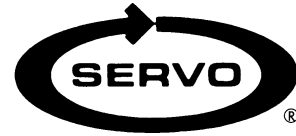


POWER FEED INSTALLATION

Model M-2150 Cross Feed

Enterprise, Holke, Marena 10



REFERENCE DRAWINGS ENCLOSED

| | |
|------------|----------------------------|
| NA-5444 | Bevel Gear Installation |
| NB-2240 | Power Feed Installation |
| ND-6293 | Type 150 Servo Power Feed |
| 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) 3/8" electric hand drill
- b) 1/8" drill, #7 drill
- c) 1/4-20 tap
- d) 9/32" transfer punch
- e) flat file
- f) 3/4" socket wrench
- g) set of inch hex wrenches
- h) grease
- i) clean shop rag

Step 2: Remove the nut, handwheel, dial, dial hub and key from the lead screw.

Step 3: Place the bearing race into the adaptor.

Step 4: Slide the adaptor and bearing race onto the lead screw.

Step 5: Transfer the three counterbored hole locations to the bearing bracket.

Step 6: Remove the adaptor and bearing race from the mill. Drill and tap 1/4-20 x 3/8" minimum depth three places.

Step 7: Attach the adaptor to the mill using the 1/4-20 x 1-1/2" long cap screws provided.

POWER FEED INSTALLATION

Step 1: Screw the shaft extension onto the lead screw and tighten.

Step 2: Using the hole provided as a pilot, drill 1/8" diameter through and pin in place using the 1/8" x 5/8" long roll pin. File smooth.

Step 3: Slide the spacer and bearing race onto the lead screw.

Step 4: Slide the Power Feed over the bearing race and secure to the adaptor using two 1/4-20 x 1-1/2" long cap screws provided.

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, put on the dial locking nut and place the 5 mm key in the shaft extension. Slide the handcrank onto the shaft extension and secure using washer and locking nut provided.

LIMIT SWITCH INSTALLATION

Install the limit switch as shown on the installation drawing.

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.

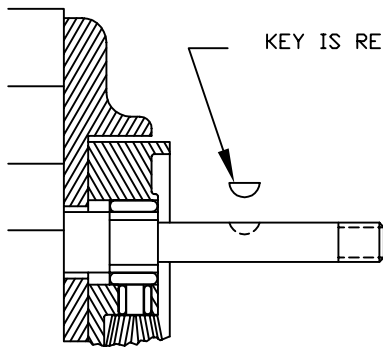
Do not operate without proper clearance!

Prevent contact during fast traverses.

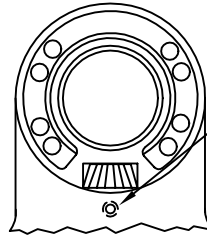
SERVO PRODUCTS COMPANY

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.

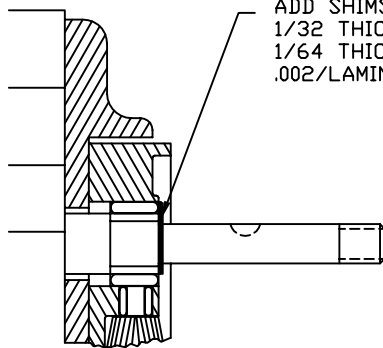


KEY IS REMOVED DURING SHIMMING

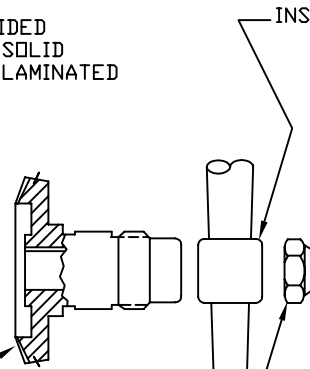


TIGHTEN SLIGHTLY (HOLDS BEVEL PINION STATIONARY DURING SHIMMING.)

STEP 1
PREPARATION



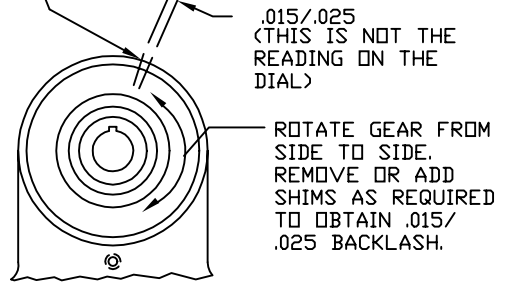
ADD SHIMS PROVIDED
1/32 THICK ARE SOLID
1/64 THICK ARE LAMINATED
.002/LAMINATION



PUSH BEVEL GEAR AGAINST SHIMS.

INSTALL HANDCRANK.

MARK HOUSING AND BEVEL GEAR WITH PENCIL TO CHECK BACKLASH.



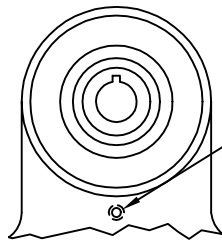
.015/.025
(THIS IS NOT THE READING ON THE DIAL)

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

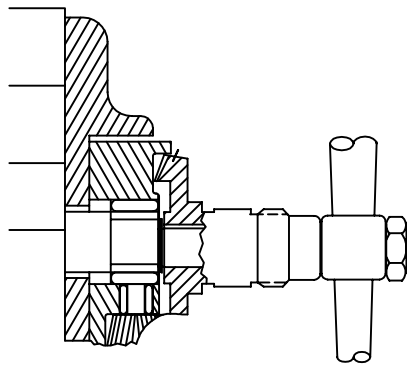
STEP 2
SHIMMING BEVEL GEAR

TIGHTEN NUT.

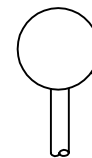
CAUTION: IF BACKLASH IS NOT PROPERLY SET BEFORE TURNING UNIT ON, BEVEL GEAR MAY BE DESTROYED.



LOOSEN SETSCREW

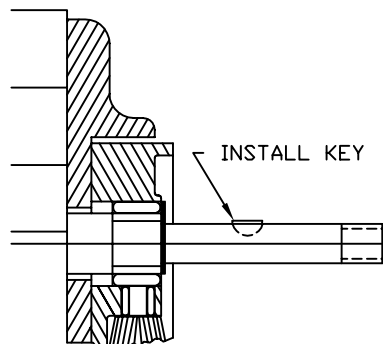


WITH POWER FEED IN NEUTRAL POSITION, TURN HANDCRANK. IF EXCESSIVE GEAR NOISE OR BINDING OCCURS, SHIMS NEED TO BE ADDED. WHEN ADDING SHIMS, REPEAT STEPS 1 AND 2.

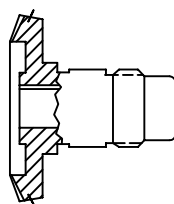


CONTROL HANDLE @ NEUTRAL POSITION

STEP 3
DOUBLE CHECK OF SHIMMING



INSTALL KEY



SEAL

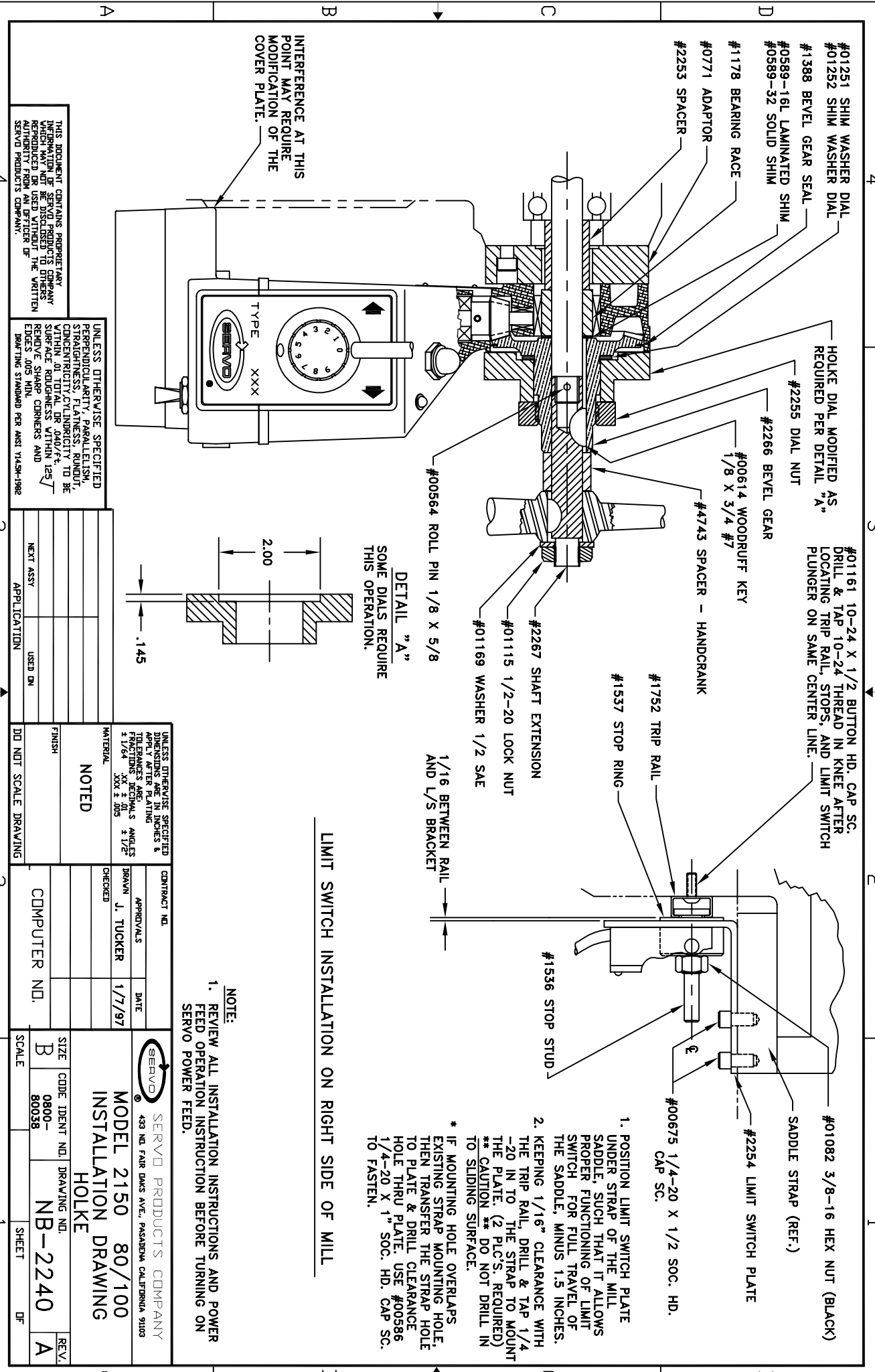
REMOVE GEAR, PACK WITH GREASE. (DO NOT USE SILICONE TYPE GREASE) REPLACE GEAR. (DO NOT LOSE ANY SHIMS)

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



INTERFERENCE AT THIS POINT MAY REQUIRE MODIFICATION OF THE COVER PLATE.

DETAIL "A"
SOME DIALS REQUIRE THIS OPERATION.

LIMIT SWITCH INSTALLATION ON RIGHT SIDE OF MILL

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


1. POSITION LIMIT SWITCH PLATE UNDER STRAP OF THE MILL SADDLE, SUCH THAT IT ALLOWS PROPER FUNCTIONING OF LIMIT SWITCH FOR FULL TRAVEL OF THE SADDLE, MINUS 1.5 INCHES.
2. KEEPING 1/16" CLEARANCE WITH THE TRIP RAIL, DRILL & TAP 1/4-20 IN TO THE STRAP TO MOUNT THE PLATE. (2 PLCS. REQUIRED)
** CAUTION ** DO NOT DRILL IN TO SLIDING SURFACE.
* IF MOUNTING HOLE OVERLAPS EXISTING STRAP MOUNTING HOLE, THEN TRANSFER THE STRAP HOLE TO PLATE & DRILL CLEARANCE HOLE THRU PLATE. USE #00586 1/4-20 X 1" SOC. HD. CAP SC. TO FASTEN.

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UNLESS OTHERWISE SPECIFIED PERPENDICULARITY, PARALLELISM, STRAIGHTNESS, FLATNESS, ROUNDNESS, CONCENTRICITY, CYLINDRICITY TO BE WITHIN .01 TOTAL OR .040/FT. SURFACE ROUGHNESS WITHIN 125/1000 REMOVED SHARP CORNERS AND EDGES .005 MIN. DRIVING STANDARD PER ANSI Y14.3M-1982

| | |
|-------------|---------|
| TYPE | XXX |
| APPLICATION | USED IN |
| NEXT ASSY | |

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| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & TOLERANCES ARE LISTED FRACTIONS DECIMALS ANGLES | CONTRACT NO. |
| ± 1/64 ± .005 ± .015 ± .005 ± 1/2° | APPROVALS |
| MATERIAL | DATE |
| NOTED | 1/7/97 |
| CHECKED | |
| FINISH | COMPUTER NO. |
| DID NOT SCALE DRAWING | |


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 433 N. FAIR BANKS AVE., PASADENA, CALIFORNIA 91103

MODEL 2150 80/100
INSTALLATION DRAWING
HOLKE

| | | | |
|-------|-----------------|-------------|------|
| SIZE | CODE IDENT. NO. | DRAWING NO. | REV. |
| B | 0800-80038 | NB-2240 | A |
| SCALE | | SHEET | OF |