POWER FEED INSTALLATION
Model M-9822 Knee Feed
Servo Mill SV 50

REFERENCE DRAWINGS ENCLOSED

NA-5444	Bevel Gear Installation
NB-57658	Limit Switch Installation
NB-58633	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) lathe
b) 3/8" electric hand drill
c) #7 drill, 3/16" drill, 7/16" drill, #H drill
d) 1/4-20 tap
e) 9/32" diameter transfer punch
f) flat file
g) 3/4" socket wrench
h) set of inch hex wrenches
i) grease
j) clean shop rag

Step 2: Clean the power feed mounting area completely.

Step 3: Remove the drive clutch from the elevating jack shaft.

Step 4: Remove the dial nut, dial, and dial carrier. (Turn the dial carrier counterclockwise to remove.) Keep the dial for reuse later.

Step 5: Slip bearing race #6901 onto the jack shaft as shown. Slide the Turbo Drive over the bearing race and locate against front of the knee.

Step 6: Using a 9/32" diameter transfer punch, transfer two mounting holes from the feed to the bearing retainer. Remove the unit and the bearing race just installed. Then drill .201 diameter (#7 drill) through the bearing retainer and bearing housing and 1" into the knee casting.

Step 7: Remove the bearing retainer.

Step 8: Pull jack shaft out of knee. Hold inboard end up while removing to avoid damage to the pinion gear.

Step 9: Open up the drilled holes on the bearing retainer and the bearing housing to .266" diameter clearance holes. Tap 1/4-20 UNC x 1/2" deep into the knee casting.

Step 10: Press the bearing off the jack shaft.

Step 11: 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 12: Place the shaft extension #1619 into the end of the jack shaft. Finish drill 3/16" diameter hole through threaded joint and pin with the 3/16" diameter x 5/8" long roll pin. File smooth.

Step 13: Reassemble and replace the jack shaft in the machine.

Step 14: Replace the bearing retainer.

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 push against the knee. Secure with two 1/4-20 x 2" long socket head cap screws.

IF: If the bearing race is not flush with the needle bearing in the unit within ±.05", then either shim behind the race or machine the spacer to correctly locate the race.

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, install the key, dial and dial nut #2255. Slide the handwheel #1685-1 in place and tighten with 1/2-20 locknut #01115.

LIMIT SWITCH INSTALLATION

Install the limit switch as shown on 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.

Please read **WARNINGS** on the following page.

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
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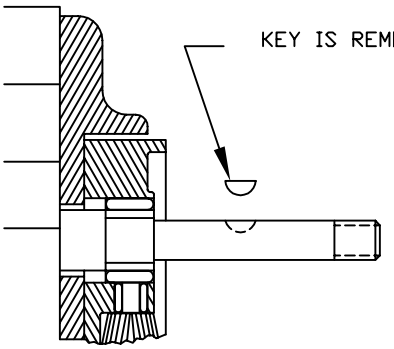
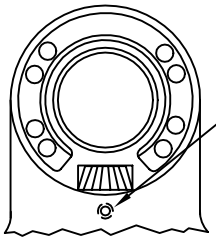
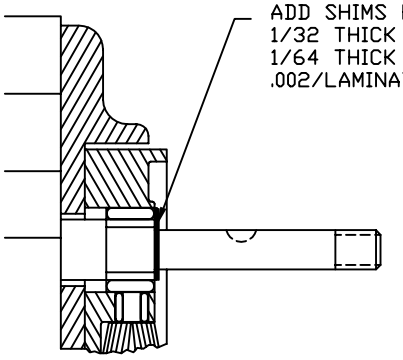
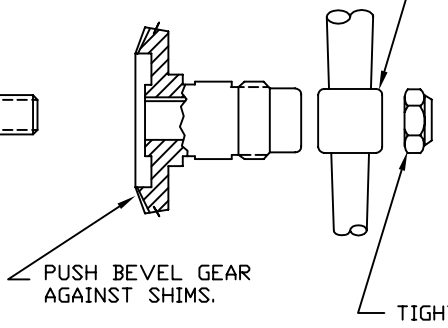
Web: www.servoproductsco.com
Call for the location of our regional Service Centers.

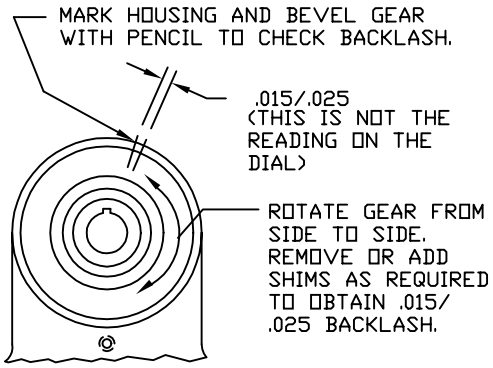




STEP 1
PREPARATION

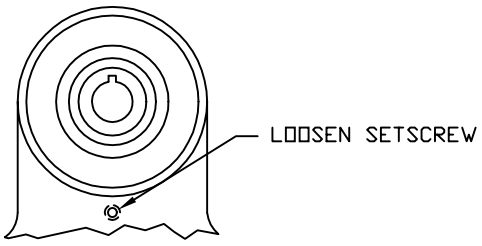


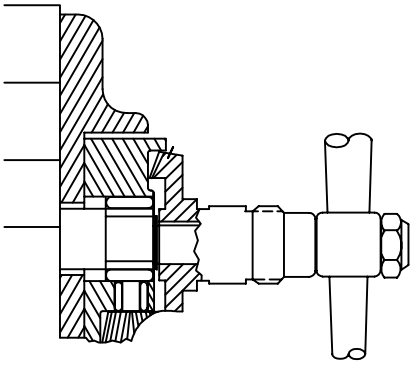




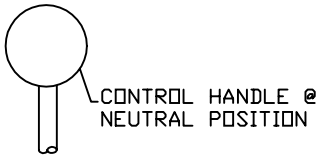
STEP 2
SHIMMING BEVEL GEAR

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

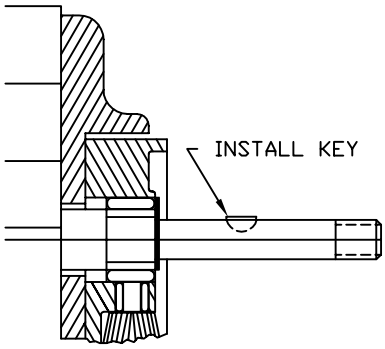


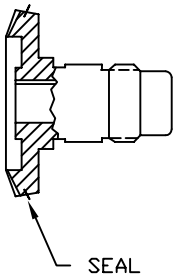


WITH POWER FEED IN NEUTRAL POSITION, TURN HANDCRANK. IF EXCESSIVE GEAR NOISE OR BINDING OCCURS, SHIMS NEED TO BE ADDED. WHEN ADDING SHIMS, REPEAT STEPS 1 AND 2.



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

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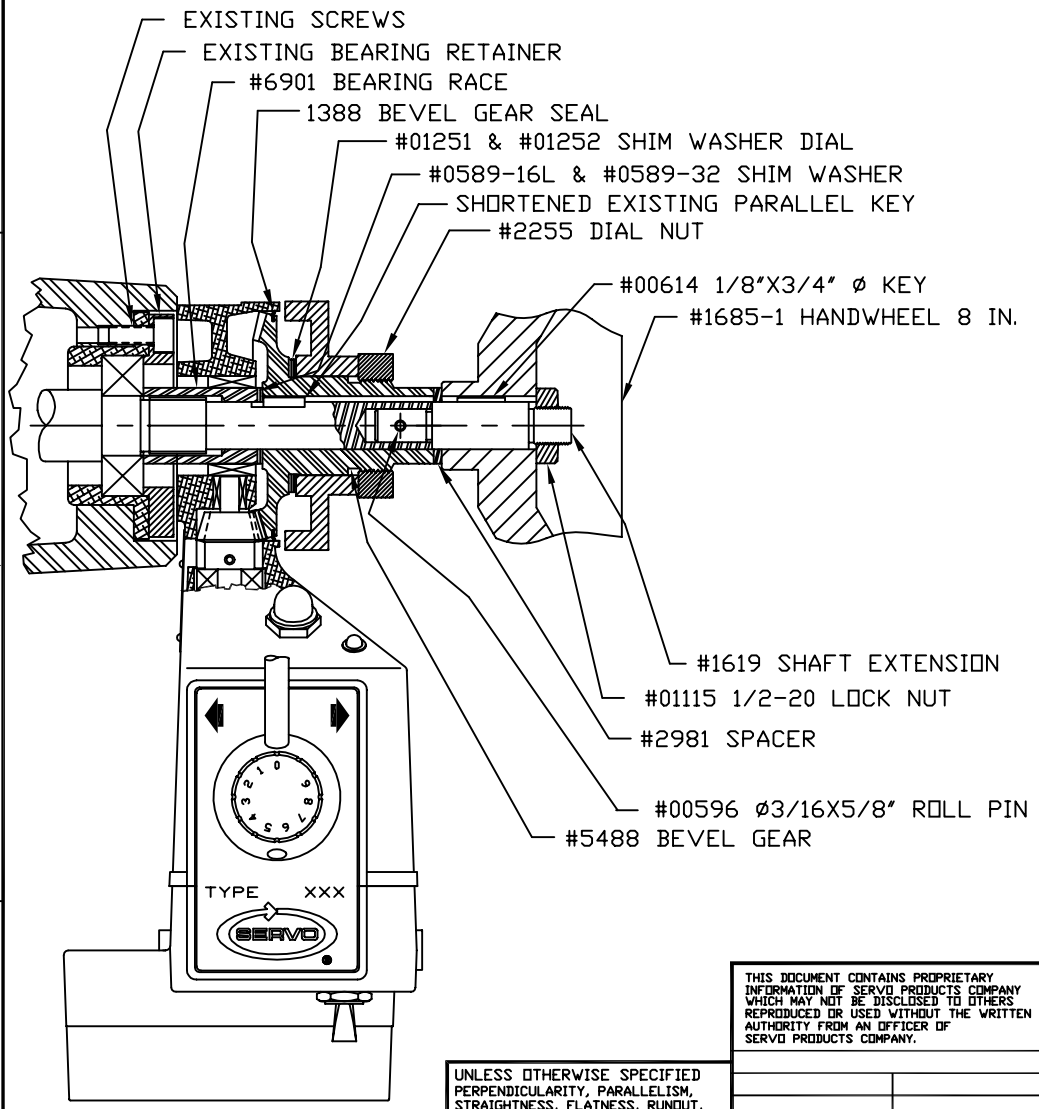
BEVEL GEAR INSTALLATION

NA-5444 C

REVISION					
ECO	LTR	DESCRIPTION	DATE	DRAWN	CHECKED



SYMBOL	A-1	A-2	B	C	D
P/N	57660	-	1861	05245	1752
DESCRIP.	STANDOFF	-	BRACKET	1/4-20 S.H.C.S.	TRIP RAIL
LENGTH	3.0	-	-	3.75	-

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.

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

FINISH

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS	DATE
DRAWN J.TUCKER	01/14/99
CHECKED	

COMPUTER NO.

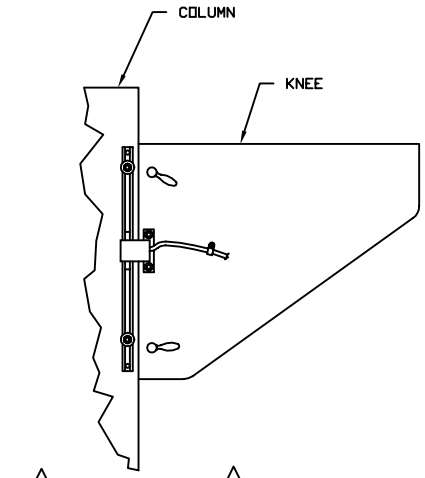
SERVO PRODUCTS COMPANY
433 NO. FAIR OAKS AVE., PASADENA CALIFORNIA 91103

INSTALLATION DRAWING
MODEL 9822

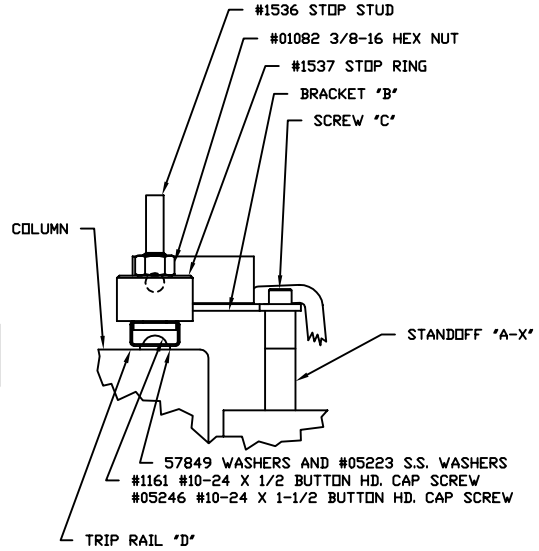
SIZE	CODE IDENT NO.	DRAWING NO.	REV.
B	0800-80754	NB-58633	A

SCALE 5/8 SHEET OF

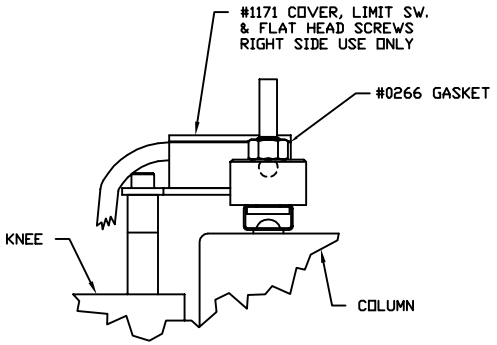
REVISION					
ECO	LTR	DESCRIPTION	DATE	DRAWN	CHECKED



LEFT SIDE OF COLUMN

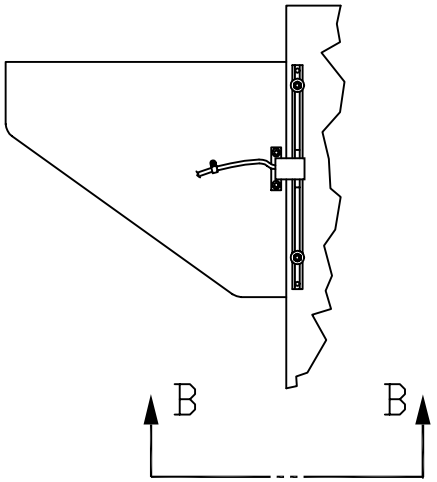


VIEW A-A



VIEW B-B

SAME COMPONENTS AS IN VIEW "A-A"
EXCEPT AS SHOWN



RIGHT SIDE OF COLUMN

NOTES:

1. LIMIT SWITCH MAY BE MOUNTED ON EITHER SIDE OF THE COLUMN.

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

MATERIAL

FINISH

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 T. KU	03/18/93
CHECKED	

SERVO PRODUCTS COMPANY
433 NO. 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