

POWER FEED INSTALLATION

Model M-5081 Knee Feed

Chevalier and Acra



REFERENCE DRAWINGS ENCLOSED

NA-5444	Bevel Gear Installation
NB-57658	Limit Switch Installation
NB-6320	Power Feed Installation
ND-6292	Type 140 Servo Power Feed
0800-80001	Servo Power Feed Operation

□ **NOTE** If **both** knee and cross feeds are being mounted, rotate the knee feed 30 degrees clockwise from vertical and rotate the cross feed 30 degrees counterclockwise from vertical.

PREPARATION

- Step 1:** Remove the drive clutch from the elevating jack shaft. Then remove the dial, nut, and bearing retainer.
- 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:** Remove the dial holder and press the bearing off the jack shaft.
- Step 4:** Drill and ream the end of the jack shaft .4375" diameter by 13/16" deep. The .4375 diameter 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 5:** Place the shaft extension into the end of the jack shaft. Using the hole provided as a pilot, drill 1/8" diameter through and pin the shaft extension to the jack shaft with the 1/8 diameter x 5/8" long roll pin. File smooth.
- Step 6:** Reassemble the jack shaft and replace the jack shaft in the machine.
- Step 7:** Secure the bearing retainer in place.

POWER FEED INSTALLATION

- Step 1:** Slide the spacer #6740 onto the jack shaft against the bearing inner race followed by the bearing race #0714.
- Step 2:** Transfer the mounting holes from the adaptor to the bearing retainer and tap 1/4-20 through three places.
- Step 3:** Add the adaptor and secure using the three 1/4-20 x 3/4" long socket cap screws supplied.
- IF:** If the threads bottom out, use washers #04931 (.377 o.d. x .255 i.d. x .062" thick).

Step 4: Remove the bearing race. Slide the spacer #6222 in place and then replace the bearing race.

IF: If necessary, add shims #04867 and spacer #2981 to make sure that the bearing race is flush with the needle bearing in the unit and that the stack bears against the spacer #6740.

Step 5: Slide the power feed and secure with 1/4-20 x 1" long socket head cap screws provided.

BEVEL GEAR INSTALLATION

Step 1: 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: In the following sequence, put on the dial locking nut, replace the key in the shaft (if removed), slide the handwheel in place, add the washer, and tighten with the 1/2-20 lock nut.

LIMIT SWITCH INSTALLATION

Step 1: See limit switch installation 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!

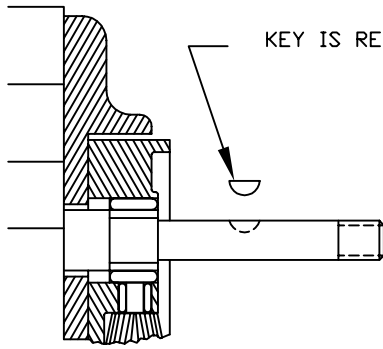
Prevent contact during fast traverses.

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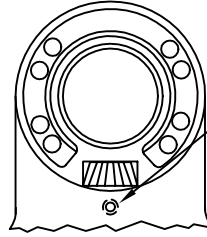
433 North Fair Oaks Avenue, Pasadena, CA 91103 USA
Phone: 800.521.7359 or 626.796.2460 Fax: 626.796.3845

Web: www.servoproductsco.com

Call for the location of our regional Service Centers.

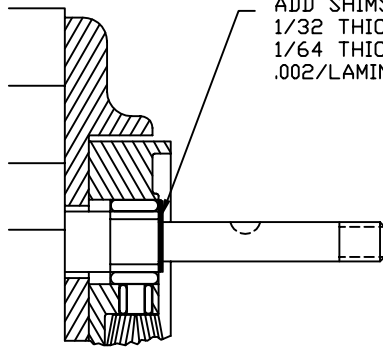


KEY IS REMOVED DURING SHIMMING

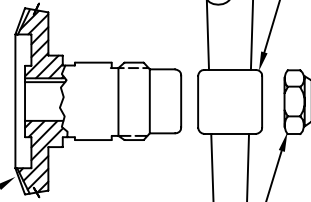


TIGHTEN SLIGHTLY (HOLDS BEVEL PINION STATIONARY DURING SHIMMING.)

STEP 1
PREPARATION



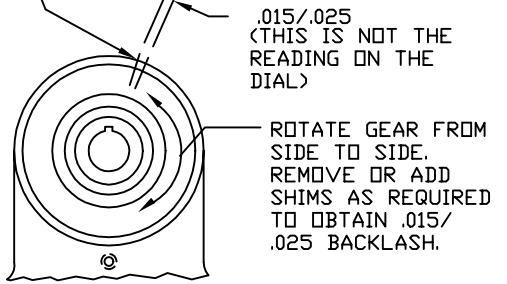
ADD SHIMS PROVIDED
1/32 THICK ARE SOLID
1/64 THICK ARE LAMINATED
.002/LAMINATION



PUSH BEVEL GEAR
AGAINST SHIMS.

INSTALL HANDCRANK.

MARK HOUSING AND BEVEL GEAR
WITH PENCIL TO CHECK BACKLASH.



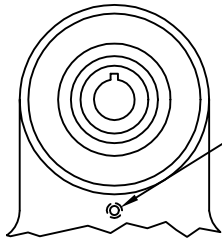
.015/.025
(THIS IS NOT THE
READING ON THE
DIAL)

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

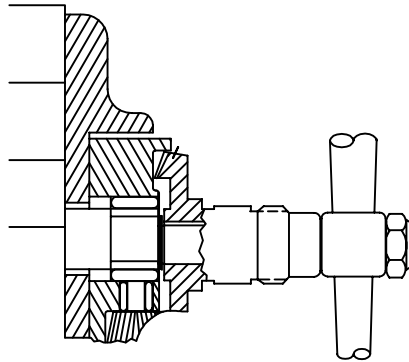
TIGHTEN NUT.

STEP 2
SHIMMING BEVEL
GEAR

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



LOOSEN SETSCREW

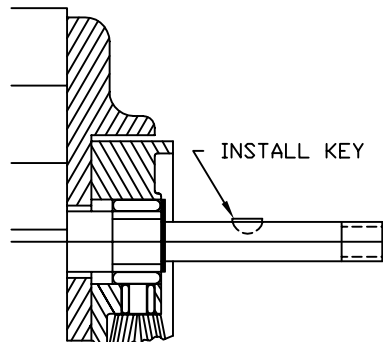


WITH POWER FEED IN
NEUTRAL POSITION, TURN
HANDCRANK. IF EXCESSIVE
GEAR NOISE OR BINDING
OCCURS, SHIMS NEED TO BE
ADDED. WHEN ADDING SHIMS,
REPEAT STEPS 1 AND 2.

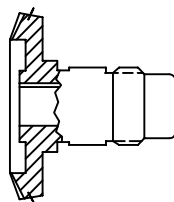


CONTROL HANDLE @
NEUTRAL POSITION

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.

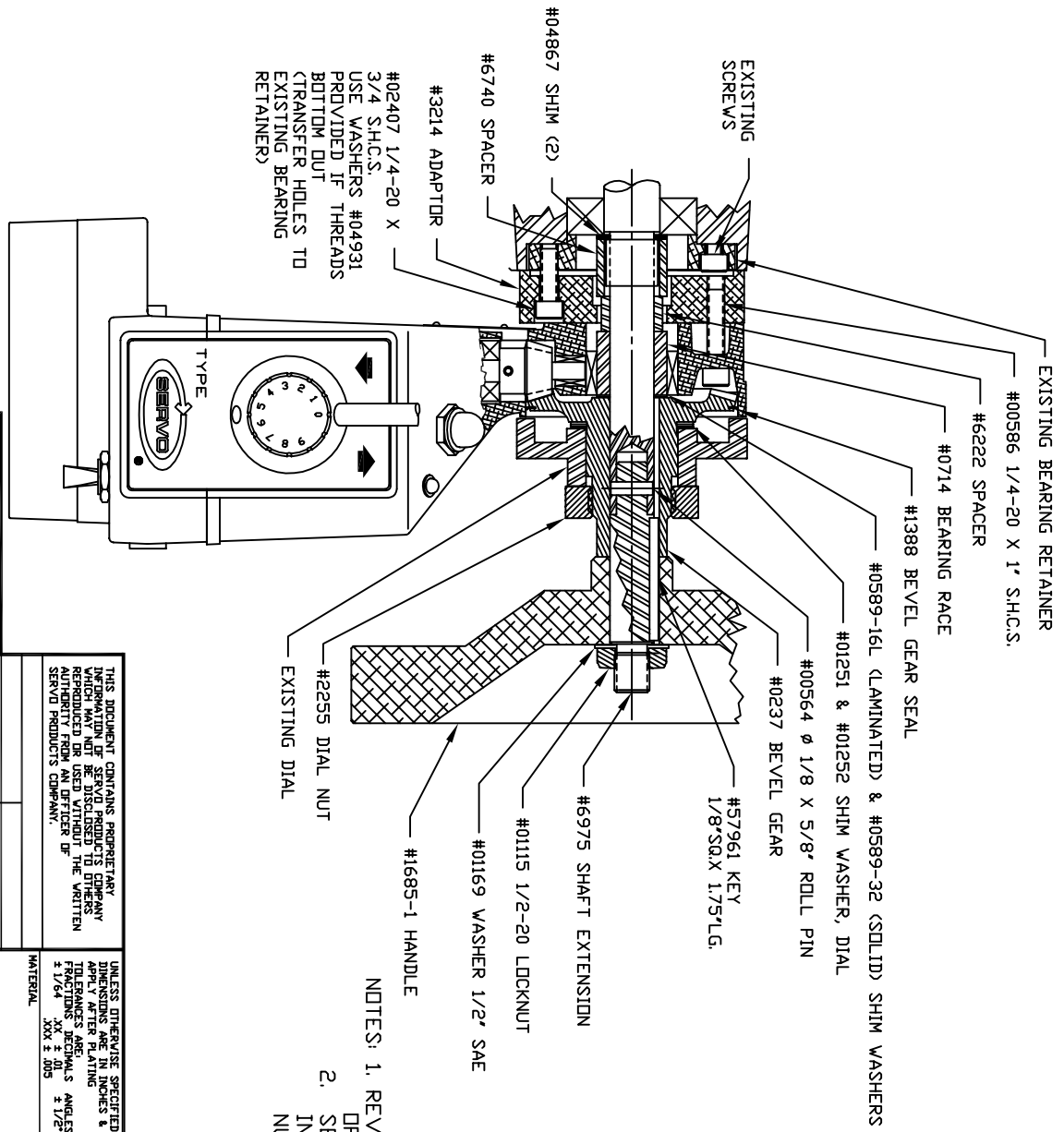
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BEVEL GEAR INSTALLATION

NA-5444 C

STEP 4
LUBRICATION

REVISION		DATE	DRAWN	CHECKED
ECD	LTR	DESCRIPTION		



#02407 1/4-20 X 3/4 S.H.C.S. USE WASHERS #04931 PROVIDED IF THREADS BOTTOM OUT (TRANSFER HOLES TO EXISTING BEARING RETAINER)

NOTES: 1. REVIEW ALL INSTALLATION INSTRUCTIONS AND POWER FEED OPERATIONS BEFORE TURNING ON SERVO POWER FEED.
2. SEE DRAWING NB-57658 FOR KNEE FEED 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	57660		1133	05245	1752
DESCRIP.	STANDOFF	STANDOFF	BRACKET	5/16-18 S.H.C.S.	TRIP RAIL
LENGTH	3"		-	3.75"	-

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

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CONTRACT NO.	APPROVALS	DATE
	T. KU	04/22/94
	CHECKED	

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433 N. FAIR OAKS AVE., PASADENA, CALIFORNIA 91109

INSTALLATION DRAWING
MODEL 5081, KNEE

SIZE CODE IDENT. NO. DRAWING NO. REV.
B 0800-80186 NB-6320 D

SCALE 5/8 SHEET 1 OF 1

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

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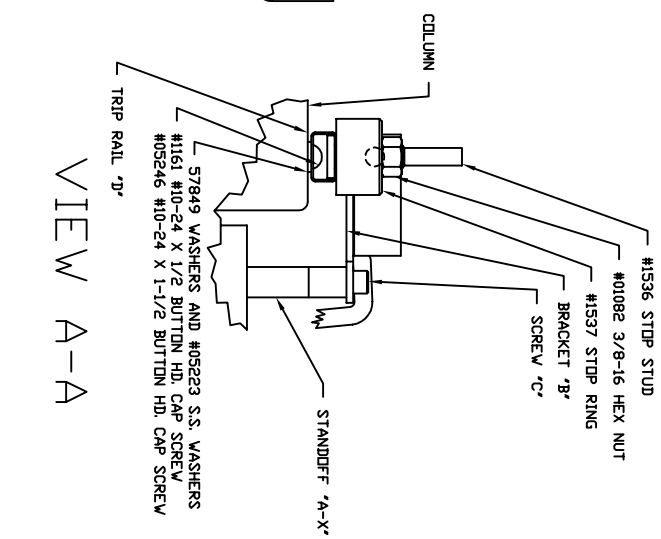
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433 N. FAIR OAKS AVE., PASADENA, CALIFORNIA 91109

INSTALLATION DRAWING
MODEL 5081, KNEE

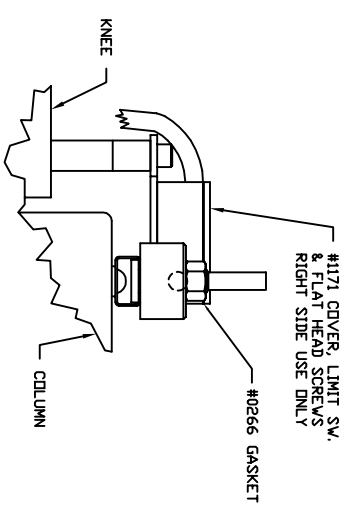
SIZE CODE IDENT. NO. DRAWING NO. REV.
B 0800-80186 NB-6320 D

SCALE 5/8 SHEET 1 OF 1

REVISION		DATE	DRAWN	CHECKED
ECD	LTR			
DESCRIPTION				

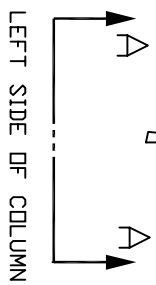


VIEW A-A

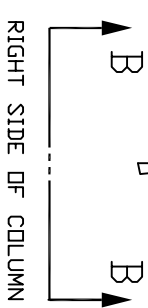


VIEW B-B

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 .01 REMOVE SHARP EDGES AND CORNERS .005 MIN.

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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		03/18/93
CHECKED		


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 433 N. FAIR OAKS AVE., PASADENA CALIFORNIA 9103

INSTALLATION DRAWING
LIMIT SWITCH, KNEE

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
B	0800-80540	NB-57658	B
SCALE	NONE	SHEET	OF