

# POWER FEED INSTALLATION

## Model M-9811 Knee Feed

### Acer Mill



#### REFERENCE DRAWINGS ENCLOSED

NA-5444	Bevel Gear Installation
ND-6292	Type 140 Servo Drive
NB-57658	Limit Switch Installation
NB-57953	Power Feed Installation
0800-80001	Servo Power Feed Operation

---

---

#### PREPARATION

- Step 1:* Remove the drive clutch, dial, nut, and key from elevating jack shaft. Save the key for installation later.
- Step 2:* Remove the bearing retainer.
- Step 3:* Screw the shaft extension into the jack shaft and tighten. Use the handwheel and key on the shaft extension to apply torque. Using the hole provided as a pilot, drill 1/8" diameter through the shaft and pin the extension with 1/8 diameter x 5/8" long roll pin. File smooth.
- Step 4:* Install the bearing retainer provided using the #03594 M6x1 x 16 mm socket head cap screws.

#### POWER FEED INSTALLATION

- Step 1:* Slide the spacer bearing onto the jack shaft.
- Step 2:* Slide the bearing race onto the lead screw.
- Step 3:* Slide the power feed onto the bearing race and secure to the bearing retainer using the 1/4-20 x 1" long socket head cap screws.

#### BEVEL GEAR INSTALLATION

- Step 1:* Replace the key removed in Preparation Step 1 and slide the bevel gear in place.
- 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:* In the following sequence, put on the dial locking nut and washer #04603. Place the square key #04986 in the shaft and slide the handwheel #1685 onto the end of the shaft extension. Tighten with the 1/2-20 lock nut.

## LIMIT SWITCH INSTALLATION

*Step 1:* See the limit switch installation drawing NB-57658 enclosed.

## 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

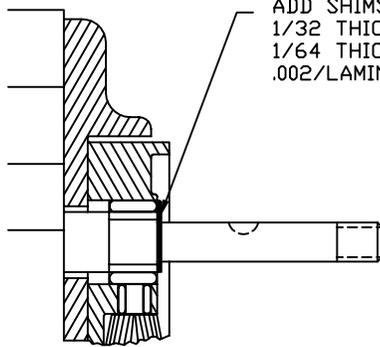


KEY IS REMOVED DURING SHIMMING



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

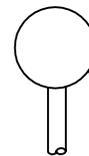
**CAUTION:** IF BACKLASH IS NOT PROPERLY SET BEFORE TURNING UNIT ON, BEVEL GEAR MAY BE DESTROYED.



LOOSEN SETSCREW

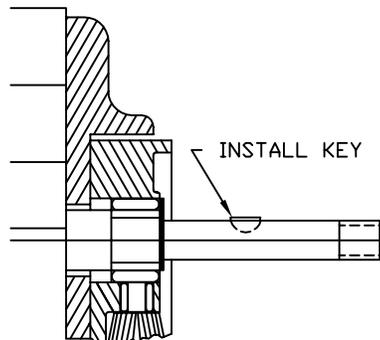


WITH POWER FEED IN NEUTRAL POSITION, TURN HANDCRANK. IF EXCESSIVE GEAR NOISE OR BINDING OCCURS, SHIMS NEED TO BE ADDED. WHEN ADDING SHIMS, REPEAT STEPS 1 AND 2.



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.

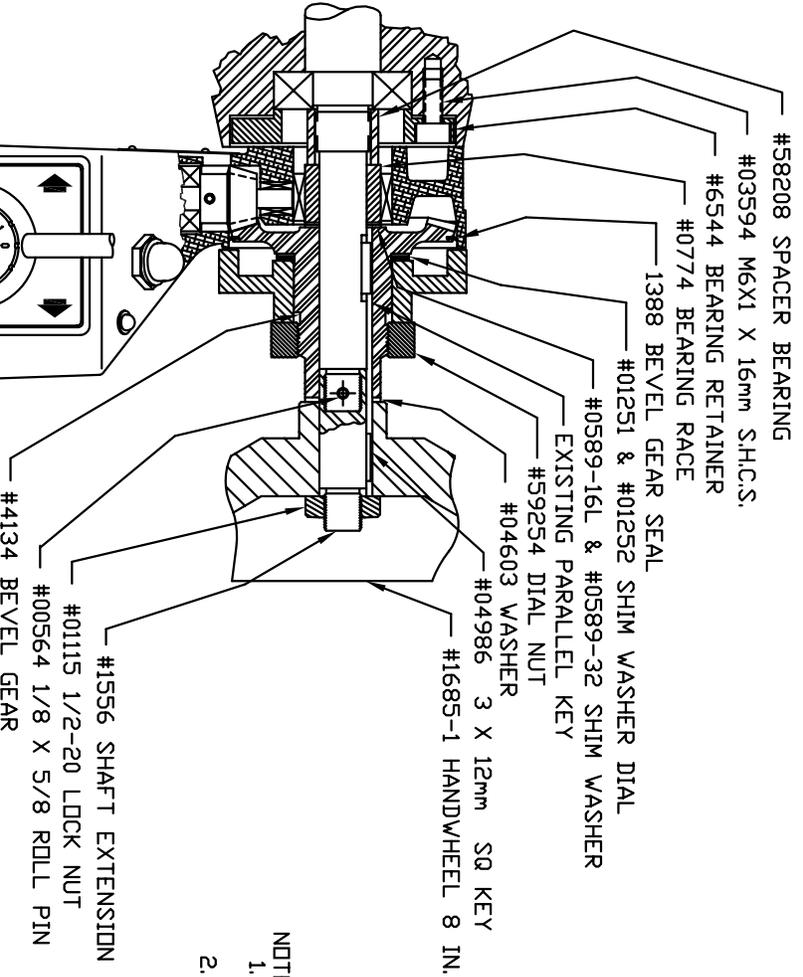
SERVO PRODUCTS COMPANY

BEVEL GEAR INSTALLATION

NA-5444 C

STEP 4  
LUBRICATION

REVISION		DATE	DRAWN	CHECKED
ECD	LTR			
DESCRIPTION				



NOTE:  
 1. REVIEW ALL INSTALLATION INSTRUCTIONS AND POWER FEED OPERATION INSTRUCTION BEFORE TURNING ON SERVO POWER FEED.  
 2. SEE DRAWING NB-57658 FOR KNEE LIMIT SWITCH INSTALLATION. USE FOLLOWING TABLE TO RELATE PART NUMBERS WITH LETTER SYMBOLS ON DWG NB-57658.

SYMBOL	A-1	A-2	B	C	D
P/N	0405	1350	1133	05292	1752
DESCRIP	STANDOFF	STANDOFF	BRACKET	5/16-18 S.H.C.S.	TRIP RAIL
LENGTH	1.12	.56	-	2.50	-

UNLESS OTHERWISE SPECIFIED PERPENDICULARITY, PARALLELISM, STRAIGHTNESS, FLATNESS, ROUNDNESS, CONCENTRICITY, CYLINDRICITY TO BE WITHIN .01 TOTAL OR .040/ft. SURFACE ROUGHNESS WITHIN 125 REMOVE SHARP CORNERS AND EDGES .005 MIN. DRAWING STANDARD PER ANSI Y14.5M-1982

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF SERVOD PRODUCTS COMPANY WHICH MAY NOT BE DISCLOSED TO OTHERS WITHOUT THE WRITTEN AUTHORITY FROM AN OFFICER OF SERVOD PRODUCTS COMPANY.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & TOLERANCES ARE AS SHOWN FRACTIONS DECIMALS ANGLES	± 1/64	XX ± .005	± 1/2°
MATERIAL			
FINISH	NOTED		
NONE	NONE		
APPLICATION	USED IN		
NEXT ASSY			

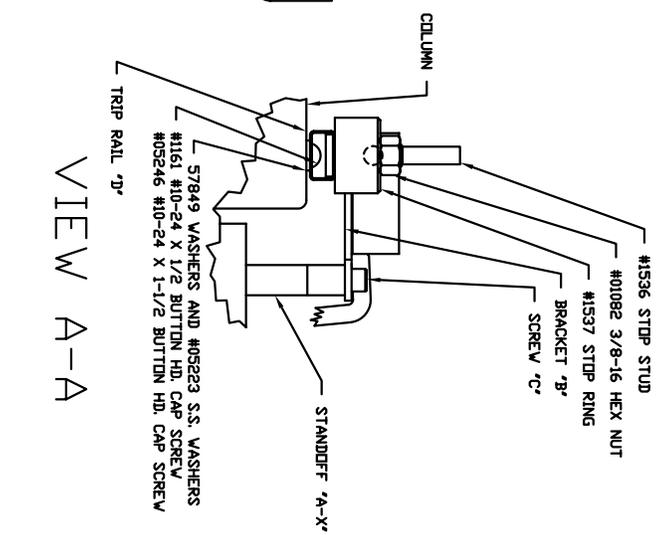
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & TOLERANCES ARE AS SHOWN FRACTIONS DECIMALS ANGLES	± 1/64	XX ± .005	± 1/2°
CHECKED			
APPROVALS	BRAUN T. KU	DATE	9/30/94
CONTRACT NO.			
COMPUTER NO.	N57953A.DWG		

**SERVOD PRODUCTS COMPANY**  
 34940 LAKELAND BLVD, EASTLAKE, OH 44095

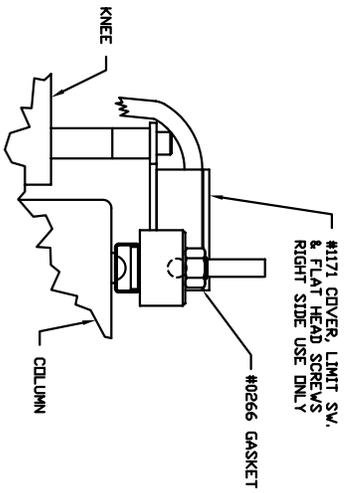
**INSTALLATION DRAWING**  
 MODEL 9811

SIZE	CODE IDENT NO.	DRAWING NO.	REV.
B	0800-80627	NB-57953	A
SCALE	5/8	SHEET	DF

REVISION		DATE	DRAWN	CHECKED
ECD	LTR	DESCRIPTION		

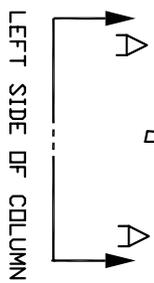


VIEW A-A

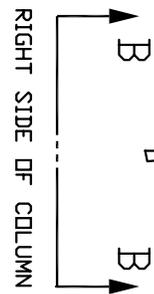


VIEW B-B

SAME COMPONENTS AS IN VIEW 'A-A' EXCEPT AS SHOWN



LEFT SIDE OF COLUMN



RIGHT SIDE OF COLUMN

NOTES:

1. LIMIT SWITCH MAY BE MOUNTED ON EITHER SIDE OF THE COLUMN.

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE TO BE WITHIN 0.005 IN. FLATNESS TO BE WITHIN 0.005 IN. CONCENTRICITY TO BE WITHIN 0.005 IN. REMOVE SHARP EDGES AND CORNERS.

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF SERVOD PRODUCTS COMPANY WHICH MAY NOT BE DISCLOSED TO OTHERS WITHOUT THE WRITTEN AUTHORITY FROM AN OFFICER OF SERVOD PRODUCTS COMPANY.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & TOLERANCES ARE AS FOLLOWS: FRACTIONS: DECIMALS: ANGLES: MATERIAL: FINISH: CHECKED:	CONTRACT NO. APPROVALS T. KU DATE 03/18/93
DID NOT SCALE DRAWING	


**SERVOD PRODUCTS COMPANY**  
 34940 LAKELAND BLVD., EASTLAKE, OH 44095  
**INSTALLATION DRAWING**  
**LIMIT SWITCH, KNEE**  
 SIZE CODE IDENT. NO. DRAWING NO. REV  
 B 0800-80540 NB-57658 B  
 SCALE NONE SHEET OF

