

POWER FEED INSTALLATION

Model M-0980 Knee Feed

Wells Index 747, 847, 860, 887



REFERENCE DRAWINGS ENCLOSED

NA-5444	Bevel Gear Installation
ND-1440	Power Feed Installation
ND-6292	Type 140 Servo Power Feed
0800-80001	Servo Power Feed Operation

PREPARATION

Step 1: Gather together the following items that you will need to complete this installation.

- a) 3/8" electric hand drill
- b) 1/8" drill
- c) flat file
- d) 3/4" socket wrench
- e) set of inch hex wrenches
- f) grease
- g) clean shop rag

Step 2: Remove the handwheel, dial and hub.

Step 3: Rework dial hub per Detail A.

Step 4: Assemble dial hub and bevel gear per Detail B.

POWER FEED INSTALLATION

Step 1: Slide the bearing race onto the lead screw.

Step 2: Slide the Power Feed and adaptor onto the bearing race and push flush to the existing adaptor.

Step 3: Secure the feed and adaptor to the existing adaptor using the 1/4-20 x 2-1/4" long cap screws provided.

Step 4: Screw the shaft extension in place. Tighten securely.

Step 5: Drill 1/8" diameter through the lead screw 5/8" from the end of the lead screw.

➔ **NOTE** Before pinning the bevel gear, dial hub and shaft extension to the lead screw, adjust for the correct backlash of the bevel gear. See "Bevel Gear Installation" below.

Step 6: Pin the shaft extension with the 1/8" x 5/8" long roll pin.

IF: If there is no key slot in the lead screw, see Detail C for bevel gear installation.

BEVEL GEAR INSTALLATION

Step 1: Follow the drawing NA-5444 for installation of the bevel gear. Adjust for proper gear backlash.

DIAL AND HANDWHEEL INSTALLATION

Step 1: After getting the proper gear 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. Three 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, tube, spring and handwheel. Secure with washer and screw.

LIMIT SWITCH INSTALLATION

Install the limit switch as shown on drawing ND-1440. (Note: Do not over-tighten the four corner screws. Use the #1171 cover for right or left side mounting.)

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.

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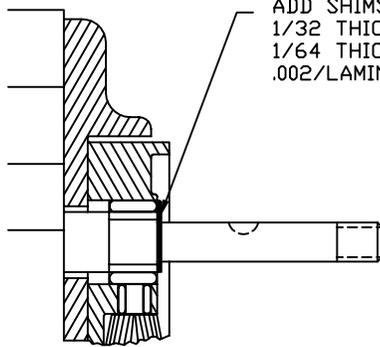


KEY IS REMOVED DURING SHIMMING



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

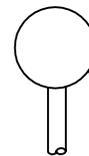
CAUTION: IF BACKLASH IS NOT PROPERLY SET BEFORE TURNING UNIT ON, BEVEL GEAR MAY BE DESTROYED.



LOOSEN SETSCREW

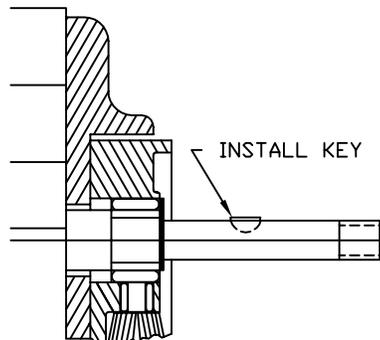


WITH POWER FEED IN NEUTRAL POSITION, TURN HANDCRANK. IF EXCESSIVE GEAR NOISE OR BINDING OCCURS, SHIMS NEED TO BE ADDED. WHEN ADDING SHIMS, REPEAT STEPS 1 AND 2.



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.

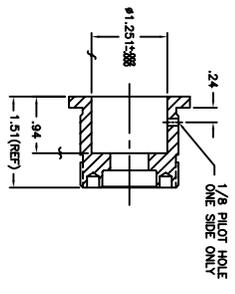
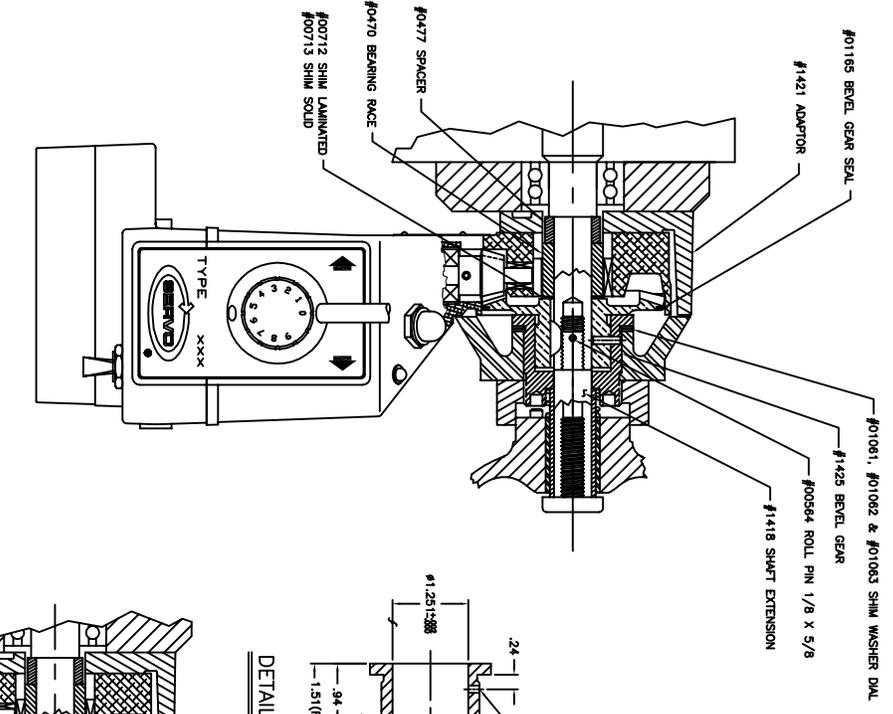
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BEVEL GEAR INSTALLATION

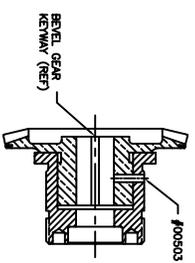
NA-5444 C

STEP 4
LUBRICATION

REV	DESCRIPTION	DATE	DRAWN	CHECKED

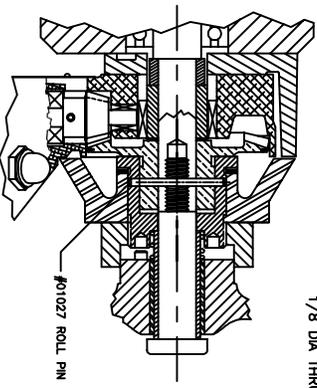


DETAIL A



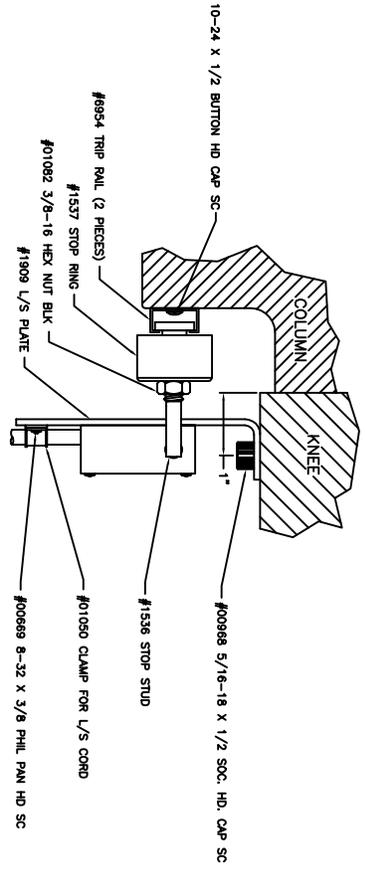
DETAIL B

SLIDE SLEEVE TO SHOULDER OF BEVEL GEAR. POSITION PILOT HOLE ON SLEEVE AWAY FROM BEVEL GEAR KEYWAY. DRILL 1/8 DIA THRU. PRESS IN ROLL PIN & FILE ENDS SMOOTH.

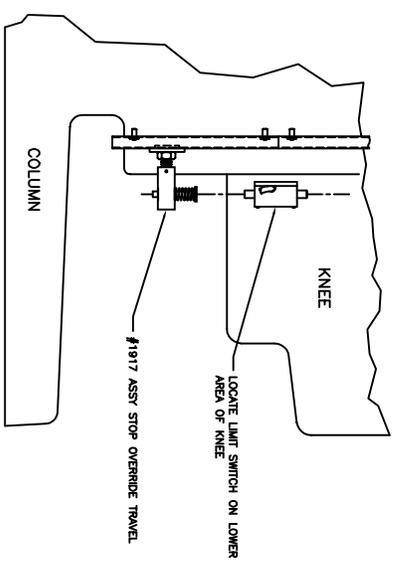


DETAIL C

ALTERNATE BEVEL GEAR INSTALLATION
IF NO KEYSLOT IN LEADScrew



LIMIT SWITCH INSTALLATION
LEFT SIDE OF KNEE



- NOTES:
1. REVIEW ALL INSTALLATION INSTRUCTIONS AND POWER FEED OPERATION BEFORE TURNING ON SERVO POWER FEED.
 2. HANDHEEL, HANDHEEL SLEEVE, SPRING, DIAL & DIAL NUT ARE STANDARD WELLS INDEX PARTS.
 3. BUT & LINE UP BOTH RAILS SO THAT THEY ARE PARALLEL WITH KNEE SLIDE.

QTY	ITEM	PART NO.	DESCRIPTION

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES & DECIMALS THEREOF. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY.	UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS & DECIMALS THEREOF. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY.
FINISH: UNLESS OTHERWISE SPECIFIED, ALL SURFACES TO BE FINISHED TO A 125 RA SURFACE FINISH. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO BE TAKEN TO THE CENTERLINE OF THE PART.	FINISH: UNLESS OTHERWISE SPECIFIED, ALL SURFACES TO BE FINISHED TO A 125 RA SURFACE FINISH. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO BE TAKEN TO THE CENTERLINE OF THE PART.
DATE: 2/22/94	DATE: 2/22/94
APPROVALS: G AMODE	APPROVALS: G AMODE
DESIGNED BY: G AMODE	DESIGNED BY: G AMODE
DRAWN BY: G AMODE	DRAWN BY: G AMODE
CHECKED BY: G AMODE	CHECKED BY: G AMODE
COMPUTER NO.:	COMPUTER NO.:
SCALE: 1:1	SCALE: 1:1
SIZE: D	SIZE: D
CODE: 0800-90022	CODE: 0800-90022
ND-1440	ND-1440
REV. A	REV. A

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IF NO KEYSLOT IN LEADScrew