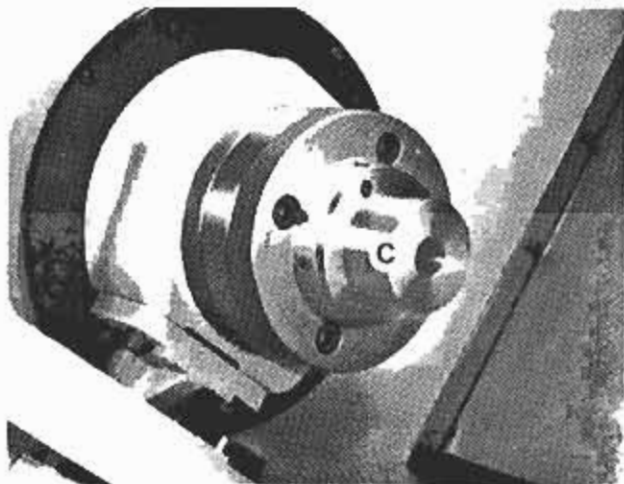


Figure 5 - Work Locating Stop

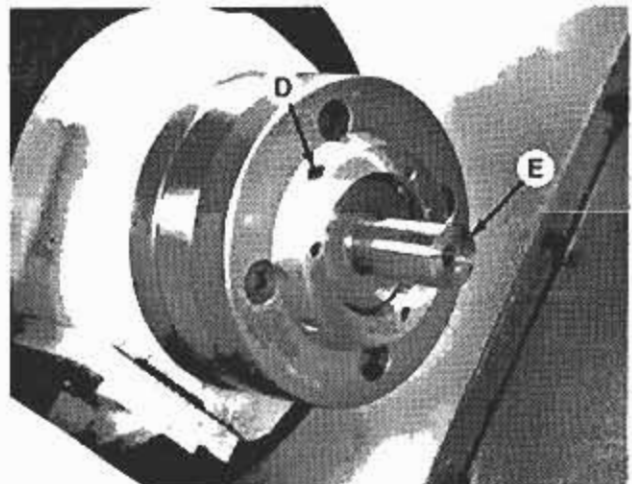


Figure 6 - Expanding Collet

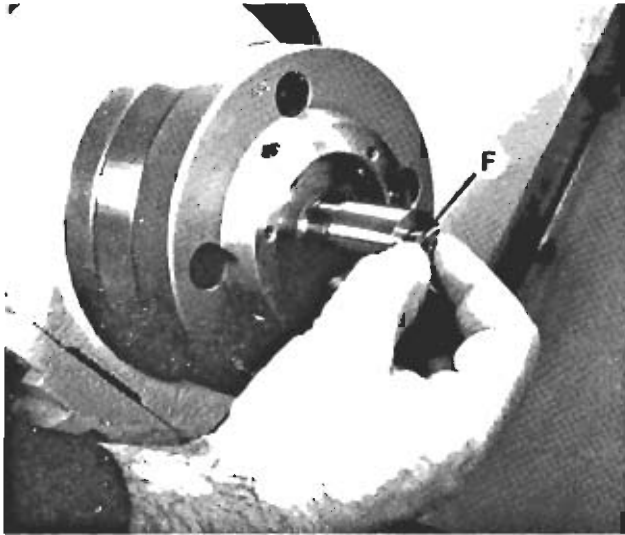


Figure 7 - Expanding Collet Draw Plug

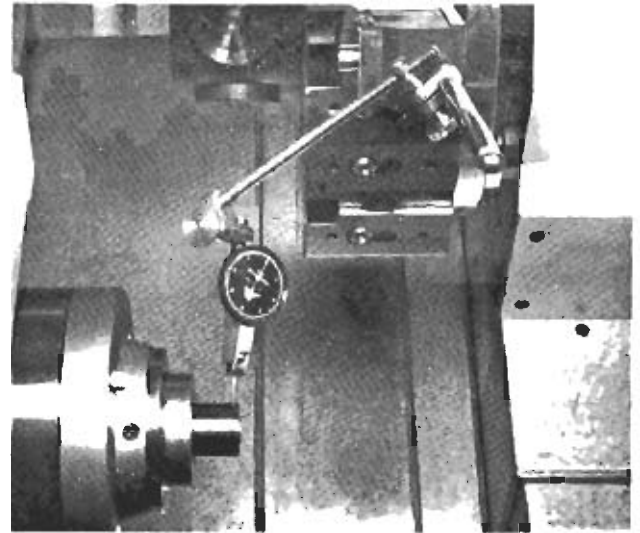


Figure 8 - Dial Indicator

- NOTE -

If a master part or a workpiece with a concentric surface is available it can be placed on the collet before proceeding with step 10.

10. Set up a dial indicator as shown in Figure 8, and adjust screws "D", Figure 6, until concentricity is obtained.

- NOTE -

It may be necessary to open the collet to relieve the pressure and allow the adjusting screws to move the collet.

11. Remove the dial indicator, place a workpiece on the expanding collet, and check to see that the part is being gripped securely.

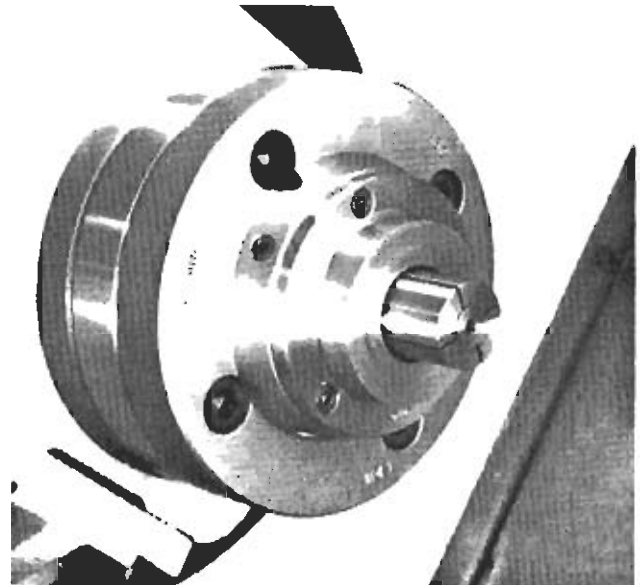


Figure 9 - Expanding Collet with Work Locating Stop

- NOTE -

Figure 9 shows the expanding collet with work locating stop installed on a 16C Spindle.

To Mount An Emergency Expanding Collet

1. Mount the emergency expanding collet following steps 1 through 7 under "To Mount A Hardened and Ground Expanding Collet".
2. Place the expanding collet draw plug through the emergency collet and screw it into the draw plug until it is flush with the lip on the front of the emergency collet.

- CAUTIONS -

Do not expand the emergency collet unless the limit ring is in place or a part of the correct size is being gripped.

When using limit ring "G", Figure 10, for machining Models S and M emergency collets, DO NOT EXCEED the following hydraulic collet closer gauge pressure settings:

Conquest® 42 Machine - 120 psi

Superslant® Machine - 1500 pounds

3. If your machine is equipped with a hydraulic collet closer, adjust the pressure to the applicable gauge pressure listed above. If your machine does not have a hydraulic collet closer, go to step 4.
4. Place limit ring "G", on the lip of the emergency collet and press the CLOSE COLLET pushbutton.
5. Set up a dial indicator as shown in Figure 8, and adjust screws "D", Figure 6, until concentricity is achieved.

- NOTE -

It may be necessary to open the collet to relieve the pressure and allow the adjusting screws to move the collet. After completing step 5, be sure the limit ring is in place and the collet is closed (expanded) before proceeding with step 6.

6. Remove the dial indicator and machine the emergency collet to the required diameter.
7. Press the COLLET OPEN pushbutton and remove limit ring "G", Figure 10.
8. Place a workpiece on the expanding collet, press the CLOSE COLLET pushbutton, and adjust the collet pressure to the desired pressure setting.

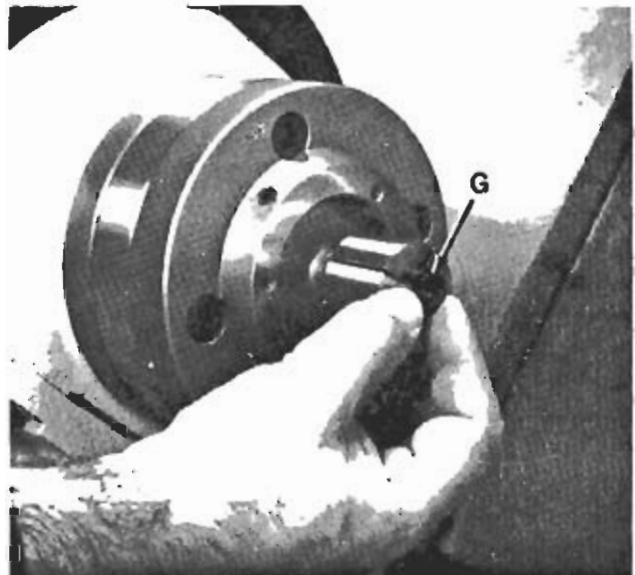


Figure 10 - Emergency Collet Limit Ring