

# POWER FEED INSTALLATION

## Model M-4300 Table Feed

### Sharp HMV



#### REFERENCE DRAWINGS ENCLOSED

NA-5444	Bevel Gear Installation
NB-5616	Power Feed 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:* Remove the nut, handle, and dial assembly from the right-hand end of the table.
- Step 2:* Remove the bearing retainer from the end bracket.

#### POWER FEED INSTALLATION

- Step 1:* Slip on the bearing retainer #2784 and spot the three countersunk holes. Drill and tap 1/4-20 x 1/2" deep. Secure with 1/4-20 x 7/8" long socket head cap screws.
- Step 2:* Slip the bearing race #0682 inside the adaptor #0771. Slide them onto the lead screw up to the end bracket. Secure the adaptor with the three 1/4-20 x 1/2" long socket head cap screws. Remove the bearing race.
- Step 3:* Add the sleeve #0773 as shown, followed by the bearing race #0682.
- Step 4:* Install the power feed to the adaptor using the 1/4-20 x 1" long socket head cap screws.
- Step 5:* Screw the shaft extension onto the lead screw and tighten.
- Step 6:* You may wish to add the roll pin after determining the shims required for the bevel gear.  
Using the hole provided as a pilot, drill 1/8" diameter through the lead screw and pin the extension in place using the 1/8 diameter x 5/8" long roll pin. File smooth.

#### 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. Two plastic (.030" thick) and five brass (.005" thick) washers are provided for this. Shim as required.

*Step 2:* After shimming the dial, put on the dial locking nut and insert the woodruff key #5486 for the handcrank. Slide the existing handcrank in place and secure with the 1/2-20 lock nut.

## LIMIT SWITCH INSTALLATION

*Step 1:* Remove the standard table stop pieces and install the table stop pieces furnished. Put the standard stops back in a position to prevent feed stops from being set beyond extreme table travel.

*Step 2:* Install the limit switch as shown in drawing ND-5616.

*Step 3:* The T-stop is retained to act as a positive stop where required for manual operation.

**NOTE** *For proper operation, the electrical limit switch should be engaged .4 inch before the mechanical stop to allow for coasting of the table. The T-stops are often not symmetrical and may need to be ground to obtain proper operation.*

*Step 4:* Put the cable clamp on the cable and secure to the right-hand chip scraper screw.

## 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

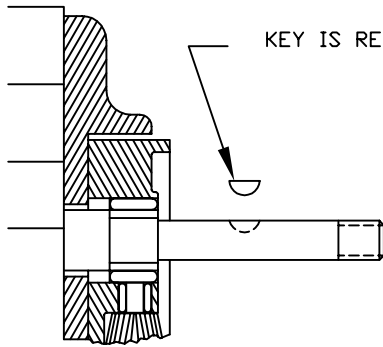
14254 Valley Blvd., Unit A  
City of Industry, CA 91746  
Ph. 626.961.7800 Fax 626.961.2444

### HEADQUARTERS

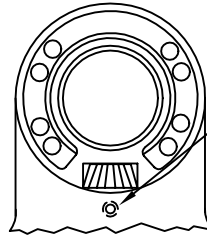
34940 Lakeland Blvd.  
Eastlake, OH 44095  
Ph. 440.942.9999 Fax 440.942-9100

### FLORIDA BRANCH

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

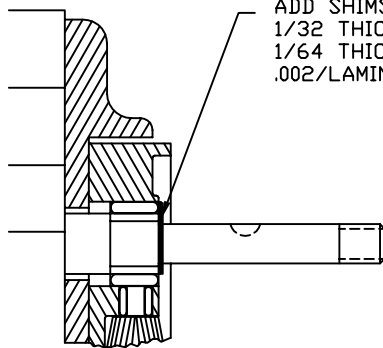


KEY IS REMOVED DURING SHIMMING

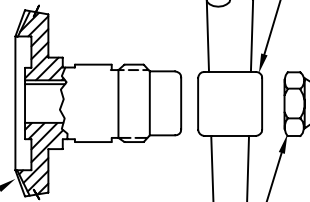


TIGHTEN SLIGHTLY (HOLDS BEVEL PINION STATIONARY DURING SHIMMING.)

STEP 1  
PREPARATION



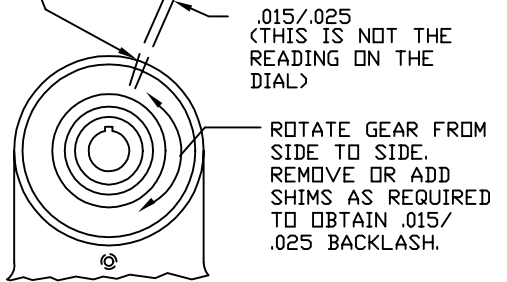
ADD SHIMS PROVIDED  
1/32 THICK ARE SOLID  
1/64 THICK ARE LAMINATED  
.002/LAMINATION



PUSH BEVEL GEAR  
AGAINST SHIMS.

INSTALL HANDCRANK.

MARK HOUSING AND BEVEL GEAR  
WITH PENCIL TO CHECK BACKLASH.



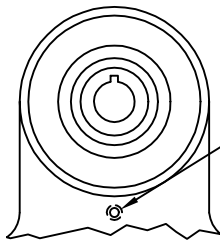
.015/.025  
(THIS IS NOT THE  
READING ON THE  
DIAL)

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

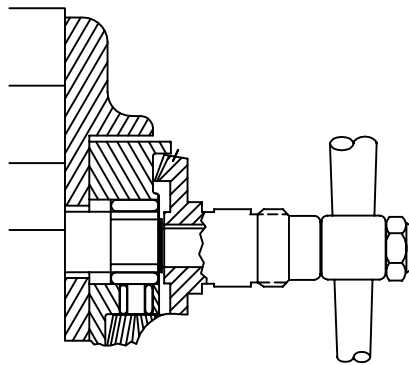
TIGHTEN NUT.

STEP 2  
SHIMMING BEVEL  
GEAR

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



LOOSEN SETSCREW

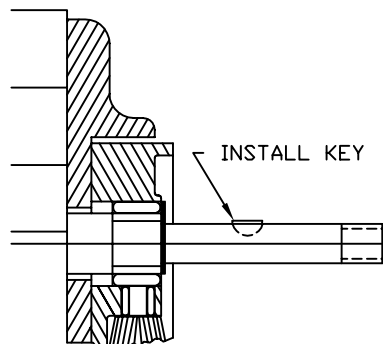


WITH POWER FEED IN  
NEUTRAL POSITION, TURN  
HANDCRANK. IF EXCESSIVE  
GEAR NOISE OR BINDING  
OCCURS, SHIMS NEED TO BE  
ADDED. WHEN ADDING SHIMS,  
REPEAT STEPS 1 AND 2.



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.

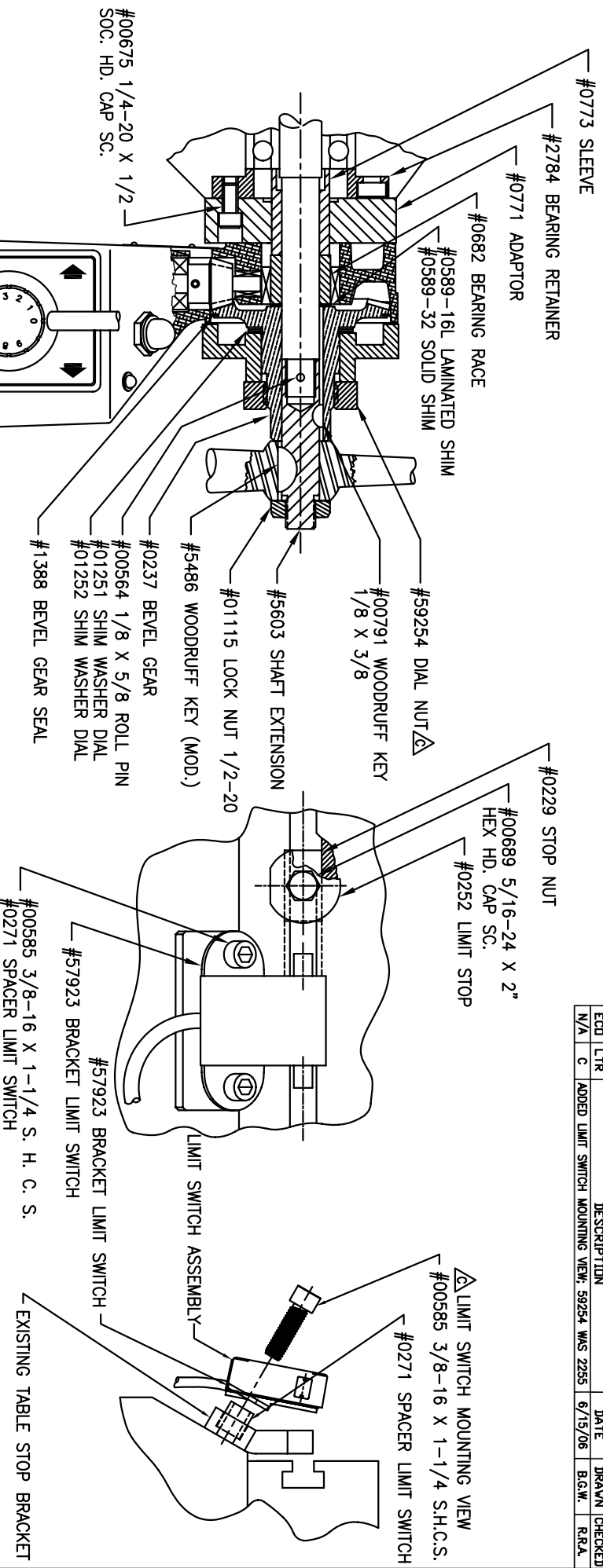
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BEVEL GEAR INSTALLATION

NA-5444 C

STEP 4  
LUBRICATION

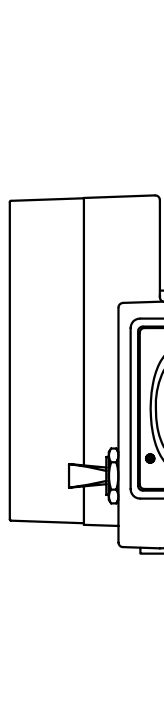
REVISION		DATE	DRAWN	CHECKED
ECD	LTR	DESCRIPTION		
N/A	C	ADDED LIMIT SWITCH MOUNTING VIEW: 59254 WAS 2255	6/15/06	B.G.W. R.R.A.



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

LIMIT SWITCH INSTALLATION

CONFIDENTIAL



UNLESS OTHERWISE SPECIFIED PERPENDICULARITY, PARALLELISM, STRAIGHTNESS, FLATNESS, ROUNDNESS, CONCENTRICITY, CYLINDRICITY TO BE WITHIN .01 TOTAL OR .040/IN. SURFACE ROUGHNESS WITHIN 125 REMOVE SHARP CORNERS AND EDGES .005 MIN. DRAWING STANDARD PER ANSI Y46.9-1982

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & TOLERANCES ARE ANGLES	± 1/64	XX ± .005	± 1/2°
MATERIAL	NOTED		
FINISH			
APPROVALS	DATE		
U.S. TUCKER	1/16/97		
CHECKED			
COMPUTER NO.			
NB5616_C.dwg			
SCALE	5/8		
SIZE	B		
CODE IDENT NO.	0800-80113		
DRAWING NO.			
NB-5616			
SHEET	1		
DF	1		

CONTRACT NO.	APPROVALS	DATE
	U.S. TUCKER	1/16/97
DID NOT SCALE DRAWING	CHECKED	
APPLICATION	USED IN	
NEXT ASSY		

SERVO PRODUCTS COMPANY  
34940 LAKELAND BLVD, EASTLAKE, OHIO 44095

MODEL 4300  
INSTALLATION DRAWING  
SHARP HMV

SCALE 5/8

SIZE B

CODE IDENT NO. 0800-80113

DRAWING NO. NB-5616

SHEET 1 OF 1