POWER FEED INSTALLATION
Model M-9514 Cross Feed
Bridgeport Series II Mill

REFERENCE DRAWINGS ENCLOSED

- NA-5444  Bevel Gear Installation
- NB-57486  Power Feed Installation
- NB-1538  Limit Switch Installation
- ND-6292  Type 150 Servo Drive
- ND-6293  Type 140 Servo Drive
- 0800-80001  Servo Power Feed Operation

PREPARATION

Step 1: Remove the nut, handcrank, dial assembly, and key from the lead screw.

Step 2: Slide the bearing race onto the lead screw and slide the power feed over the bearing race.

Step 3: Line up the feed so that it sits square to the bearing housing of the mill. Using the power feed as a template, spot two mounting holes onto the bearing retainer.

Step 4: Remove the power feed and bearing race from the lead screw.

Step 5: Remove the three screws holding the bearing retainer. Then remove the bearing retainer from the mill.

Step 6: Drill and tap two holes 1/4-20 through the bearing retainer. Or mount the bearing retainer on a mill and machine two 1/4-20 through holes at the locations shown in Section A-A of drawing #NB-57486.

Step 7: Put the bearing retainer back onto the mill.

Step 8: Screw the shaft extension to the lead screw and tighten.

Step 9: At the midpoint of the threaded joint, drill 1/8" diameter hole through the lead screw and pin the shaft extension in place using the 1/8 diameter x 5/8" long roll pin. File smooth.

POWER FEED INSTALLATION

Step 1: Slide spacer #57489 and then the bearing race onto the lead screw.

Step 2: Place the feed spacer over the lead screw and against the mill. Register the shallow pilot diameter on the spacer into the bearing retainer hole of the mill.

Step 3: While holding the feed spacer, slide the power feed over the bearing race and secure using the 1/4-20 x 2" long cap screws.
BEVEL GEAR INSTALLATION

Step 1: Install two Woodruff keys #00791.

Step 2: Follow drawing NA-5444 for installation of the bevel gear. Adjust for proper gear backlash.

DIAL AND HANDCRANK INSTALLATION

Step 1: After getting the proper backlash, the dial should be adjusted to obtain .005” spacing from the face of the power feed. This is important in order to keep chips from entering the gear train. Two plastic (.030” thick) and five brass (.005” thick) washers are provided for this. Shim as required.

Step 2: Put on dial locking nut.

Step 3: Slide on clutch followed by sleeve and existing spring.

Step 4: Install the existing handcrank.
    Secure using the washer and the 5/16-18 x 1” long socket head cap screw.

LIMIT SWITCH INSTALLATION

Step 1: See the limit switch installation drawing NB-1538.

NOTE For mills equipped with the Bridgeport optical measuring system or the measuring attachment, install the limit switch assembly on the left-hand side of the mill.

OPERATION

See separate Servo Power Feed Operation sheet. Plug the unit into a source of 120 volt, 50 or 60 cycle power.

WARNINGS

Check hand crank clearances before operation.

Clearances between the surfaces of the hand crank and the non-moving parts of the equipment on which the hand crank is installed must be at least one-fourth inch (1/4”) to prevent injury. Modification of existing hand crank or replacement may be required.

Do not operate without proper clearance!

Prevent contact during fast traverses.
**STEP 1**
PREPARATION

**STEP 2**
SHIMMING BEVEL GEAR

ADD SHIMS PROVIDED
1/32 THICK ARE SOLID
1/64 THICK ARE LAMINATED
.002/LAMINATION

INSTALL HANDCRANK.

MARK HOUSING AND BEVEL GEAR WITH PENCIL TO CHECK BACKLASH.

0.015/0.025
(THESE ARE NEEDED TO READ ON THE DIAL)

ROTATE GEAR FROM SIDE TO SIDE
REMOVE OR ADD SHIMS AS REQUIRED TO OBTAIN 0.015/0.025 BACKLASH.

PUSH BEVEL GEAR AGAINST SHIMS.

TIGHTEN NUT.

**CAUTION:** IF BACKLASH IS NOT PROPERLY SET
BEFORE TURNING UNIT ON, BEVEL GEAR MAY BE DESTROYED.

LOosen SETSCREW

**STEP 3**
DOUBLE CHECK OF SHIMMING

WITH POWER FEED IN NEUTRAL POSITION, TURN
HANDCRANK, IF EXCESSIVE GEAR NOISE OR BINDING OCCURS, SHIMS NEED TO BE
ADDED, WHEN ADDING SHIMS, REPEAT STEPS 1 AND 2.

**STEP 4**
LUBRICATION

INSTALL KEY

SERVO PRODUCTS COMPANY

BEVEL GEAR INSTALLATION

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