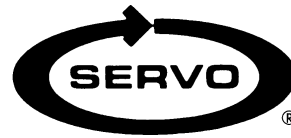


# POWER FEED INSTALLATION

## Model M-9815 Knee Feed

### Southwestern Industries TRAK TRM



#### REFERENCE DRAWINGS ENCLOSED

NA-5444	Bevel Gear Installation
NB-57502	Power Feed Installation
NB-57582	Limit Switch Installation
ND-6292	Type 140 Servo Drive
0800-80001	Servo Power Feed Operation

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#### PREPARATION

- Step 1:* Remove the drive clutch from the elevating jack shaft. (The clutch is push-fit on shaft.)
- Step 2:* Remove the dial, nut, and shims. Keep the shims together with the dial.
- Step 3:* Remove the dial carrier. (Turn counter-clockwise to unscrew the dial carrier.)

#### POWER FEED INSTALLATION

- Step 1:* Slide the bearing race #0774 onto the jack shaft.
- Step 2:* Slide the adaptor #57237 over the bearing race and against the mill.
- Step 3:* Locate and transfer three mounting holes from the adaptor to the existing bearing retainer using a 5/32 transfer punch.
- Step 4:* Remove the bearing retainer to drill and tap 1/4-20 thread through the three spots. The holes should be square to the retainer face.
- Step 5:* Replace the bearing retainer. Replace the adaptor over the bearing race for proper centering and secure with three 1/4-20 x 1" socket head cap screws provided. If necessary, shorten the screws so that they don't bottom out. Remove the bearing race.
- Step 6:* Slide the spacer race #57897 and spacer #6567 onto the jack shaft followed by the bearing race #0774.
- Step 7:* Slide the power feed over the bearing race and secure with two 1/4-20 x 1" socket head cap screws.

#### BEVEL GEAR INSTALLATION

- Step 1:* Slide the shaft extension onto the jack shaft. Slide the bevel gear over the shaft extension.
- Step 2:* Follow drawing NA-5444 for installation of the bevel gear. Adjust for proper gear backlash.
- Step 3:* Remove the bevel gear and drill and pin the shaft extension. (Don't remove the shims.)

*Step 4:* Slide the bevel gear back on the shaft extension followed by the handle #1685 and tighten the locking nut.

*Step 5:* Drill 3/16" hole through the bevel gear following the pilot hole. Pin with the 3/16 x 1-1/4" long roll pin. Remove the handle.

## **DIAL AND HANDWHEEL 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, spacer #57499, and woodruff key. Then slide the handwheel in place. Add the washer and the 1/2-20 lock nut and tighten.

## **LIMIT SWITCH INSTALLATION**

*Step 1:* See the limit switch installation drawing NB-57582 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!

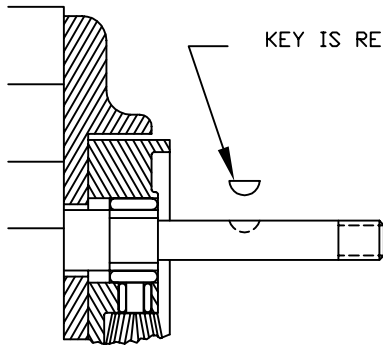
Prevent contact during fast traverses.

## **SERVO PRODUCTS COMPANY**

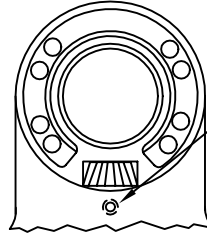
433 North Fair Oaks Avenue, Pasadena, CA 91103 USA  
Phone: 800.521.7359 or 626.796.2460 Fax: 626.796.3845

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

Call for the location of our regional Service Centers.

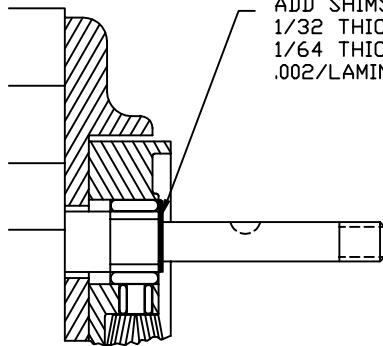


KEY IS REMOVED DURING SHIMMING

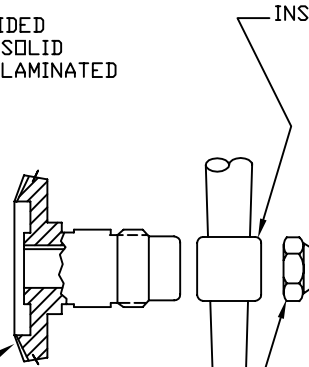


TIGHTEN SLIGHTLY (HOLDS BEVEL PINION STATIONARY DURING SHIMMING.)

STEP 1  
PREPARATION



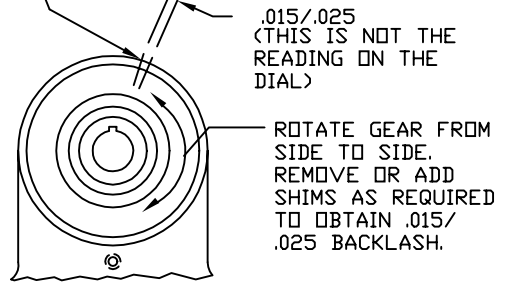
ADD SHIMS PROVIDED  
1/32 THICK ARE SOLID  
1/64 THICK ARE LAMINATED  
.002/LAMINATION



PUSH BEVEL GEAR AGAINST SHIMS.

INSTALL HANDCRANK.

MARK HOUSING AND BEVEL GEAR WITH PENCIL TO CHECK BACKLASH.



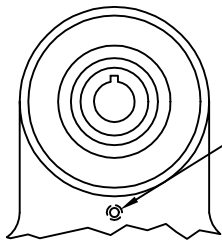
.015/.025  
(THIS IS NOT THE READING ON THE DIAL)

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

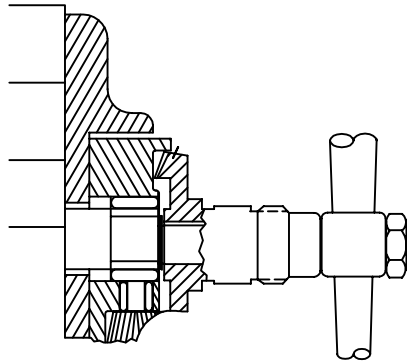
STEP 2  
SHIMMING BEVEL GEAR

TIGHTEN NUT.

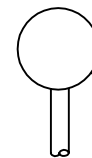
**CAUTION:** IF BACKLASH IS NOT PROPERLY SET BEFORE TURNING UNIT ON, BEVEL GEAR MAY BE DESTROYED.



LOOSEN SETSCREW

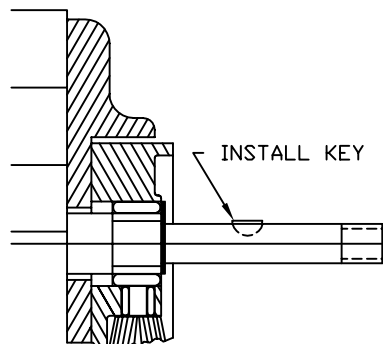


WITH POWER FEED IN NEUTRAL POSITION, TURN HANDCRANK. IF EXCESSIVE GEAR NOISE OR BINDING OCCURS, SHIMS NEED TO BE ADDED. WHEN ADDING SHIMS, REPEAT STEPS 1 AND 2.

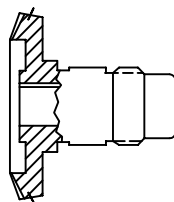


CONTROL HANDLE @ NEUTRAL POSITION

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.

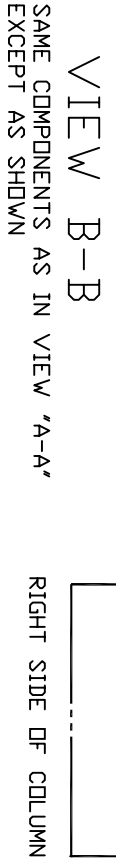
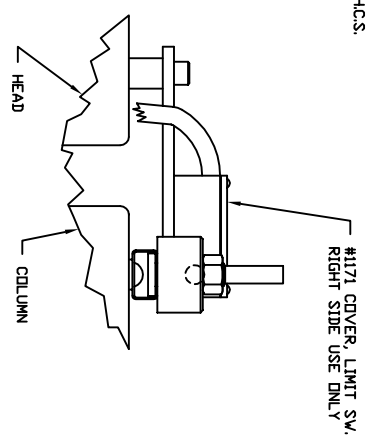
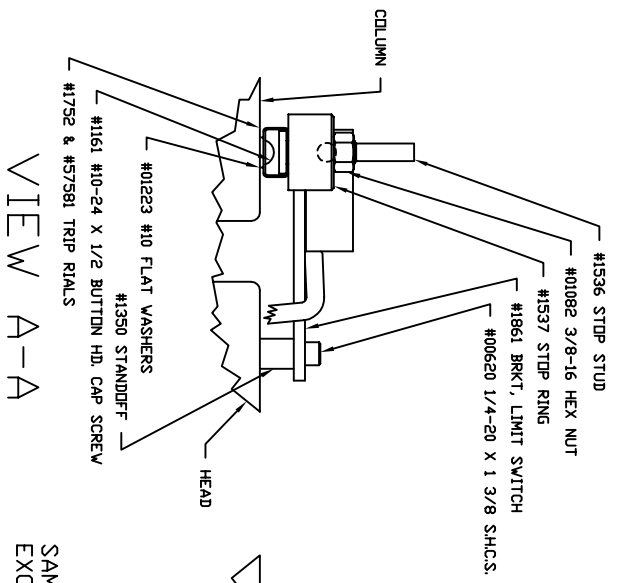
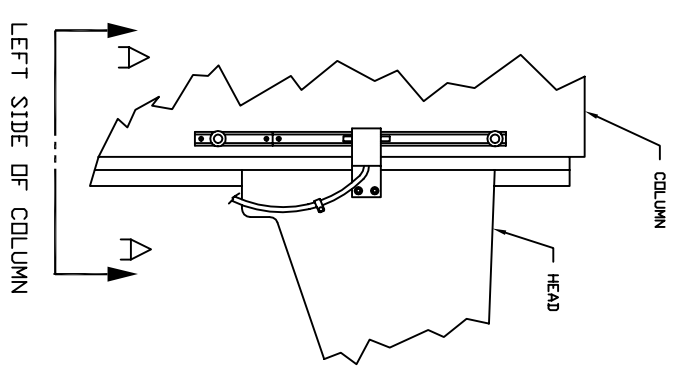
SERVO PRODUCTS COMPANY

BEVEL GEAR INSTALLATION

NA-5444 C



REVISION		DATE	DRAWN	CHECKED
ECD	LTR			
DESCRIPTION				



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

UNLESS OTHERWISE SPECIFIED, FINISHES TO BE WITHIN .01 CONCENTRICITY TO BE WITHIN .01 REMOVE SHARP EDGES AND CORNERS .005 MIN.

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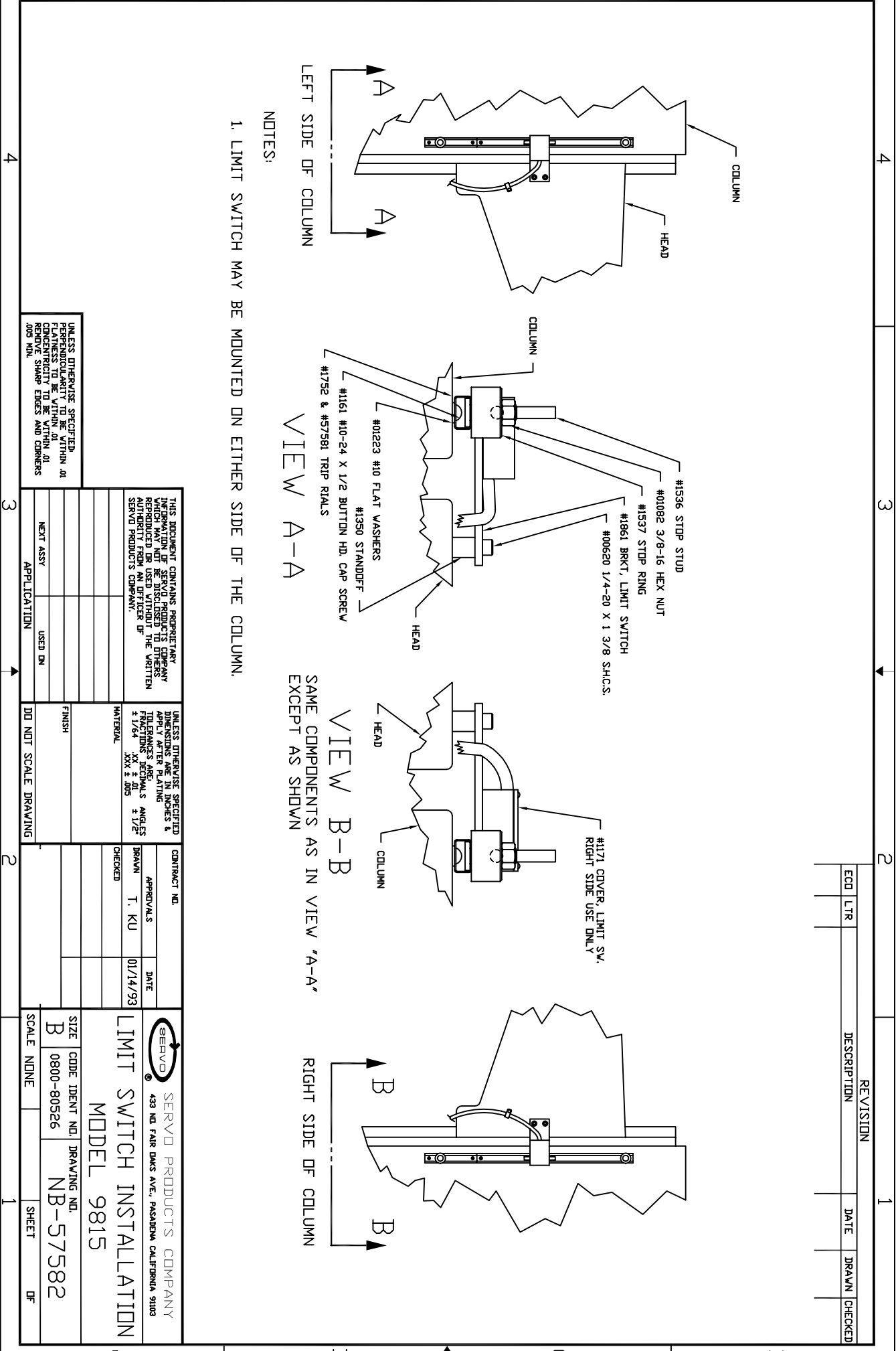
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & TOLERANCES ARE AS FOLLOWS FRACTIONS DECIMALS ANGLES ± 1/64 .XX ± .005 ± 1/2°	CONTRACT NO.	APPROVALS	DATE
MATERIAL	DRAWN T. KU		01/14/93
FINISH	CHECKED		

**SERVOD PRODUCTS COMPANY**  
433 N. FAIR OAKS AVE., PASADENA, CALIFORNIA 91103

**LIMIT SWITCH INSTALLATION**  
MODEL 9815

SIZE B CODE IDENT NO. 0800-80526 DRAWING NO. NB-57582  
SCALE NONE SHEET OF

4 3 2 1



A B C D