



TURBO DRIVE INSTALLATION

MODEL 1582T KNEE FEED

Lagun Mill

- ➔ **NOTE** This Turbo Drive Knee Feed is configured for mounting the feed on the front of the knee with the keypad facing left. The lead screw pitch is 5 turns per inch left hand with 2 to 1 reducing bevel gear set from the jack shaft to the lead screw (jack screw). See **CAUTION** below before changing anything!

CAUTION

The Turbo Drive power cable should be left **unplugged** until the drive is properly installed on the lead screw.

See the **Operation** manual to reverse the direction of travel or to change the lead screw pitch default. Turn **off** the Turbo Drive and **remove** the power plug from the wall before you attempt to change any jumpers or reverse the top housing.

WARNINGS

DO NOT install and operate this power feed without the 8" safety handwheel Servo #1685-1 for the knee feed. This is required to prevent injury.

Check handwheel clearances before operation.

Clearances between the surfaces of the handwheel and the non-moving parts of the equipment on which the handwheel is installed must be at least one-fourth inch (1/4") to prevent injury.

Do not operate without proper clearance!

Prevent contact during fast traverses.

WARRANTY CAUTION

There are **NO** user-serviceable parts inside the center or bottom housings. Removal of the motor, keyboard, or bottom housing screws **voids** the warranty.

REFERENCE DRAWINGS ENCLOSED

NA-58496	Bevel Gear Installation
NB-58981	Turbo Drive Installation
0800-80678	Turbo Drive Operation manual

PREPARATION

Step 1: Gather together the following items that you will need to complete this installation.

- lathe for threading
- 3/8" electric hand drill
- 7/64" drill, 1/8" drill

- d) ball peen hammer & support piece
- e) flat file
- f) 3/4" socket wrench
- g) set of inch hex wrenches
- h) grease
- i) 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.)
- Step 5:** Remove the three screws holding the knee bearing housing to the knee and pull the jack shaft assembly out.
- Step 6:** Remove bearings, pinion and bearing housing, etc. from the jack shaft.
- Step 7:** Mount the jack shaft in a lathe to machine a 3/8-24 UNF by .69" deep threaded hole on the end of the jack shaft, concentric within .002 T.I.R.
- Step 8:** Drill on center a 7/64" diameter pilot hole on jack shaft at location shown on drawing NB-58981.
- Step 9:** Reassemble the jack shaft and replace in the machine.

MOUNTING HARDWARE INSTALLATION

- Step 1:** Slip the spacer #6740 followed by bearing race #1178 onto the jack shaft.
- Step 2:** Slip the adaptor #58519 over the bearing race and locate against the knee bearing housing.
- Step 3:** Line up the mounting holes on the adaptor with those of the housing and secure with three #05789 M6 x 1 x 45 mm long socket head cap screws.
- Step 4:** Remove the bearing race #1178.
- Step 5:** Lubricate the shaft with a light coat of grease. Slip the spacer #6875 and the bearing race onto the shaft as shown.

SHAFT EXTENSION AND TURBO DRIVE INSTALLATION

- Step 1:** Screw on the shaft extension #57729 onto the jack shaft and tighten.
- Step 2:** Following the existing pilot hole, drill through the shaft extension using a 1/8" diameter drill.
- Step 3:** Support the other side of the hole with a heavy piece of metal and hammer in the #00564 roll pin. File smooth and clean thoroughly.

Step 4: Slide the shroud #58522 and the Turbo Drive onto the bearing race and push against the bracket. Secure with two 1/4-20 x 1-3/8" long socket head cap screws.

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

BEVEL GEAR INSTALLATION

Step 1: Follow the drawing NA-58496 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 spacer #58523, key, dial and dial nut #2255. Slide the handwheel #1685-1 in place and tighten with 1/2-20 locknut #01115.

TURBO DRIVE OPERATION

See the separate **Servo Turbo Drive Operation** manual for complete operating instructions. Plug the unit into a properly grounded three-wire outlet supplying 110 volt single phase 50/60 Hz 6 amp power. Turn the control switch ON and follow the instructions in the manual or on the **Quick Reference** sheet for setting limits.

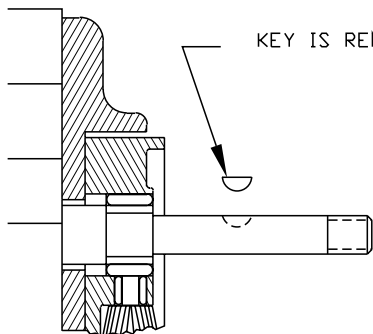
SERVO PRODUCTS COMPANY

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

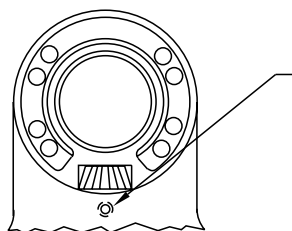
Web: www.servoproductsco.com

If service is required, call Servo Products Company.

DO NOT PLUG IN POWER UNTIL ALL STEPS ARE COMPLETED.

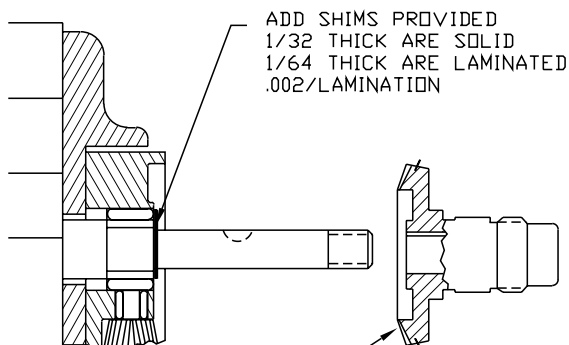


KEY IS REMOVED DURING SHIMMING

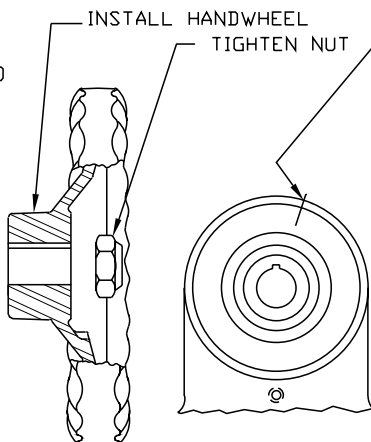


TIGHTEN SLIGHTLY (HOLDS BEVEL PINION STATIONARY DURING SHIMMING.)
(TIGHTEN UPPER ONE ONLY)

STEP 1
PREPARATION



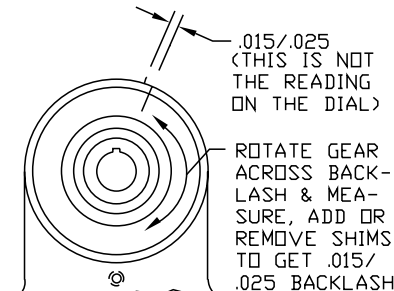
ADD SHIMS PROVIDED
1/32 THICK ARE SOLID
1/64 THICK ARE LAMINATED
.002/LAMINATION



INSTALL HANDWHEEL

TIGHTEN NUT

SCRIBE ACROSS GEAR & HOUSING WHILE PUSHING GEAR AGAINST ONE SIDE OF THE BACKLASH



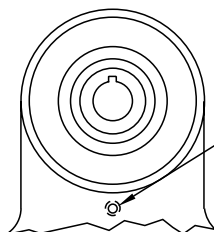
.015/.025
(THIS IS NOT THE READING ON THE DIAL)

ROTATE GEAR ACROSS BACKLASH & MEASURE, ADD OR REMOVE SHIMS TO GET .015/.025 BACKLASH

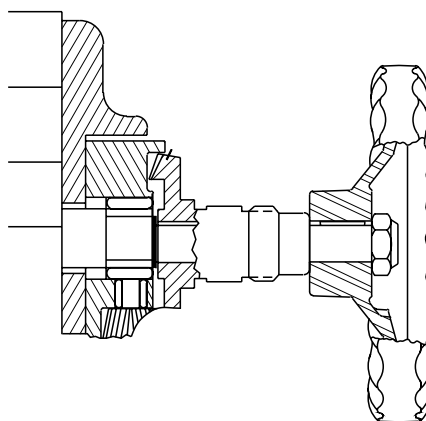
PUSH BEVEL GEAR AGAINST SHIMS.

STEP 2
SHIMMING BEVEL GEAR

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

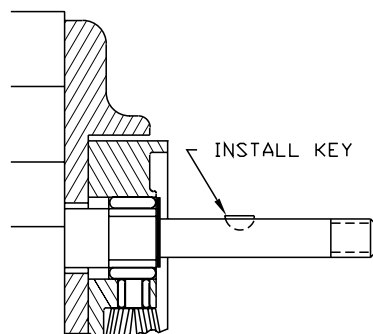


LOOSEN SETSCREW

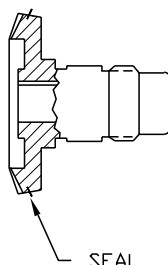


MANUALLY TURN HANDWHEEL. IF EXCESSIVE GEAR NOISE OR BINDING OCCURS, SHIMS NEED TO BE ADDED OR REMOVED, WHEN RE-SHIMMING, REPEAT STEPS 1 AND 2.

STEP 3
DOUBLE CHECK OF SHIMMING



INSTALL KEY



SEAL

STEP 4
LUBRICATION

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.

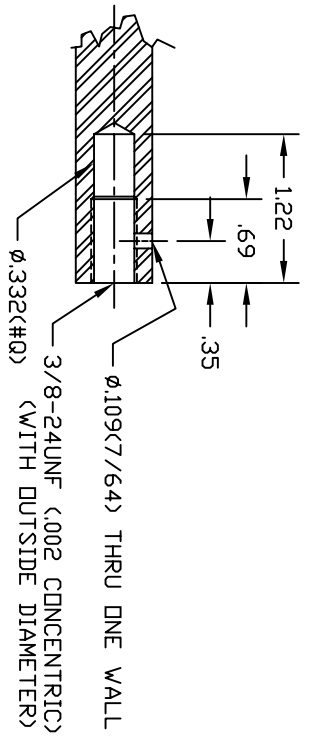
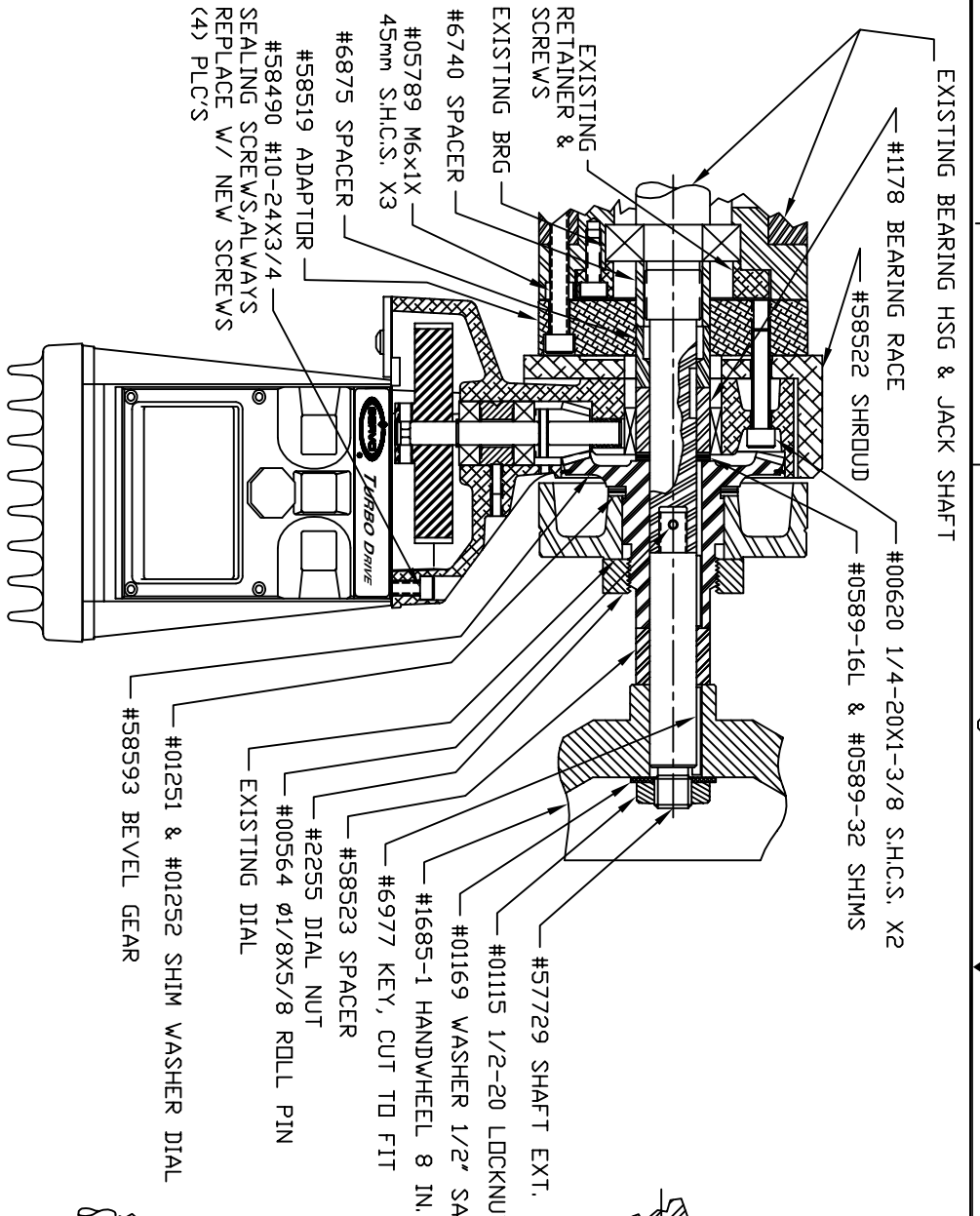


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BEVEL GEAR INSTALLATION

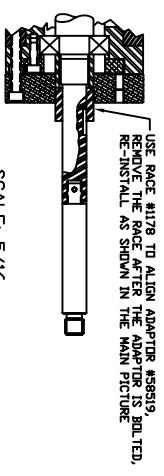
NA-58496

REVISION		DATE	DRAWN	CHECKED
ECD	LTR			
DESCRIPTION				



JACK SHAFT MACHINING FOR JACK SHAFT EXTENSION

- NOTES:
1. REVIEW ALL INSTALLATION INSTRUCTIONS AND OPERATION SHEETS BEFORE TURNING ON SERVO POWER FEED.
 2. REMOVAL OF MOTOR, KEY PAD AND BOTTOM HOUSING VOIDS THE WARRANTY.



SCALE: 5/16

UNLESS OTHERWISE SPECIFIED PERPENDICULARITY, PARALLELISM, STRAIGHTNESS, FLATNESS, ROUNDNESS, CONCENTRICITY, CYLINDRICITY TO BE WITHIN .01 TOTAL OR .040/√L 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 .XX ± .005 ± 1/2°	DRAWN M.W.U	DATE 4/12/00
CHECKED		

CONTRACT NO.	APPROVALS	DATE
APPLICATION	USED ON	
NEXT ASSY		

SERVO PRODUCTS COMPANY
 433 N. FAIR GATE AVE., PASADENA CALIFORNIA 9103

INSTALLATION DRAWING,
MODEL 1582T
STD. LAGUN

SIZE	CODE IDENT NO.	DRAWING NO.	REV.
B	0800-80817	NB-58981	A
SCALE		SHEET	OF