

# POWER FEED INSTALLATION

## Model M-0253 Cross Feed

### Bridgeport Mill after 8/1/10



**Note: Older Bridgeport mills have the Y-axis leadscrew bearings held by a retaining ring, mounted with three screws, which presses against the outer races of the bearing pair. These instructions cover the new mills having no retaining ring; instead, a nut on the leadscrew tightens against the inner races of the bearing pair.**

#### REFERENCE DRAWINGS ENCLOSED

NA-5444	Bevel Gear Installation
NB-59676	Power Feed Installation
NB-1538	Limit Switch Installation
ND-6293	Type 150 Servo Drive
ND-6292	Type 140 Servo Drive
0800-80001	Servo Power Feed Operation

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#### PREPARATION

- Step 1:* Move the table to the front of the knee.
- Step 2:* Remove the nut, crank, dial assembly, and key from the lead screw.
- Step 3:* Slide the bearing race onto the lead screw. Place the 59675 spacer in the bearing housing. Then slide the power feed over the bearing race, and against the spacer.
- Step 4:* Line the feed up vertically. Using the power feed as a template, spot two mounting holes.
- Step 5:* Remove the power feed and bearing race from the lead screw.
- Step 6:* Drill and tap two holes 1/4-20 x 3/8" deep. Take special care to prevent contaminating the bearings.
- Step 7:* Screw the shaft extension to the lead screw and tighten.
- Step 8:* Using the hole provided as a pilot, drill 1/8 diameter hole thru and pin using 1/8 diameter x 5/8" long roll pin. File smooth.

#### POWER FEED INSTALLATION

- Step 1:* Slide the bearing race onto the lead screw.
- Step 2:* Slide the power feed onto the bearing race and secure with two 1/4-20 x 1-1/2" long socket head cap screws.

## BEVEL GEAR INSTALLATION

*Step 1:* 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. Plastic and metal washers are provided for this. Shim as required.

*Step 2:* In the following sequence, replace dial and dial locking nut, slide the crank onto shaft extension and secure with 1/2-20 lock nut. Do not over-tighten, just barely snug will ensure the leadscrew turns freely. A smaller diameter crank is supplied in order to have clearance between the cross feed crank and the knee crank.

## LIMIT SWITCH INSTALLATION

*Step 1:* See the limit switch installation drawing NB-1538. Check Note 4 and Detail A on the drawing to modify the trip rail for various cross travel distances.

**NOTE** *For mills equipped with the Bridgeport optical measuring system or the measuring attachment, install 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.

## SERVO PRODUCTS COMPANY

Web: [www.servoproductsco.com](http://www.servoproductsco.com)

### CALIFORNIA BRANCH

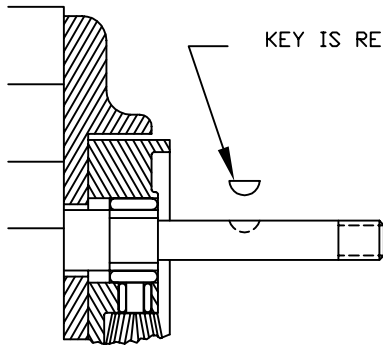
14254 Valley Blvd., Unit A  
City of Industry, CA 91746  
Ph. 626.961.7800 Fax 626.961.2444

### HEADQUARTERS

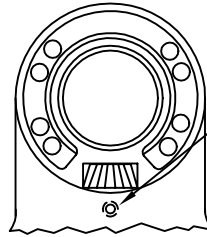
34940 Lakeland Blvd.  
Eastlake, OH 44095  
Ph. 440.942.9999 Fax 440.942-9100

### FLORIDA BRANCH

8950 131<sup>st</sup> Ave. N.  
Largo, FL 33773  
Ph. 727.585.8555 Fax 727.585.6555

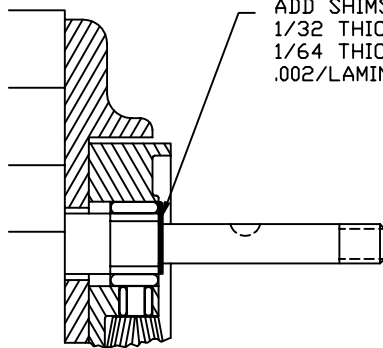


KEY IS REMOVED DURING SHIMMING

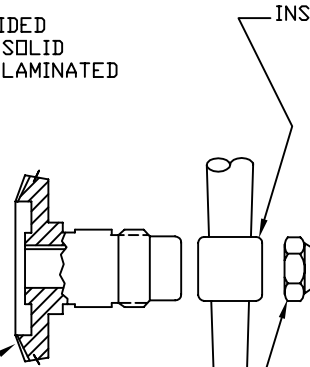


TIGHTEN SLIGHTLY (HOLDS BEVEL PINION STATIONARY DURING SHIMMING.)

STEP 1  
PREPARATION



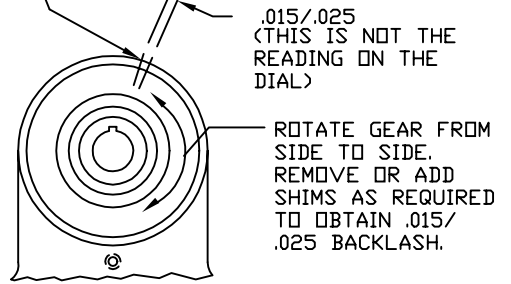
ADD SHIMS PROVIDED  
1/32 THICK ARE SOLID  
1/64 THICK ARE LAMINATED  
.002/LAMINATION



PUSH BEVEL GEAR AGAINST SHIMS.

INSTALL HANDCRANK.

MARK HOUSING AND BEVEL GEAR WITH PENCIL TO CHECK BACKLASH.



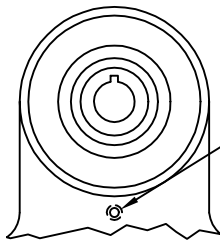
.015/.025  
(THIS IS NOT THE READING ON THE DIAL)

ROTATE GEAR FROM SIDE TO SIDE.  
REMOVE OR ADD SHIMS AS REQUIRED TO OBTAIN .015/.025 BACKLASH.

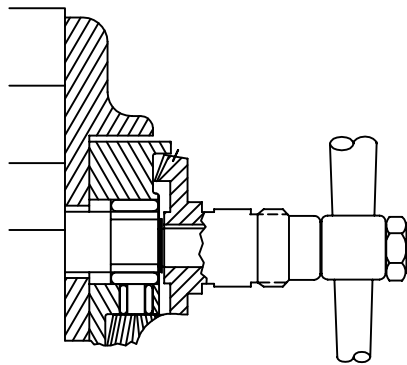
TIGHTEN NUT.

STEP 2  
SHIMMING BEVEL GEAR

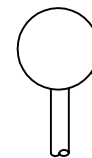
**CAUTION:** IF BACKLASH IS NOT PROPERLY SET BEFORE TURNING UNIT ON, BEVEL GEAR MAY BE DESTROYED.



LOOSEN SETSCREW

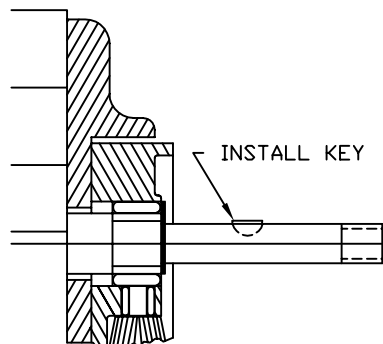


WITH POWER FEED IN NEUTRAL POSITION, TURN HANDCRANK. IF EXCESSIVE GEAR NOISE OR BINDING OCCURS, SHIMS NEED TO BE ADDED. WHEN ADDING SHIMS, REPEAT STEPS 1 AND 2.

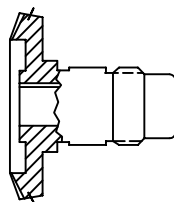


CONTROL HANDLE @ NEUTRAL POSITION

STEP 3  
DOUBLE CHECK OF SHIMMING



INSTALL KEY



SEAL

REMOVE GEAR, PACK WITH GREASE. (DO NOT USE SILICONE TYPE GREASE) REPLACE GEAR. (DO NOT LOSE ANY SHIMS)

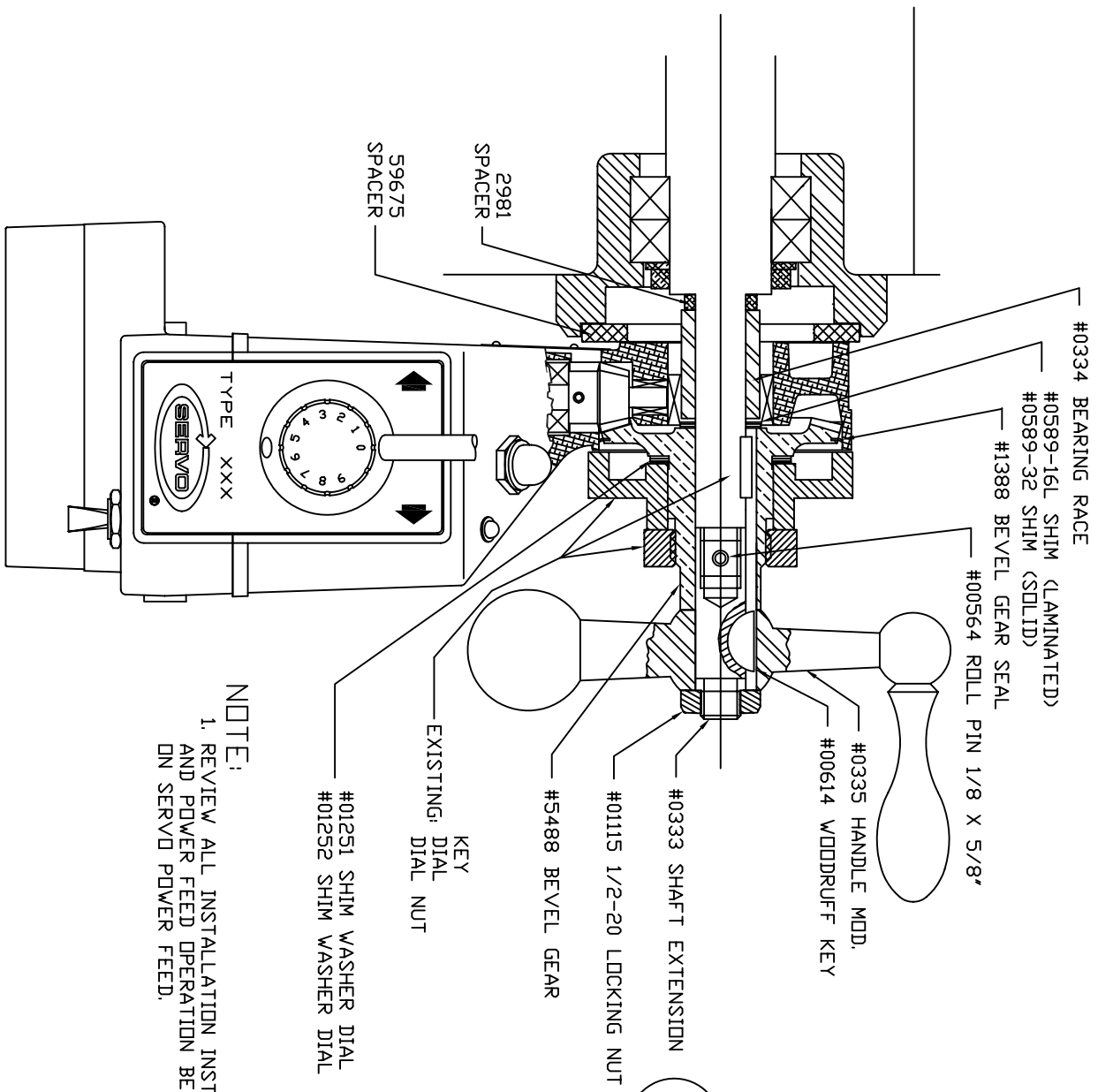
PICTURES IN THIS DRAWING ARE FOR REFERENCE ONLY. SEE INSTALLATION DRAWING OF CORRESPONDING MODEL FOR EXACT PARTS CONFIGURATION.

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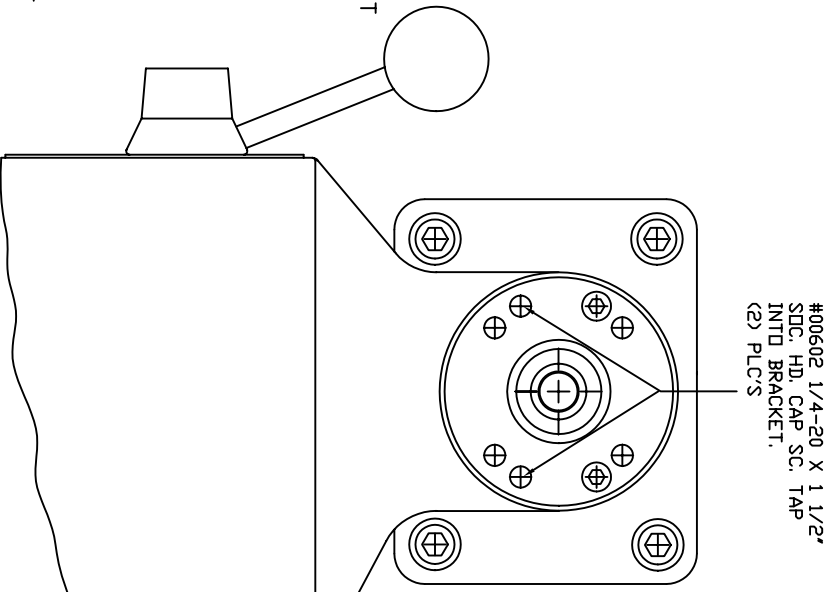
BEVEL GEAR INSTALLATION

NA-5444 C

STEP 4  
LUBRICATION



NOTE:  
 1. REVIEW ALL INSTALLATION INSTRUCTIONS  
 AND POWER FEED OPERATION BEFORE TURNING  
 ON SERVO POWER FEED.



		SERVO PRODUCTS COMPANY 3490 LANGLAND BLVD., EASTLAKE, OH 44095	
<b>BRIDGEPORT Y-AXIS          INSTALLATION DRAWING          MODEL 253</b>			
SIZE	CODE IDENT NDL	DRAWING NDL	REV.
B	0800-81018	NB-59676	B
SCALE 5/8		SHEET	DF





# M-0253 CROSS FEED PARTS IDENTIFICATION LIST

00579 Clamp Qty = 1	01050 Clamp Qty = 1	01095 Phil Flat Head Screw Qty = 1	1171 Limit Switch Bracket Qty = 1	0266 Limit Switch Gasket Qty = 1	0361 Limit Switch Bracket Qty = 1	00613 Phil Flat Head Screw Qty = 2	06928 Phil Pan Head Screw Qty = 4	1750 Limit Switch Bar Qty = 1	00670 Soc Head Cap Screw Qty = 2
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1752  
Trip Rail  
Qty = 1

01161  
Button Head  
Cap Screw  
Qty = 2

00614  
Key  
Qty = 1

00564  
Roll Pin  
Qty = 1

1536  
Stop Stud  
Qty = 2

1537  
Stop Ring  
Qty = 2

01082  
Hex Nut  
Qty = 2

59675  
Spacer  
Qty = 1

2981  
Spacer  
Qty = 1

01115  
Lock Nut  
Qty = 1

0333  
Shaft Extension  
Qty = 1



0335  
Handcrank Assembly  
Qty = 1



01251  
Brass Shim  
Qty = 5



01252  
Plastic Shim  
Qty = 2



5488  
Bevel Gear  
Qty = 1



0589-32  
.032 Shim  
Qty = 2



0589-16L  
.016 Shim  
Qty = 2



0334  
Bearing Race  
Qty = 1



00602  
Soc Head  
Cap Screw  
Qty = 2