

POWER FEED INSTALLATION

Model M-9810 Knee Feed

Acer 3VS, 3VK and others



REFERENCE DRAWINGS ENCLOSED

NA-5444	Bevel Gear Installation
NB-57220	Power Feed Installation
NC-0792	Limit Switch Installation
ND-6292	Type 140 Servo Drive
0800-80001	Servo Power Feed Operation

PREPARATION

- Step 1:* Remove the drive clutch, dial, nut, and keys from the elevating jack shaft. Save the parallel key for installation later.
- Step 2:* Pull the jack shaft out of the knee. **Hold inboard end up** while removing to avoid damage to the pinion gear.
- Step 3:* Hold the dial hub in soft jaws and unscrew.
- Step 4:* 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 TIR. Chamfer 1/32 x 1/2 diameter. **For best results, machining should be done in a lathe.**
- Step 6:* Place the shaft extension onto the jack shaft. Using the hole provided as a pilot, drill 1/8" diameter through the shaft and pin the extension with the 1/8 diameter x 5/8" long roll pin. File smooth.
- Step 7:* Using the bearing retainer provided, reassemble the jack shaft with the existing socket head cap screws.

POWER FEED INSTALLATION

- Step 1:* Slide the bearing race in place over the shaft.
- Step 2:* Slide the power feed onto the bearing race and tighten the unit using the provided 1/4-20 x 1" long socket head cap screws.

BEVEL GEAR INSTALLATION

- Step 1:* Use the key you saved before for the bevel gear installation.
- 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: Put on the dial locking nut.

Step 3: Install the provided woodruff key in the shaft extension.

Step 4: Slide the handcrank onto the end of the shaft extension and tighten with the 1/2-20 lock nut.

LIMIT SWITCH INSTALLATION

Step 1: See the limit switch installation drawing NC-0792 enclosed.

OPERATION

See separate *Servo Power Feed Operation* sheet. Unit will operate on either 50 or 60 cycles.

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

CALIFORNIA BRANCH

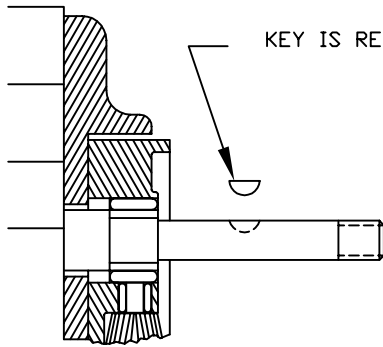
14254 Valley Blvd., Unit A
City of Industry, CA 91746
Ph. 626.961.7800 Fax 626.961.2444

HEADQUARTERS

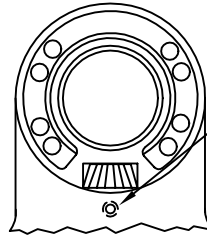
34940 Lakeland Blvd.
Eastlake, OH 44095
Ph. 440.942.9999 Fax 440.942-9100

FLORIDA BRANCH

8950 131st Ave. N.
Largo, FL 33773
Ph. 727.585.8555 Fax 727.585.6555

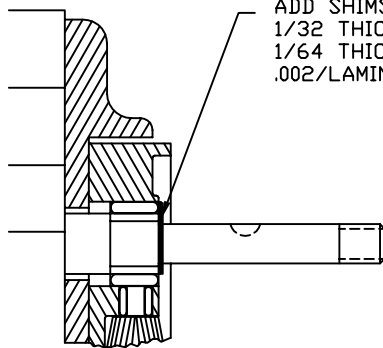


KEY IS REMOVED DURING SHIMMING

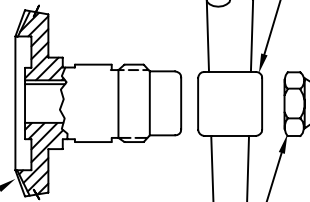


TIGHTEN SLIGHTLY (HOLDS BEVEL PINION STATIONARY DURING SHIMMING.)

STEP 1
PREPARATION



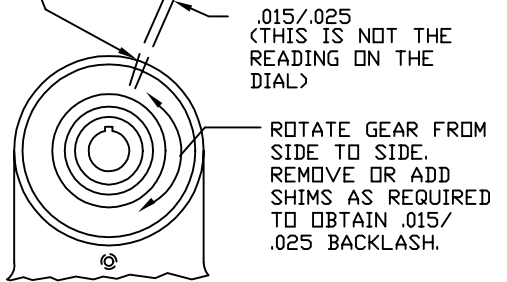
ADD SHIMS PROVIDED
1/32 THICK ARE SOLID
1/64 THICK ARE LAMINATED
.002/LAMINATION



PUSH BEVEL GEAR
AGAINST SHIMS.

INSTALL HANDCRANK.

MARK HOUSING AND BEVEL GEAR
WITH PENCIL TO CHECK BACKLASH.



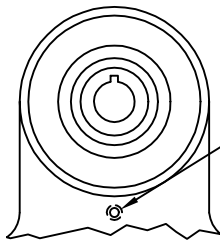
.015/.025
(THIS IS NOT THE
READING ON THE
DIAL)

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

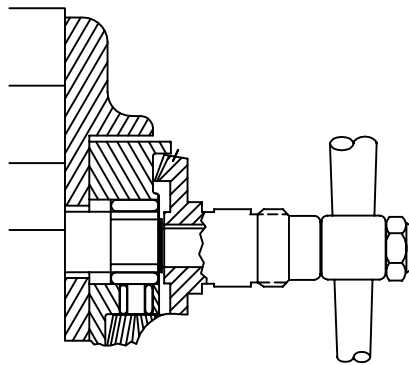
TIGHTEN NUT.

STEP 2
SHIMMING BEVEL
GEAR

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



LOOSEN SETSCREW

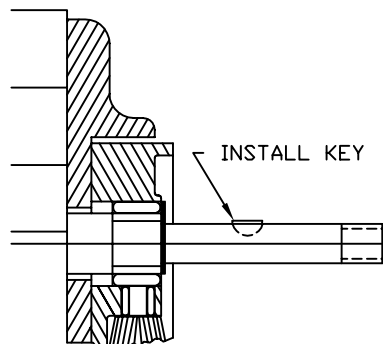


WITH POWER FEED IN
NEUTRAL POSITION, TURN
HANDCRANK. IF EXCESSIVE
GEAR NOISE OR BINDING
OCCURS, SHIMS NEED TO BE
ADDED. WHEN ADDING SHIMS,
REPEAT STEPS 1 AND 2.



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.

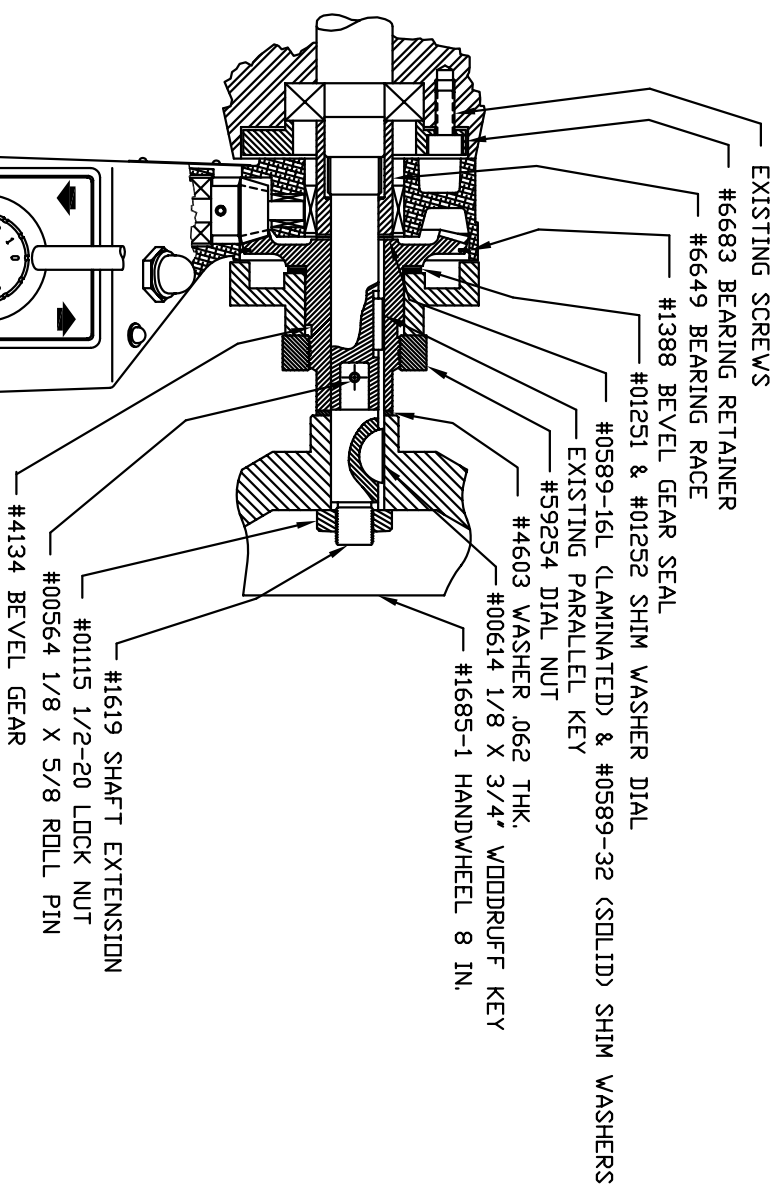
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BEVEL GEAR INSTALLATION

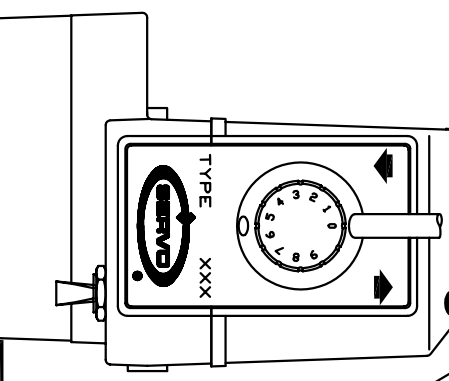
NA-5444 C

STEP 4
LUBRICATION

REVISION		DATE	DRAWN	CHECKED
ECD	LTR			
DESCRIPTION				



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



UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES & DECIMALS ARE TO THE RIGHT. ANGLES ARE TO THE RIGHT. TOLERANCES ARE ± 1/64" XX ± .005 MATERIAL NOTED. FINISH NONE. DID NOT SCALE DRAWING. COMPUTER NO. NB57220.DWG. SCALE 5/8. DRAWING NO. NB-57220. SHEET DF.

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		DRAWN G. BADEA	10/01/91
		CHECKED	
APPLICATION	USED IN	COMPUTER NO.	
NEXT ASSY		NB57220.DWG	

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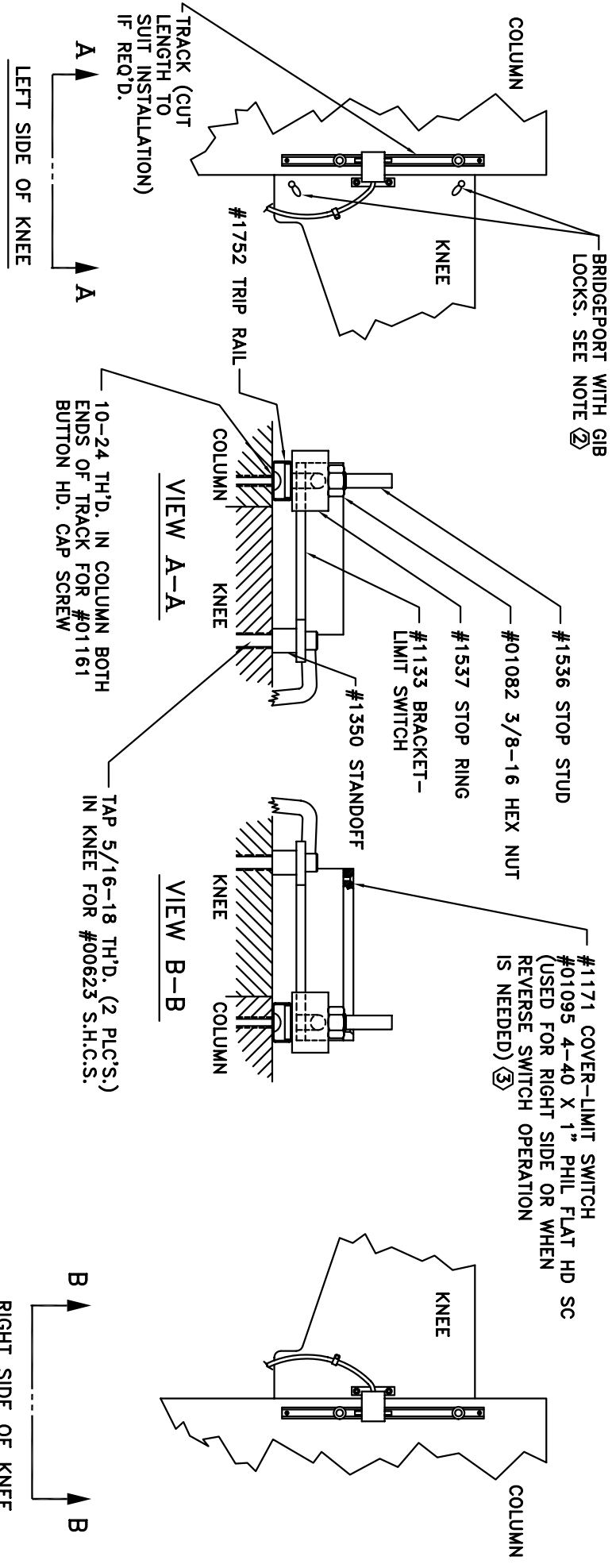
SERVOPRODUCTS COMPANY
 34940 LAKELAND BLVD., EASTLAKE, OH 44095

INSTALLATION DRAWING
 MODEL 9810
 ACER 3VS & 3VK

SIZE CODE IDENT NO. DRAWING NO. REV.
 B 0800-80470 NB-57220

SCALE 5/8 SHEET DF

REVISION		DATE	DRAWN	CHECKED
ECD	LTR	DESCRIPTION		



- NOTES:**
1. LIMIT SWITCH MAY BE MOUNTED ON RIGHT OR LEFT HAND SIDE OF MILL.
 2. BRIDGEPORT WITH GIB LOCKS IN KNEE MOUNT LIMIT SWITCH ON RIGHT HAND SIDE OF KNEE.
 3. LIMIT SWITCH BOX MAY BE TURNED OVER TO REVERSE SWITCH OPERATION IF REQUIRED.

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES & TOLERANCES ARE AS FOLLOWS: FRACTIONS: DECIMALS: ANGLES: ± 1/64 ± .005 ± .015 ± 1/2°

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CONTRACT NO.	APPROVALS	DATE
	BROWN J. TUCKER	05/20/98
CHECKED		

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

INSTALLATION LIMIT STOP

SIZE: B
CODE IDENT. NO.: NC-0792
DRAWING NO.: NC-0792
SHEET: 1 OF 1

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34940 LAKELAND BLVD., EASTLAKE, OH 44095

INSTALLATION LIMIT STOP

SIZE: B
CODE IDENT. NO.: NC-0792
DRAWING NO.: NC-0792
SHEET: 1 OF 1