

# POWER FEED INSTALLATION

## Model M-5680 Knee Feed

### Johnford MV54



#### REFERENCE DRAWINGS ENCLOSED

NA-5444	Bevel Gear Installation
NC-0792	Limit Switch Installation
NB-6826	Power Feed Installation
ND-6292	Type 140 Servo Power Feed
0800-80001	Servo Power Feed Operation

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#### PREPARATION

- Step 1:* Gather together the following items that you will need to complete this installation.
- a) lathe
  - b) 3/8" electric hand drill
  - c) 1/8" drill, 7/16" drill
  - d) flat file
  - e) 3/4" socket wrench
  - f) set of inch hex wrenches
  - g) grease
  - h) clean shop rag
- Step 2:* Remove the drive clutch from the elevating jack shaft. (Clutch is a push fit on the shaft.)
- Step 3:* Remove the dial and nut.
- Step 4:* Remove screws from bearing retainer.
- Step 5:* Pull jack shaft out of knee (easy pull). Hold inboard end up while removing to avoid damage to the pinion gear.
- Step 6:* Hold dial hub in soft jaws and unscrew.
- Step 7:* Remove the bearing retainer if it exists and press the bearing housing and bearing off the shaft.
- Step 8:* Drill and ream the end of the jack shaft .4375" diameter by 13/16" deep. The .4375" diameter must be concentric to the shaft O.D. within .002" T.I.R. Chamfer 1/32" x 1/2" diameter. **For best results, machining should be done in a lathe.**
- Step 9:* Place the shaft extension into the jack shaft. Finish drill 1/8" diameter hole through the shaft and pin with the 1/8" diameter x 5/8" long roll pin. File smooth.
- Step 10:* Reassemble and replace the jack shaft in the machine.
- Step 11:* Install adaptor #6683.

## POWER FEED INSTALLATION

*Step 1:* Slide the bearing race back onto the jack shaft.

*Step 2:* Slide the Power Feed onto the bearing race and against the bearing retainer. Secure with two 1/4-20 x 1" long socket head cap screws.

## 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 lock nut, place the key in the shaft, slide the handwheel in place and tighten with 1/2-20 locknut #01115.

## LIMIT SWITCH INSTALLATION

Install the limit switch as shown on drawing NC-0792 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

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Call for the location of our regional Service Centers.

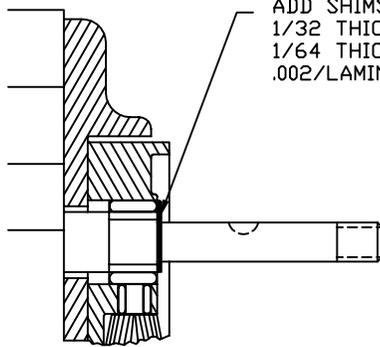


KEY IS REMOVED DURING SHIMMING

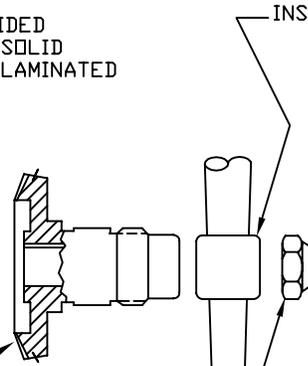


TIGHTEN SLIGHTLY (HOLDS BEVEL PINION STATIONARY DURING SHIMMING.)

STEP 1  
PREPARATION



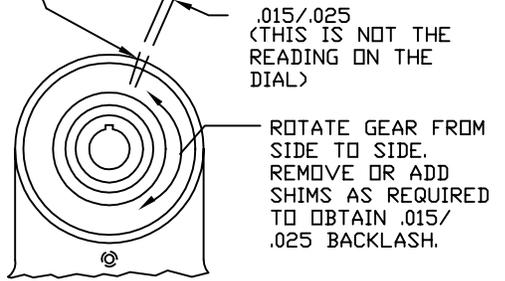
ADD SHIMS PROVIDED  
1/32 THICK ARE SOLID  
1/64 THICK ARE LAMINATED  
.002/LAMINATION



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.

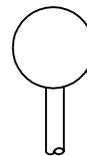
**CAUTION:** IF BACKLASH IS NOT PROPERLY SET BEFORE TURNING UNIT ON, BEVEL GEAR MAY BE DESTROYED.



LOOSEN SETSCREW

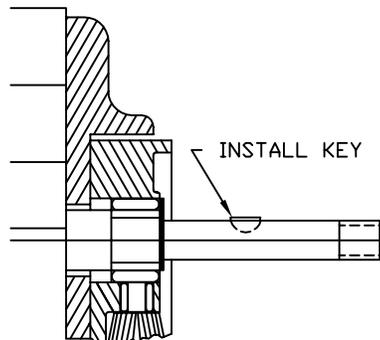


WITH POWER FEED IN NEUTRAL POSITION, TURN HANDCRANK. IF EXCESSIVE GEAR NOISE OR BINDING OCCURS, SHIMS NEED TO BE ADDED. WHEN ADDING SHIMS, REPEAT STEPS 1 AND 2.



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.

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BEVEL GEAR INSTALLATION

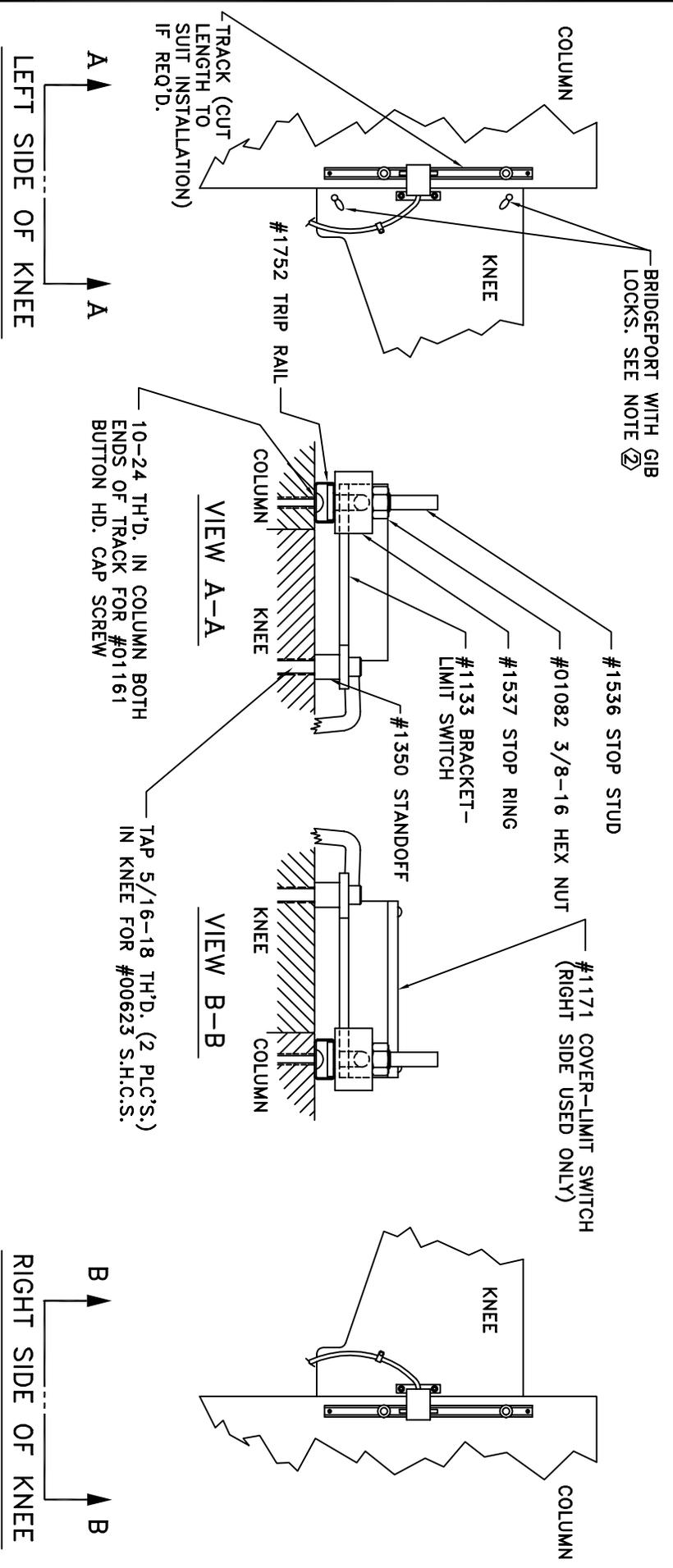
NA-5444 C

STEP 4  
LUBRICATION



REVISION		DATE	DRAWN	CHECKED
ECD	LTR	DESCRIPTION		

- NOTES:**
- LIMIT SWITCH MAY BE MOUNTED ON RIGHT OR LEFT HAND SIDE OF MILL.
  - BRIDGEPORT WITH GIB LOCKS IN KNEE MOUNT LIMIT SWITCH ON RIGHT HAND SIDE OF KNEE.



UNLESS OTHERWISE SPECIFIED, FLATNESS 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: DECIMALS ± 1/64, .XX ± .005, ANGLES ± 1/2°

CONTRACT NO.	APPROVALS	DATE
	J. TUCKER	05/20/98
DRAWN	CHECKED	
FINISH	NOTED	
NOTED		
APPLICATION	USED ON	
NEXT ASSY		

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**INSTALLATION LIMIT STOP**

SIZE CODE IDENT. NO. DRAWING NO. NC-0792

SCALE SHEET 1 OF 1