POWER FEED INSTALLATION
Model M-9813 Knee Feed
Comet Mill

REFERENCE DRAWINGS ENCLOSED

NA-5444	Bevel Gear Installation
NC-0792	Limit Switch Installation
NB-57422	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. 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 dial hub with bearing race and tighten.

Step 11: Replace jack shaft in machine.

DRIVE UNIT INSTALLATION

Step 1: Slide bearing race onto jack shaft with counterboared end against bearing.

Step 2: Slide feed unit over bearing race against the mill. Spot the mill feed mounting holes in the bearing retainer. Drill and tap 1/4 -20 thread in two places.

Step 3: Secure feed with 1/4 - 20 x 1 inch socket screws provided.

BEVEL GEAR INSTALLATION

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), then slide handwheel in place. Add the washer and elastic stop nut.

LIMIT SWITCH INSTALLATION

See Drawing NC-0792, enclosed.

OPERATION

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

WARNINGS

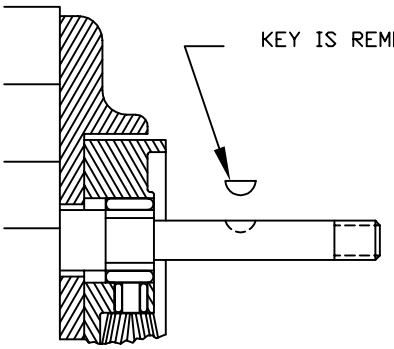
Check hand crank clearances before operation.

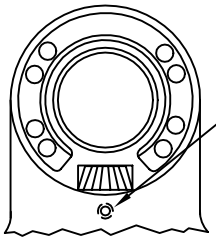
Clearances between the surfaces of the hand crank and the non-moving parts of the equipment on which the hand crank is installed must be at least one-fourth inch (1/4") to prevent injury. Modification of existing hand crank or replacement may be required.

Do not operate without proper clearance!

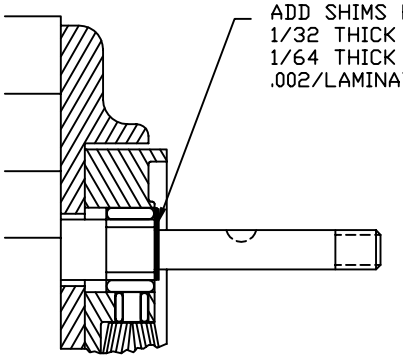
Prevent contact during fast traverses.

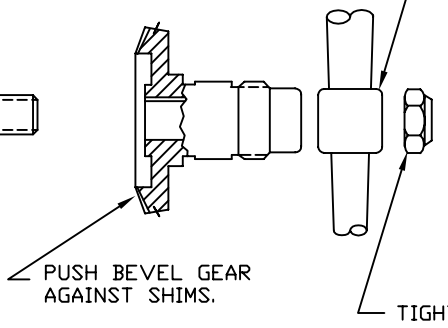
SERVO PRODUCTS COMPANY
433 North Fair Oaks Avenue, Pasadena, CA 91103 USA
Phone: 800.521.7359 or 626.796.2460 Fax: 626.796.3845
Web: www.servoproductsco.com
Call for the location of our regional Service Centers.

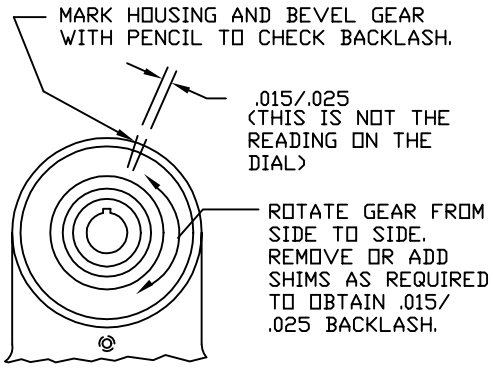




STEP 1
PREPARATION

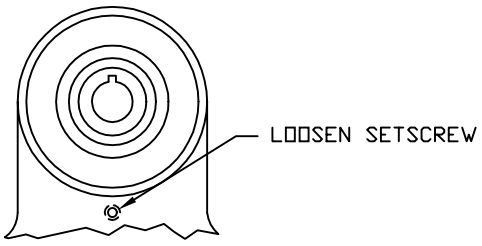


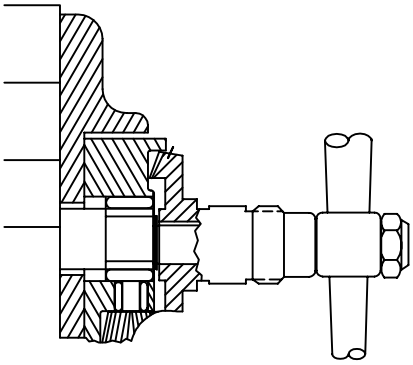




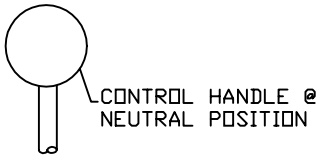
STEP 2
SHIMMING BEVEL GEAR

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

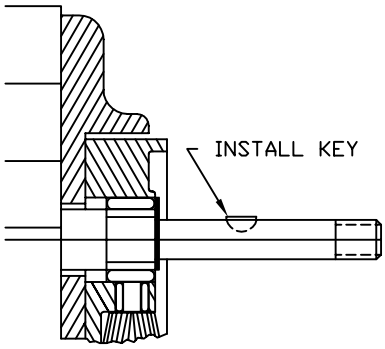


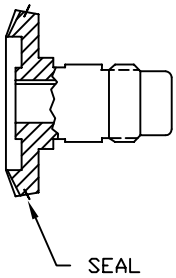


WITH POWER FEED IN NEUTRAL POSITION, TURN HANDCRANK. IF EXCESSIVE GEAR NOISE OR BINDING OCCURS, SHIMS NEED TO BE ADDED. WHEN ADDING SHIMS, REPEAT STEPS 1 AND 2.



STEP 3
DOUBLE CHECK OF SHIMMING





REMOVE GEAR, PACK WITH GREASE. (DO NOT USE SILICONE TYPE GREASE) REPLACE GEAR.
(DO NOT LOSE ANY SHIMS)

PICTURES IN THIS DRAWING ARE FOR REFERANCE ONLY. SEE INSTALLATION DRAWING OF CORRESPONDING MODEL FOR EXACT PARTS CONFIGURATION.

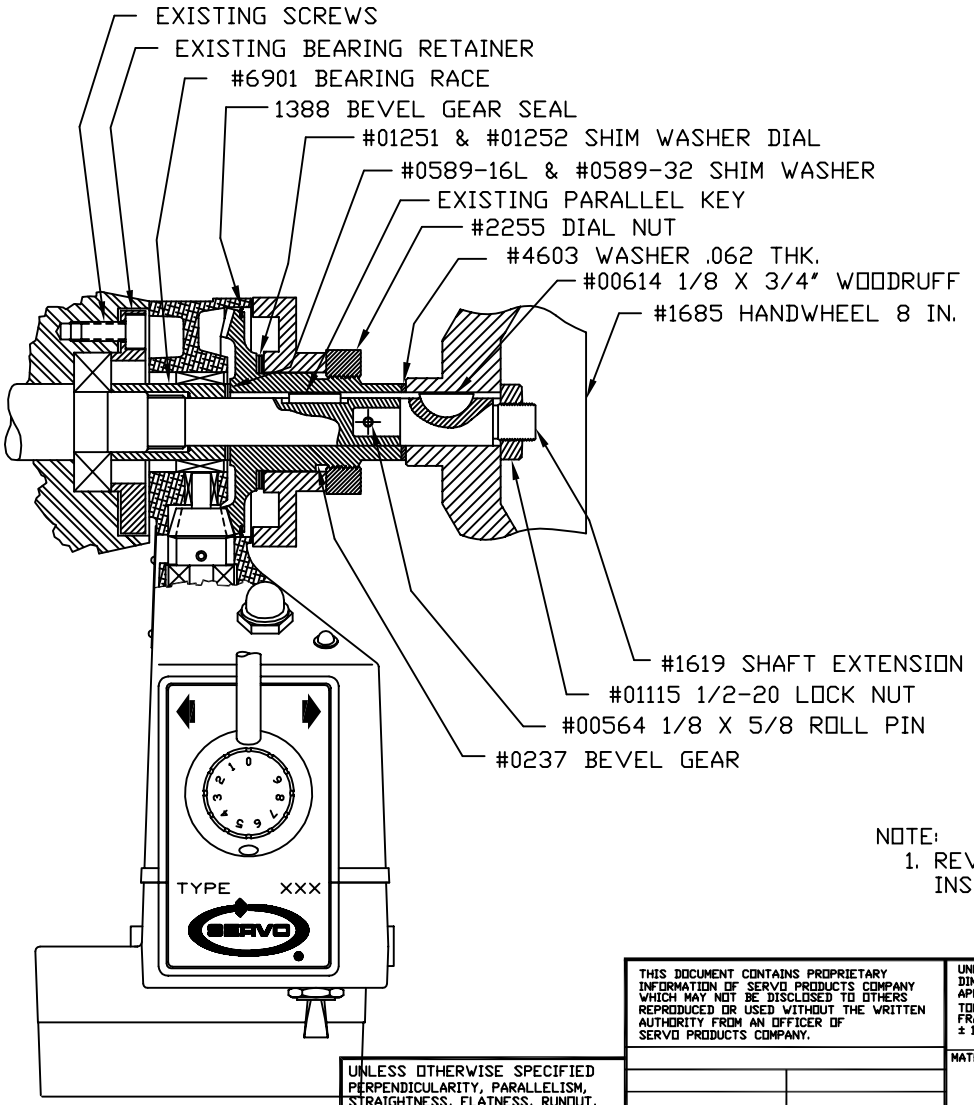
STEP 4
LUBRICATION

SERVO PRODUCTS COMPANY

BEVEL GEAR INSTALLATION

NA-5444 C

REVISION					
ECO	LTR	DESCRIPTION	DATE	DRAWN	CHECKED



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

UNLESS OTHERWISE SPECIFIED PERPENDICULARITY, PARALLELISM, STRAIGHTNESS, FLATNESS, RUNOUT, CONCENTRICITY, CYLINDRICITY TO BE WITHIN .01 TOTAL OR .040/ft. SURFACE ROUGHNESS WITHIN 125 $\sqrt{}$ REMOVE SHARP CORNERS AND EDGES .005 MIN.
DRAFTING STANDARD PER ANSI Y14.5M-1982

NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & APPLY AFTER PLATING
TOLERANCES ARE: FRACTIONS ± 1/64 DECIMALS .XX ± .01 .XXX ± .005 ANGLES ± 1/2°

MATERIAL: NOTED

FINISH: NONE

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS	DATE
DRAWN T. KU	7/14/92
CHECKED	

COMPUTER NO.

SERVO PRODUCTS COMPANY
433 NO. FAIR OAKS AVE., PASADENA CALIFORNIA 91103

INSTALLATION DRAWING MODEL 9813

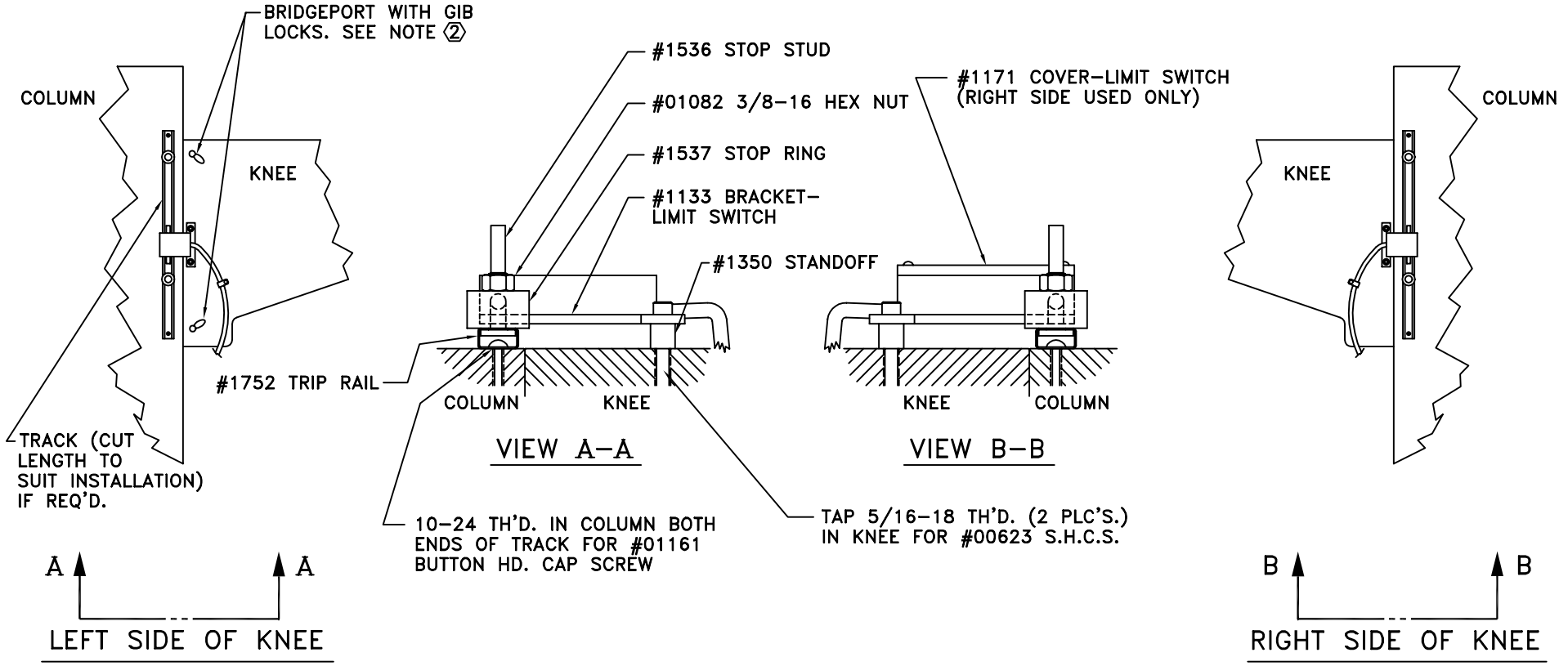
SIZE	CODE IDENT NO.	DRAWING NO.	REV.
B	0800-80491	NB-57422	

SCALE 5/8 SHEET OF

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.

REVISION					
ECO	LTR	DESCRIPTION	DATE	DRAWN	CHECKED



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & APPLY AFTER PLATING
TOLERANCES ARE: FRACTIONS ± 1/64 DECIMALS .XX ± .01 .XXX ± .005 ANGLES ± 1/2°

MATERIAL: NOTED

FINISH: NOTED

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED: PERPENDICULARITY TO BE WITHIN .01 FLATNESS TO BE WITHIN .01 CONCENTRICITY TO BE WITHIN .01 REMOVE SHARP EDGES AND CORNERS .005 MIN.

NEXT ASSY	USED ON

APPLICATION

CONTRACT NO.

APPROVALS	DATE
DRAWN J.TUCKER	05/20/98
CHECKED	

SERVO PRODUCTS COMPANY
433 NO. FAIR OAKS AVE., PASADENA CALIFORNIA 91103

INSTALLATION LIMIT STOP

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

SCALE ——— SHEET 1 OF 1