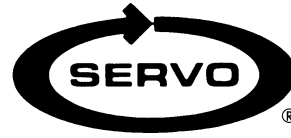


POWER FEED INSTALLATION

Model M-9804 Knee Feed

Supermax YCM 16 & YCM-40



REFERENCE DRAWINGS ENCLOSED

NA-5444	Bevel Gear Installation
NB-57658	Limit Switch Installation
NB-57713	Power Feed Installation
ND-6292	Type 140 Servo Drive
0800-80001	Servo Power Feed Operation

PREPARATION

- Step 1:* Remove drive clutch from elevating jack shaft (clutch is push fit on shaft).
- Step 2:* Remove dial and nut.
- Step 3:* Remove screws from bearing retainer.
- Step 4:* Pull jack shaft out of knee carefully. Hold inboard end up while removing to avoid damage to the pinion gear.
- Step 5:* Hold dial hub in soft jaws and unscrew.
- Step 6:* Remove the bearing retainer and press bearing housing and bearing off shaft.
- Step 7:* Drill and ream end of jack shaft .4375 diameter x 13/16 deep. Must be concentric to shaft o.d. within .002 TIR. Chamfer 1/32 x 1/2 diameter.
For best results, machining should be done in a lathe.
- Step 8:* Drill 1/8 diameter through shaft extension and pin extension. File smooth.
- Step 9:* Reassemble jack shaft as before.
- Step 10:* Replace jack shaft in machine.

DRIVE UNIT INSTALLATION

- Step 1:* Slide bearing race onto jack shaft with counterbored end against bearing.
- Step 2:* Slide feed unit over bearing race against the mill. Spot the mill feed mounting holes in the bearing retainer. Remove bearing retainer to drill and tap 1/4 -20 thread in two places.
- Step 3:* Replace bearing retainer. Secure feed with 1/4 - 20 x 1 inch socket screws provided.

BEVEL GEAR INSTALLATION

- Step 1:* See Drawing A-5444, enclosed.

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 mill table feed. This is important in order to keep chips from entering the gear train. Four washers are provided for this, two solid and two laminated. Shim as required.

Step 2: In the following sequence, put on the dial locking nut, replace key in shaft (if removed), slide on .140" thick spacer if required, then slide handwheel in place. Add the washer and elastic stop nut.

LIMIT SWITCH INSTALLATION

Step 1: See 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!

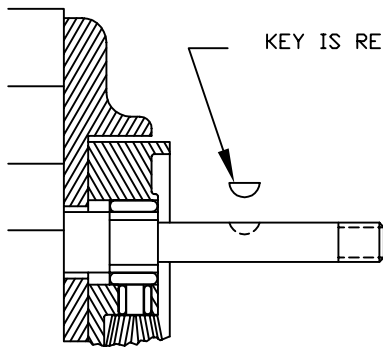
Prevent contact during fast traverses.

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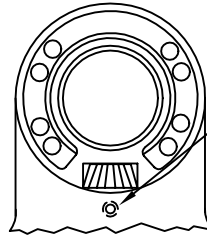
433 North Fair Oaks Avenue, Pasadena, CA 91103 USA
Phone: 800.521.7359 or 626.796.2460 Fax: 626.796.3845

Web: www.servoproductsco.com

Call for the location of our regional Service Centers.

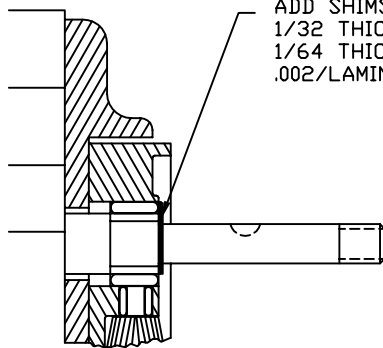


KEY IS REMOVED DURING SHIMMING

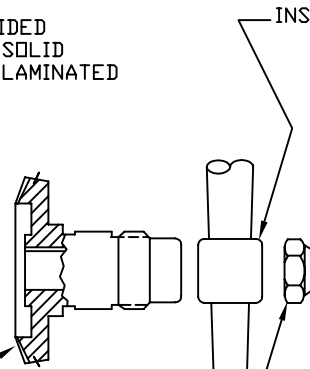


TIGHTEN SLIGHTLY (HOLDS BEVEL PINION STATIONARY DURING SHIMMING.)

STEP 1
PREPARATION



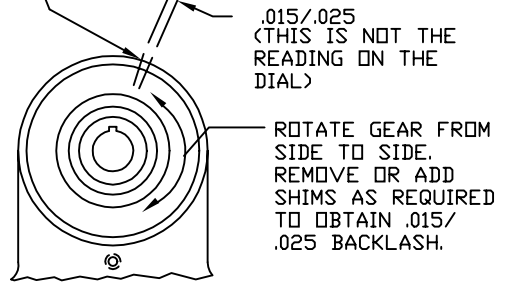
ADD SHIMS PROVIDED
1/32 THICK ARE SOLID
1/64 THICK ARE LAMINATED
.002/LAMINATION



PUSH BEVEL GEAR AGAINST SHIMS.

INSTALL HANDCRANK.

MARK HOUSING AND BEVEL GEAR WITH PENCIL TO CHECK BACKLASH.



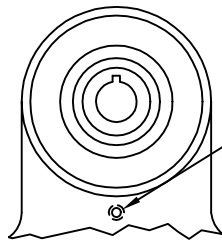
.015/.025
(THIS IS NOT THE READING ON THE DIAL)

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

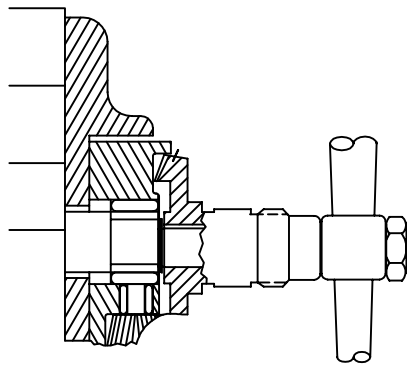
STEP 2
SHIMMING BEVEL GEAR

TIGHTEN NUT.

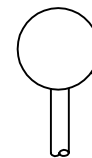
CAUTION: IF BACKLASH IS NOT PROPERLY SET BEFORE TURNING UNIT ON, BEVEL GEAR MAY BE DESTROYED.



LOOSEN SETSCREW

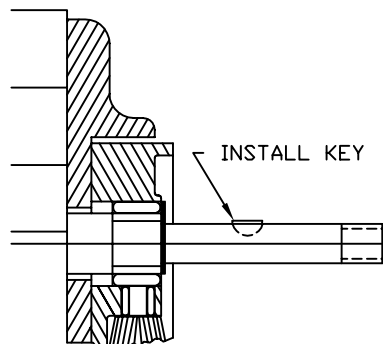


WITH POWER FEED IN NEUTRAL POSITION, TURN HANDCRANK. IF EXCESSIVE GEAR NOISE OR BINDING OCCURS, SHIMS NEED TO BE ADDED. WHEN ADDING SHIMS, REPEAT STEPS 1 AND 2.



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.

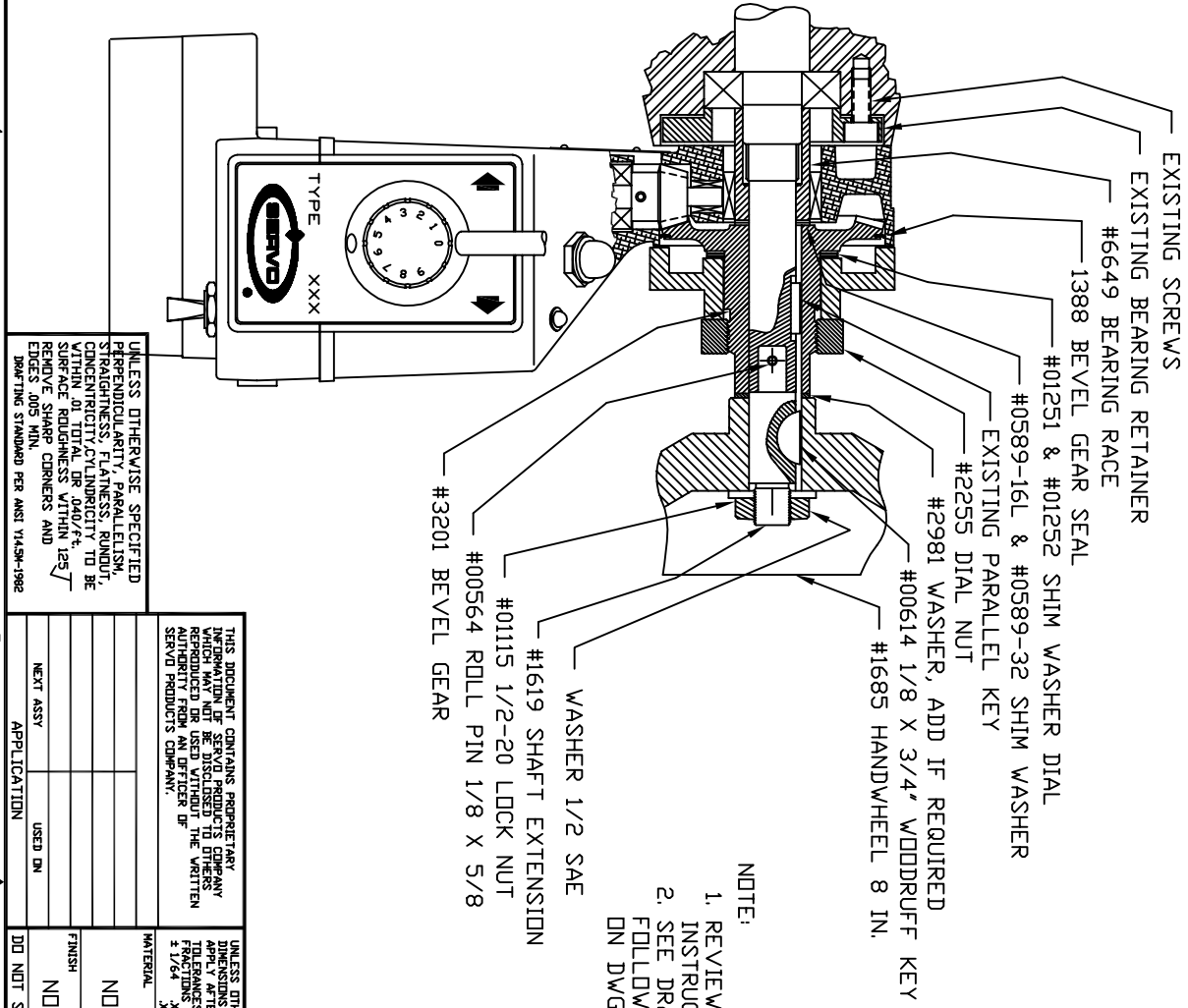
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BEVEL GEAR INSTALLATION

NA-5444 C

STEP 4
LUBRICATION

REVISION		DATE	DRAWN	CHECKED
ECD	LTR	DESCRIPTION		



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	57712	-	1133	05176	1752
DESCRIP.	STANDOFF	-	BRACKET	5/16-18 SH.C.S.	TRIP RAIL
LENGTH	2.50	-	-	3.50	-

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

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & FRACTIONS DECIMALS ARE ± 1/64 .XX ± .005 ANGLES ± 1/2°	CONTRACT NO.	APPROVALS	DATE
DRAWN T. KU	8/19/93		
CHECKED			

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & FRACTIONS DECIMALS ARE ± 1/64 .XX ± .005 ANGLES ± 1/2°	FINISH	DID NOT SCALE DRAWING
NOTED	NONE	

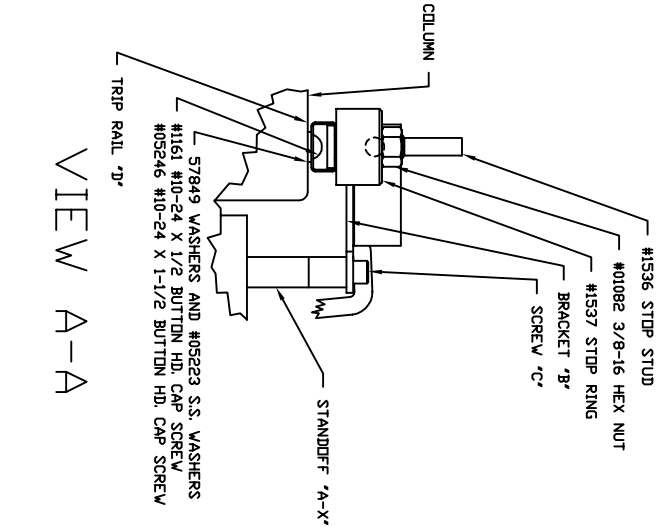
APPLICATION	USED ON	COMPUTER NO.
NEXT ASSY		

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 433 N. FAIR OAKS AVE., PASADENA CALIFORNIA 91109

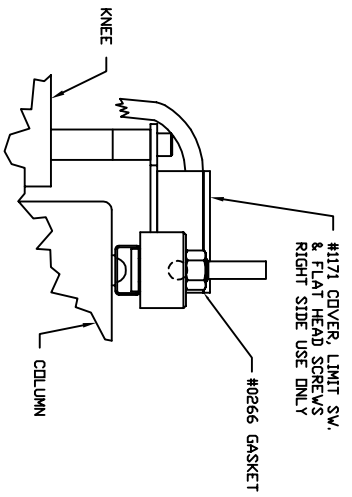
INSTALLATION DRAWING
 MODEL 9804

SIZE	CODE IDENT NO.	DRAWING NO.	REV.
B	0800-80554	NB-57713	
SCALE	5/8	SHEET	DF

REVISION		DATE	DRAWN	CHECKED
ECD	LTR			
DESCRIPTION				

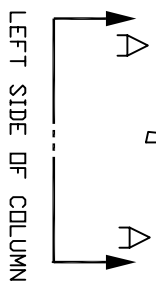


VIEW A-A

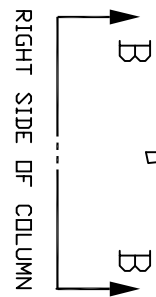


VIEW B-B

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, FINISHES TO BE WITHIN .015 CENTRICITY TO BE WITHIN .015 REMOVE SHARP EDGES AND CORNERS .005 MIN.

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & TOLERANCES ARE FRACTIONS DECIMALS ANGLES ± 1/64 ± .005 ± .005 ± 1/2°	CONTRACT NO.	APPROVALS	DATE
		T. KU	03/18/93
		CHECKED	


SERVOPRODUCTS COMPANY
 433 N. FAIR OAKS AVE., PASADENA CALIFORNIA 91103
INSTALLATION DRAWING
LIMIT SWITCH, KNEE
 SIZE CODE IDENT. NO. DRAWING NO. REV.
 B 0800-80540 NB-57658 B
 SCALE NONE SHEET OF

