

GENERAL INSTRUCTIONS

The accuracy of any machine tool is dependent on how well parts fit together. For example parts should fit freely but with sufficient friction to prevent chatter while taking cuts. In order to obtain good surface contact (bearing area) on any precision machine tool it is necessary to lap or hand scrape mating surfaces to smooth out slight irregularities in machined surfaces. In assembly of your micro lathe the lapping of mating parts with a mild abrasive is suggested.

An excellent mild abrasive used for this purpose is a thin paste of any household cleanser and oil, example ajax, comet, etc. This lapping process should be employed to fit the carriage to the bed and the cross slide to the carriage. All lapping materials should be wiped clean after proper fit is obtained. The complete lapping process normally takes 30 to 40 strokes each on the carriage and cross slide (approximately 10 minutes each).

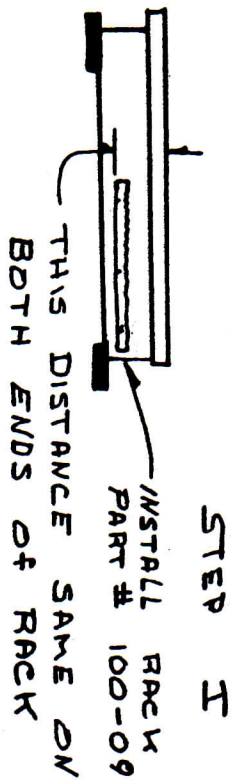
TIPS

Use generous amount of lapping paste. If stroking feels excessively abrasive add more oil, approximate ratio one teaspoon abrasive to 1/4 cup light oil (SAE 20 motor oil).

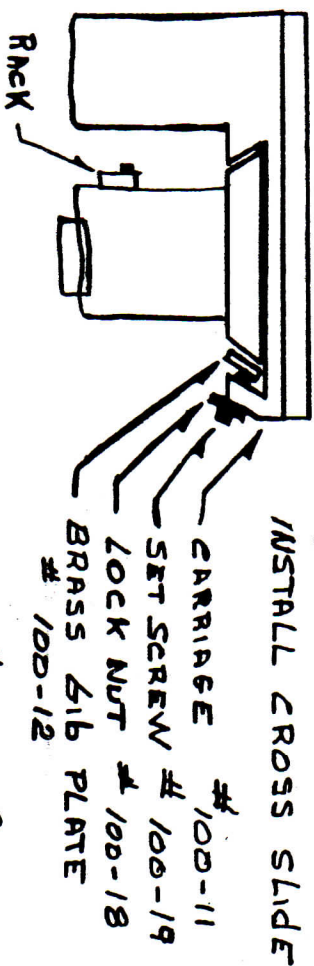
Adjust gibs every few strokes.

ASSEMBLY INSTRUCTIONS

1. Install rack #100-09 to lathe bed using 4-40 socket head allen screws.
2. Install set screw #100-19 (10-32) and thumb screw #100-34 in carriage #100-11 with gib #100-12 in place--slide on bed. The carriage must slide snugly on lathe bed. Use household cleanser such as comet and light oil to lap carriage assembly on bed, slide carriage back and forth while tightening gib adjustment screws #100-19. Wipe off all lapping material then oil generously. Upon obtaining smooth sliding fit after all lapping material is wiped from surface, it may be necessary to tighten gib screw a slight amount to obtain snug fit.
3. Using same procedure as above install cross slide #100-26.
4. Install cross nut in cross slide.
5. Install cross slide screw assembly.
6. Place eccentric bushing on carriage hand wheel #100-15. Slip assembly into carriage. Rotate eccentric to provide smooth engagement on rack. Note: Rack must be parallel to bed ways. After adjustment is complete install 10-32 set screw on carriage to lock eccentric bushing in place.
7. Slide headstock in place and tighten 8-32 cap screw. Install carriage stop rod with 10-32 thumb screw.

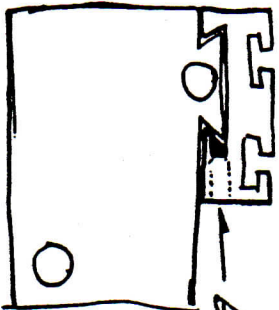


STEP I

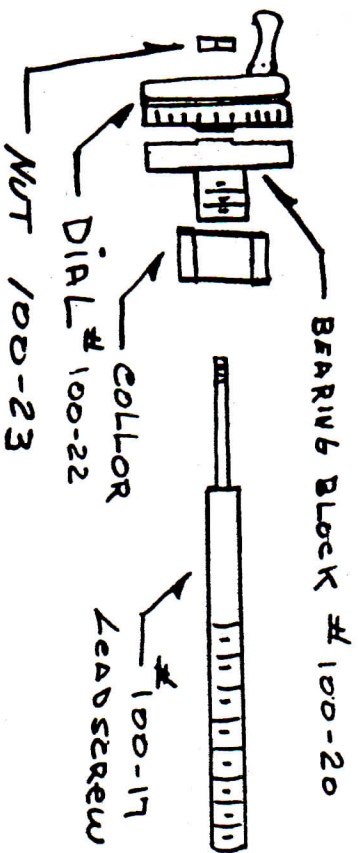


STEP II

Note INDENTATION IN GIB PREVENTS GIB TIGHT TO INDENT GIB THEN LOOSEN UNTIL CARRIAGE SLIDES FROM SUITING IN USAGE.

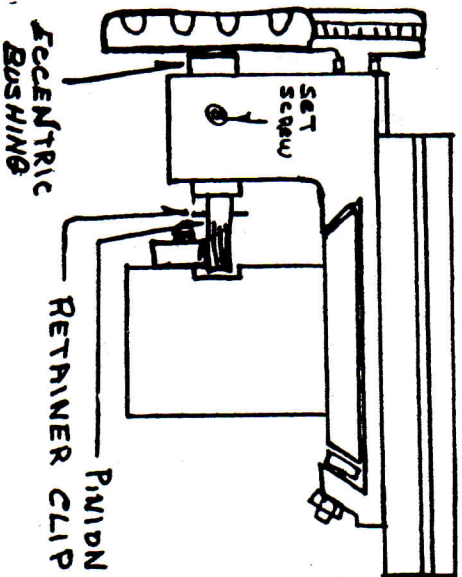


STEP III
 INSTALL CROSS SLIDE
 GIB ADJUSTMENT SCREWS
 ADJUST MIDDLE SCREW FIRST
 SLIDE BACK AND ADJUST END SCREWS LAST



ASSEMBLE CROSS SLIDE SCREW

1. SLIDE COLLOR ON BEARING BLOCK
2. PLACE ABOVE ON LEADSCREW
3. HOLDING LEADSCREW - SCREW DIAL SNUG - UNSCREW DIAL APPROX 6 GRADUATION MARKS TIGHTEN NUT # 100-23 - BEARING BLOCK MUST ROTATE FREELY



ASSEMBLY PINION ON RACK

ROTATE ECCENTRIC BUSHING TO OBTAIN SMOOTH GEAR ENGAGEMENT ON RACK