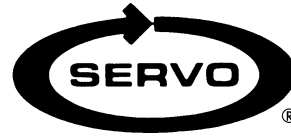


POWER FEED INSTALLATION

Model M-9519 Cross Feed

Atrump Mill



REFERENCE DRAWINGS ENCLOSED

A-5444	Bevel Gear Installation
ND-6293	Type 150 Servo Drive
ND-6292	Type 140 Servo Drive
NB-57657	Limit Switch Installation
NB-57654	Power Feed Installation
0800-80001	Servo Power Feed Operation

PREPARATION

- Step 1:* Move saddle to front of mill.
- Step 2:* Remove the nut, handle dial assembly and key from lead screw. Save key for installation later.
- Step 3:* Screw shaft extension onto lead screw.
- Step 4:* Slide bevel gear onto lead screw to ensure proper fit.
- Step 5:* Remove bevel gear and drill 1/8 diameter hole using the hole provided as a pilot.
- Step 6:* Pin shaft extension to lead screw with the 1/8 diameter x 5/8 long roll pin. File smooth.

DRIVE UNIT INSTALLATION

- Step 1:* Slide the adaptor onto lead screw (counterbore facing outside).
- Step 2:* Slide bearing race onto lead screw and into adaptor for proper alignment of the adaptor.
- Step 3:* Using transfer punch, transfer three mounting holes onto bearing retainer and tap 1/4-20 through.
- Step 4:* Secure adaptor to the bearing retainer using 1/4-20 x 3/4 socket head cap screws.
- Step 5:* Remove bearing race.
- Step 6:* Slide spacer and bearing race onto lead crew.
- Step 7:* Slide the power feed onto bearing race and secure to the adaptor using 1/4-20 x 1.00" long socket head cap screws.

BEVEL GEAR INSTALLATION

See Drawing A-5444, enclosed. For the bevel gear installation, use the 3 mm parallel key you saved before.

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: Put on dial locking nut.

Step 3: Slide handcrank onto end of shaft extension and tighten with 1/2-20 locking nut.

LIMIT SWITCH INSTALLATION

See Drawing #NB-57657.

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!

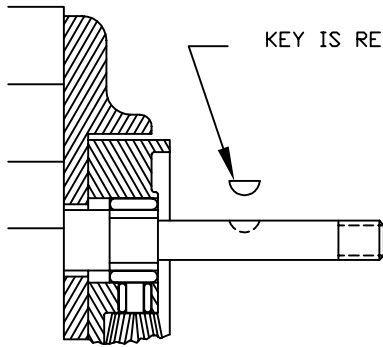
Prevent contact during fast traverses.

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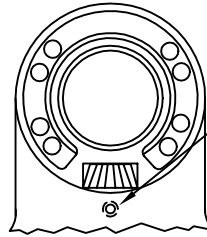
433 North Fair Oaks Avenue, Pasadena, CA 91103 USA
Phone: 800.521.7359 or 626.796.2460 Fax: 626.796.3845

Web: www.servoproductsco.com

Call for the location of our regional Service Centers.

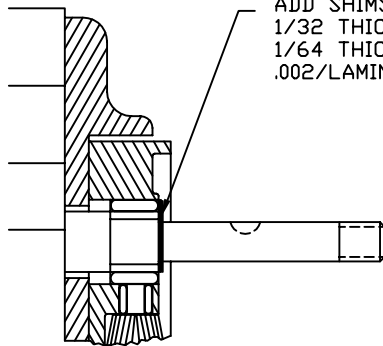


KEY IS REMOVED DURING SHIMMING

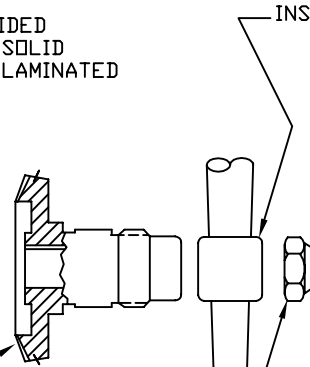


TIGHTEN SLIGHTLY (HOLDS BEVEL PINION STATIONARY DURING SHIMMING.)

STEP 1
PREPARATION



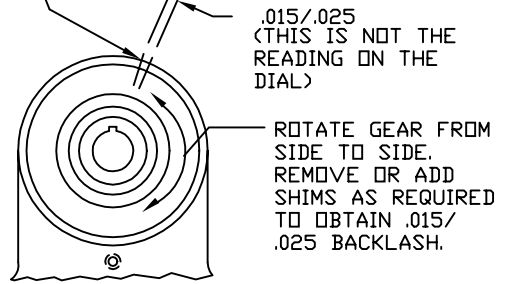
ADD SHIMS PROVIDED
1/32 THICK ARE SOLID
1/64 THICK ARE LAMINATED
.002/LAMINATION



PUSH BEVEL GEAR AGAINST SHIMS.

INSTALL HANDCRANK.

MARK HOUSING AND BEVEL GEAR WITH PENCIL TO CHECK BACKLASH.



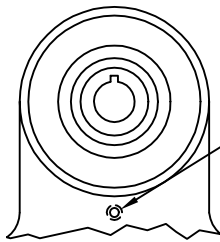
.015/.025
(THIS IS NOT THE READING ON THE DIAL)

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

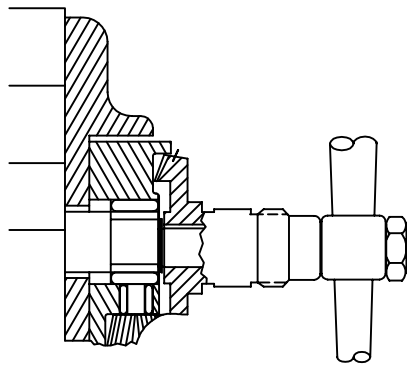
STEP 2
SHIMMING BEVEL GEAR

TIGHTEN NUT.

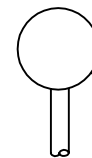
CAUTION: IF BACKLASH IS NOT PROPERLY SET BEFORE TURNING UNIT ON, BEVEL GEAR MAY BE DESTROYED.



LOOSEN SETSCREW

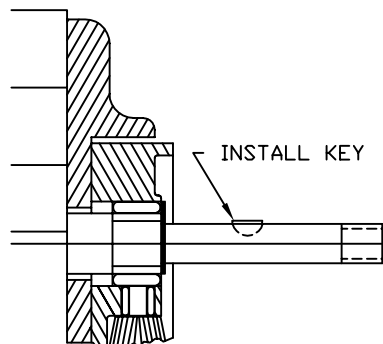


WITH POWER FEED IN NEUTRAL POSITION, TURN HANDCRANK. IF EXCESSIVE GEAR NOISE OR BINDING OCCURS, SHIMS NEED TO BE ADDED. WHEN ADDING SHIMS, REPEAT STEPS 1 AND 2.

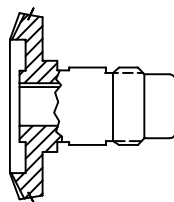


CONTROL HANDLE @ NEUTRAL POSITION

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

#00586 1/4-20 X 1" S.H.C.S.
EXISTING BEARING RETAINER

#57237 ADAPTOR

#6836 SPACER

EXISTING SCREWS

#0714 BEARING RACE

#01165 BEVEL GEAR SEAL

#0589-16L & #0589-32 SHIM WASHER

#01251 & #01252 SHIM WASHER DIAL

3 X 30 mm PARALLEL KEY

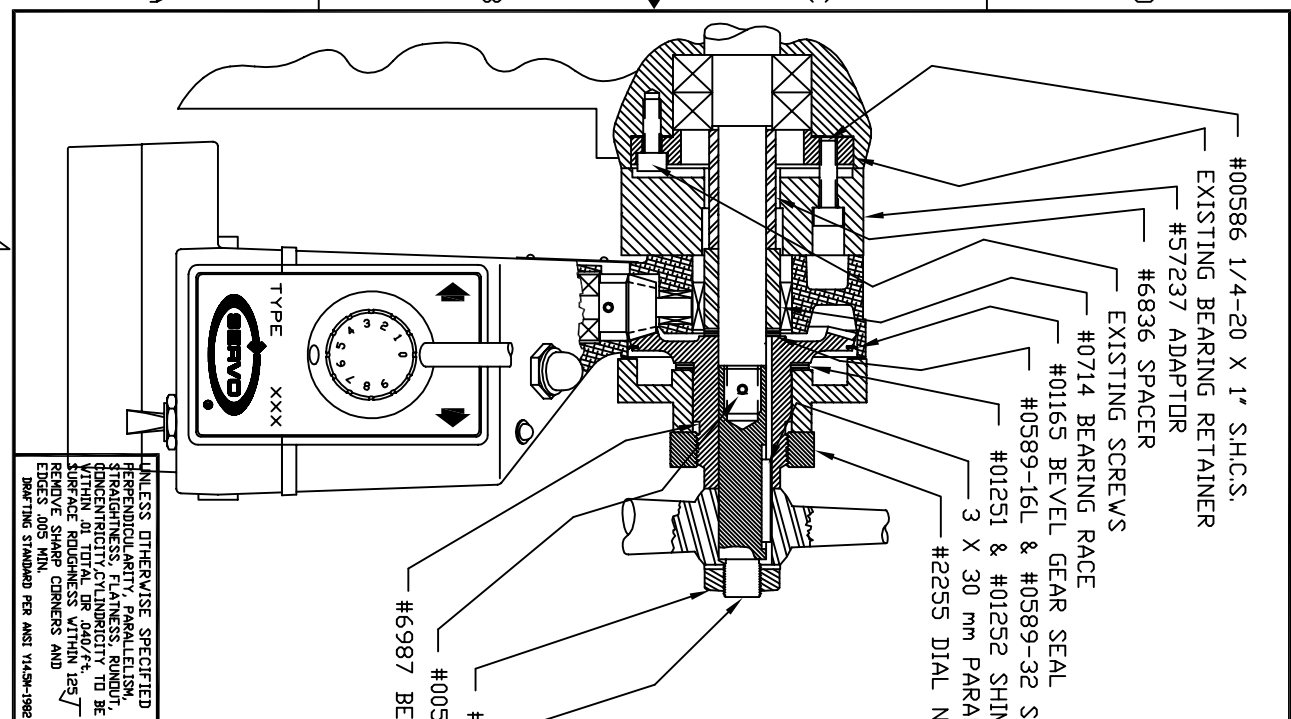
#2255 DIAL NUT

#57226 SHAFT EXTENSION

#01115 1/2-20 LOCK NUT

#00564 1/8 X 5/8 ROLL PIN

#6987 BEVEL GEAR



NOTES:
1. SEE DRAWING NB-57657 FOR CROSS LIMIT SWITCH INSTALLTION.


UNLESS OTHERWISE SPECIFIED
PERPENDICULARITY, PARALLELISM,
STRAIGHTNESS, FLATNESS, ROUND-
NESS, CONCENTRICITY, CYLINDRICITY TO BE
WITHIN 0.010 TOTAL OR 0.040/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 &
TOLERANCES ARE AS FOLLOWS:
FRACTIONS DECIMALS ANGLES
± 1/64 ± .005 ± .005 ± 1/2°

CONTRACT NO.	APPROVALS	DATE
DRAWN T. KU		03/16/93
CHECKED		
MATERIAL	FINISH	DID NOT SCALE DRAWING
APPLICATION	USED ON	
NEXT ASSY		

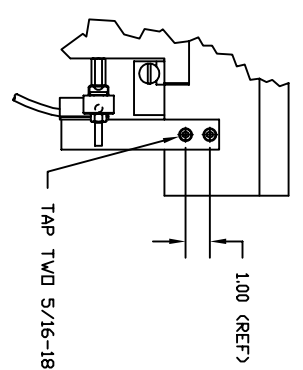
COMPUTER NO.	SCALE	SIZE
	5/8	B
		0800-80535


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INSTALLATION DRAWING,
MODEL 9519
 DRAWING NO. NB-57654
 SHEET OF

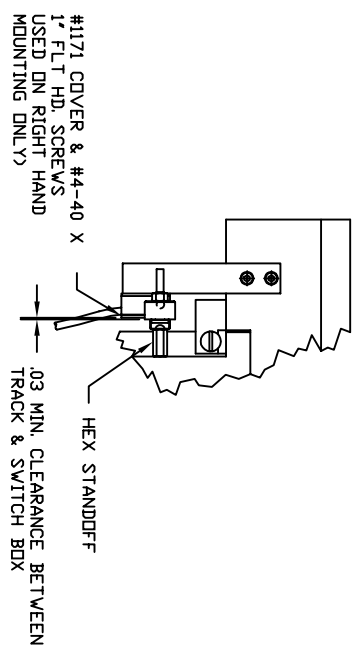
REVISION		DATE	DRAWN	CHECKED
ECD	LTR			
DESCRIPTION				

NOTES:
 1. CROSS TRAVEL STOP ASSEMBLY MAY BE MOUNTED ON EITHER SIDE OF KNEE.

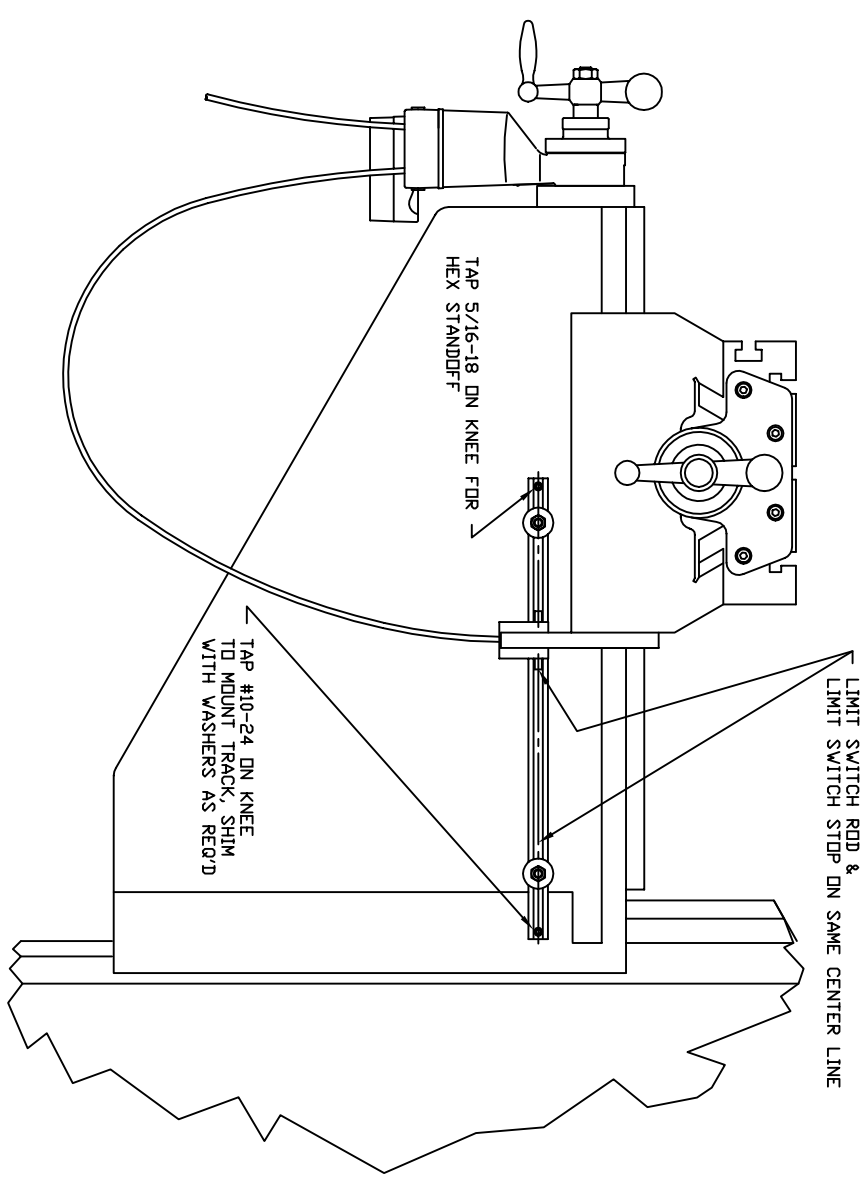
REVISION		DATE	APPROVED
ECD	LTR	DESCRIPTION	



VIEW FROM BACK SIDE OF SADDLE
 (MOUNTED ON LEFT SIDE OF KNEE & SADDLE)




VIEW FROM BACK SIDE OF SADDLE
 (MOUNTED ON RIGHT SIDE OF KNEE & SADDLE)



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

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES FRACTIONS DECIMALS ANGLES ± 1/64 ± .005 ± DEG.	CONTRACT NO.	DATE
FINISH	APPROVALS	3/26/93
DRAWN T. KU	CHECKED	
DD NOT SCALE DRAWING		
APPLICATION	USED ON	
NEXT ASSY		


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INSTALLATION DRAWING, LIMIT SWITCH, CROSS

SIZE CODE IDENT NO. DRAWING NO.
B 0800-80539 57657

SCALE NONE SHEET OF