

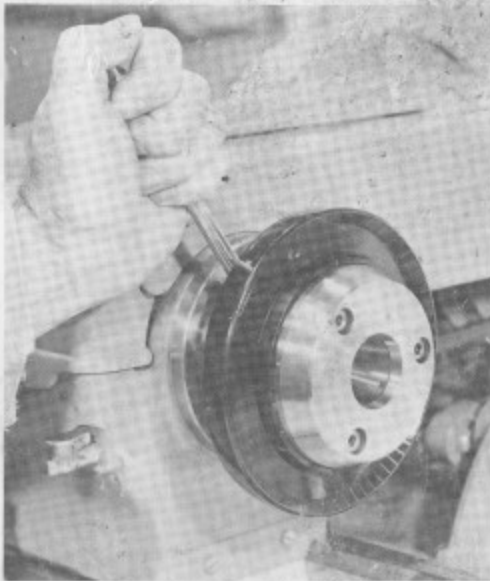


THE OPERATION AND CARE OF THE *Jacobs* MODEL 50 COLLET CHUCK

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BULLETIN 50-2

MOUNTING THE CHUCK



STEP 1 With lathe in back gears, mount chuck on threaded spindle using a piece of $\frac{3}{8}$ " drill rod in spanner hole to spin chuck securely on to spindle.



STEP 2 Remove nose from chuck.

MOUNTING THE CHUCK



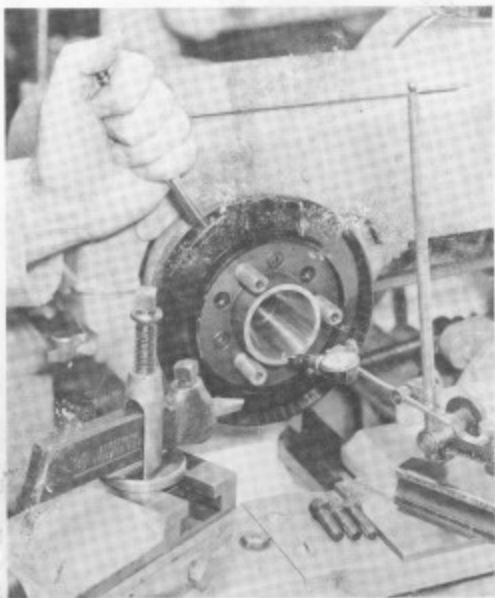
STEP 3 With lathe in neutral indicate locating cone.

If additional accuracy is required employ the following mounting procedure.

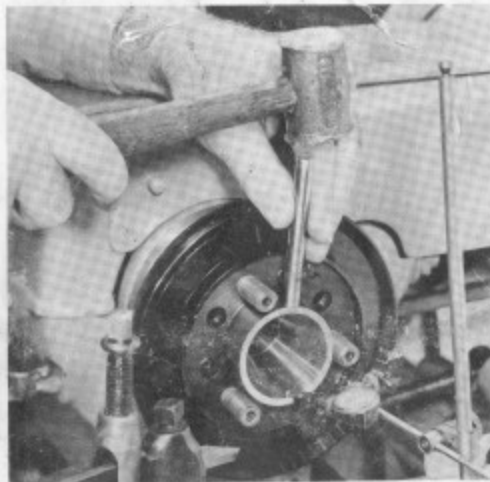


STEP 4 Remove three of the six body retaining screws (remove every other screw.) Break loose three remaining body retaining screws and retighten lightly to permit radial adjustment.

MOUNTING THE CHUCK



STEP 5 With lathe in neutral, indicate locating cone to locate runout.

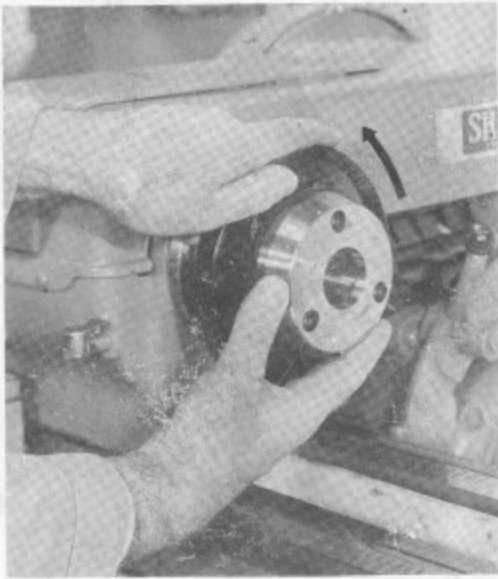


STEP 6 Tap outside of locating cone opposite the **HIGH** indicator reading.

Repeat as necessary until desired accuracy is obtained. Runouts of .0005" are usually obtainable.

NOTE: On older lathes where spindle runout is excessive, it is suggested that a "truing cut" be taken across the mounting face of the adapter.

CHUCKING THE BAR

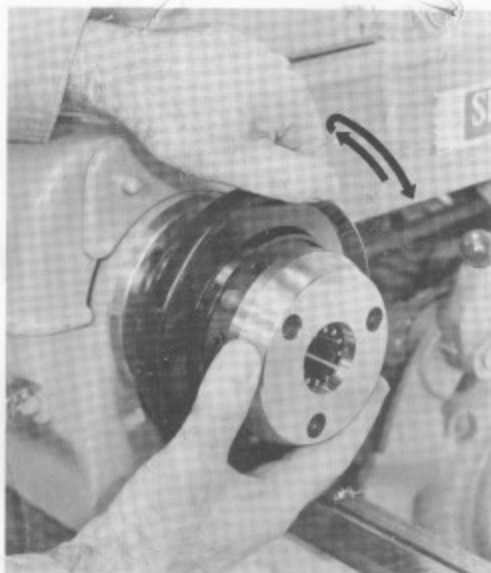


STEP 1 Turn handwheel to remove the nose.

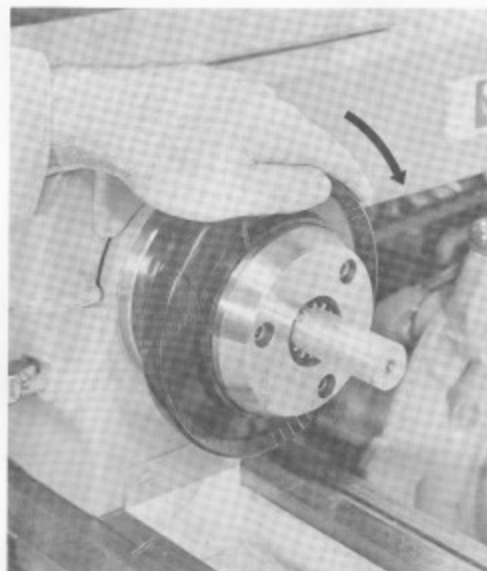


STEP 2 Place proper collet for bar diameter in locating cone, and line up holes in nose with three threaded pinions.

CHUCKING THE BAR



STEP 3 To prevent crossed threads on pinions turn handwheel one quarter turn in opening direction and then in closing direction until nose starts to close collet.



STEP 4 Insert bar stock into collet and turn handwheel to close collet on to this piece.

CHUCKING THE BAR

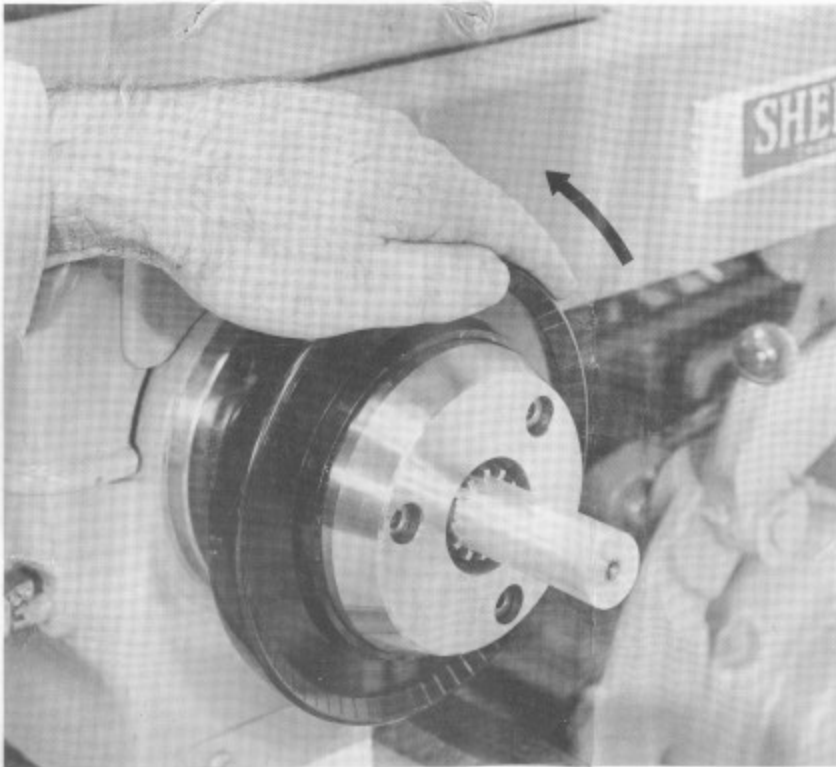


STEP 5 Insert hex-key into any one of three pinions and turn to tighten the chuck securely.



STEP 6 To loosen chuck insert hex-key into any one of the three pinions and turn.

CHUCKING THE BAR

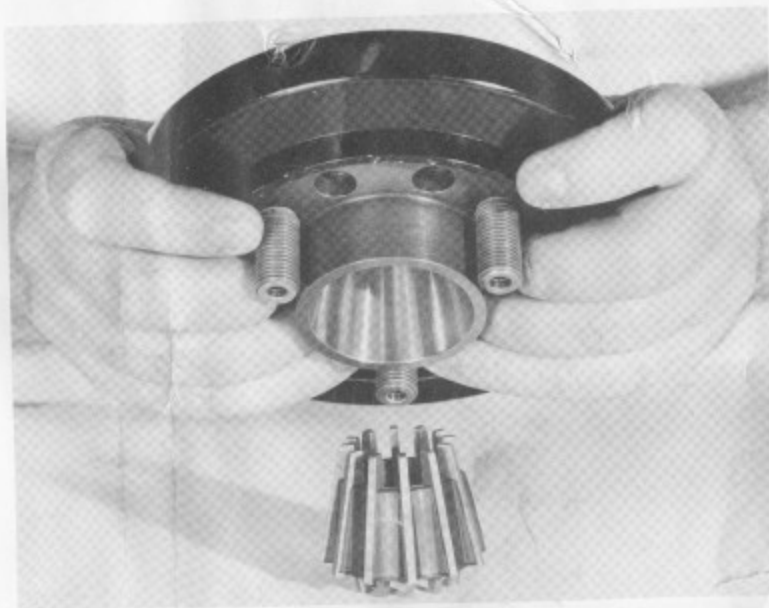


STEP 7 Turn handwheel to open collet.

TAKE APART INSTRUCTIONS

STEPS 1-7

- ① Place Model 50 chuck on a flat surface—nose up.
- ② Remove nose from chuck.
- ③ Unthread and remove six body retaining screws.



- ④ Pick up chuck with thumbs holding handwheel and fingers pressing against the locating cone, and place over any collet resting on a flat surface.
- ⑤ Remove cover plate by unthreading cover plate screw.
- ⑥ Remove handwheel by lifting handwheel directly upward.
- ⑦ Remove pinions.

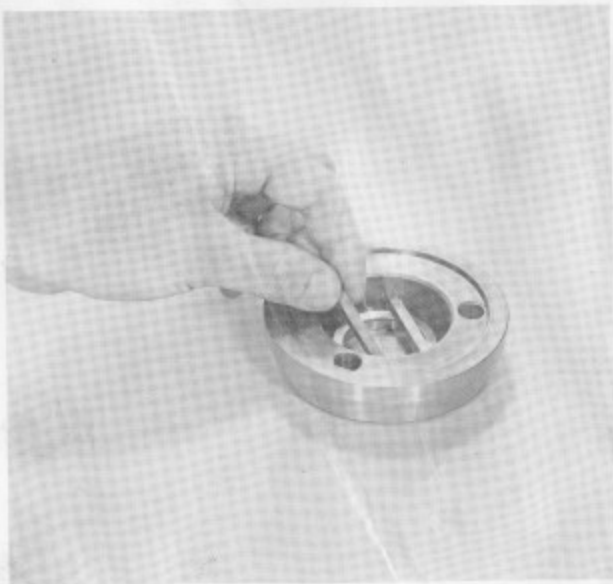
ASSEMBLY INSTRUCTIONS

To insure that the pinions are assembled properly and the nose pulls down squarely, the following "assembly instructions" should be used whenever the handwheel with its internal gear has been disengaged from the pinion gears.

To correctly assemble the Model 50 chuck any of the following materials may be used:

Two equal pieces of flat, square, or round stock approximately $1\frac{7}{8}$ " long to be used as **SPACER BARS**.

ASSEMBLY INSTRUCTIONS



STEP 1 Place the spacer bars on the collet bearing surface of the nose.

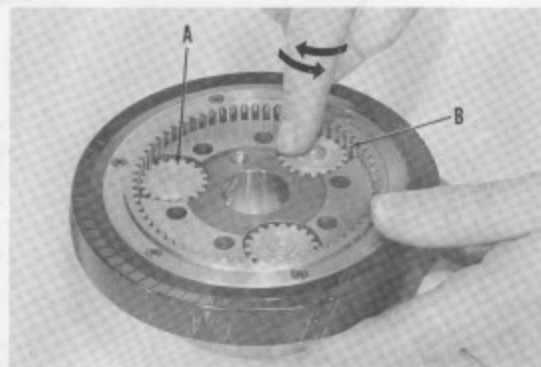


STEP 2 Assemble chuck body to the nose so that the front face of the body rests on the spacer bars, and the pinion holes in the body line up with the threaded holes in the nose.

ASSEMBLY INSTRUCTIONS



STEP 3 Screw the three pinions into the nose through the holes in the body until they are finger tight. Note that pinion threads are **LEFT HAND**.



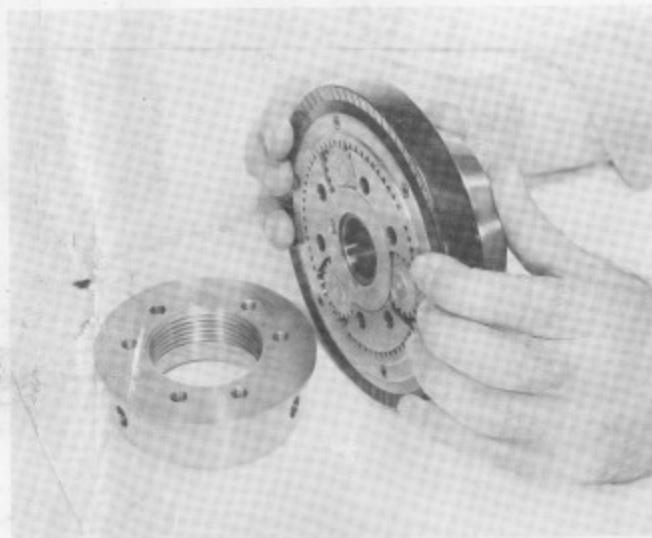
STEP 4 Assemble the handwheel by engaging its ring gear with one pinion gear (see "A" above).

Rotate (see "B" above) the remaining two pinion gears in the direction requiring the **LEAST MOVEMENT** to engage a full tooth.

ASSEMBLY INSTRUCTIONS

STEP 5

Assemble cover plate and
cover plate screw.



STEP 6 Pick up chuck with fingers holding handwheel
and thumbs pressing against the nose.
Place chuck on front face of adapter.

ASSEMBLY INSTRUCTIONS

STEP 7

With chuck body resting on adapter turn handwheel counter clockwise and remove nose.

STEP 8

Remove spacer bars and fasten adapter to chuck with six body retaining screws.

SHORT PIECE CHUCKING

A short piece is described as one that projects into the collet less than $\frac{3}{4}$ " measured from the chuck nose.

Short pieces can be very easily and simply chucked by following these suggestions:

- ① Insert a metal plug .002—.003 under the diameter being chucked into the back of the collet. This supports the back of the collet jaws.
- ② Insert work in collet and tighten chuck securely.

PATENT NUMBERS MODEL 50 COLLET CHUCK

UNITED STATES

2,346,706
2,346,707
2,459,899
2,459,900
2,584,303

CANADIAN

*Patented
1946, 1947

BRITISH

548,258
617,964

SWEDISH

125,251

FRENCH

Brevets,
S.G.D.G.
912,726

BRAZILIAN

31,959

BELGIAN

506,293

JAPANESE

200,194

GERMAN

829,397
845,890

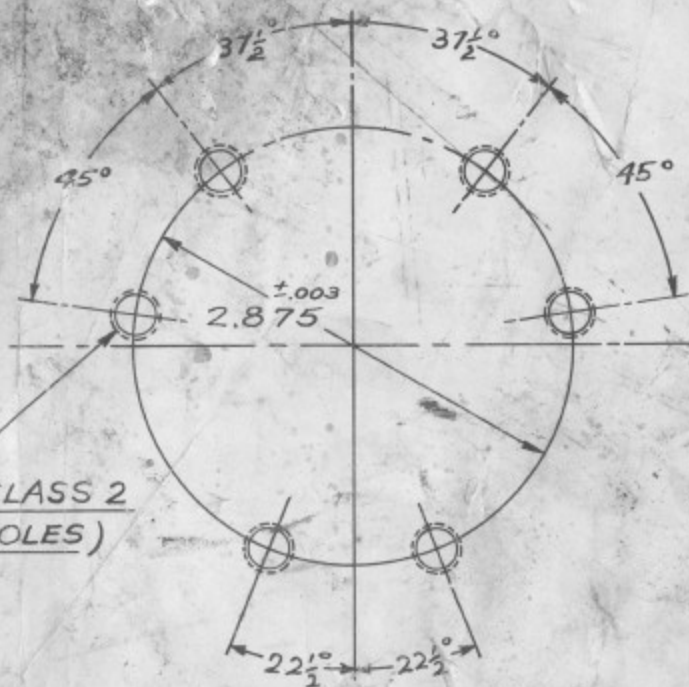
AUSTRIAN

186,947

Other U.S. and foreign patents pending

SPECIFICATIONS FOR ADAPTER MACHINING

The following bolt circle dimensions on the Model 50 Chuck will be helpful to those who wish to manufacture their own adapters, face plates, etc.:



TAP $\frac{5}{16}$ -18 NC CLASS 2
 $\frac{13}{16}$ DEEP (6 HOLES)

ADAPTER BOLT
CIRCLE DIMENSIONS

THE JACOBS MANUFACTURING COMPANY

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