SERVO *TURBO DRIVE* INSTALLATION

MODEL 9508T CROSS FEED
Acer, Kent, Webb & Others

➔ **NOTE** This Turbo Drive Cross Feed is configured for mounting the feed on the front of the knee with the keypad facing right. The lead screw pitch is 5 turns per inch left hand. 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 safety handwheel Servo #58923 on the front side of the cross. 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-58617	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.

    a) 3/8" electric hand drill
    b) 11/64" drill, 3/16" drill
    c) ball peen hammer & support piece
    d) flat file

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e) 3/4" socket wrench
f) set of inch hex wrenches
g) clean shop rag

Step 2: Clean the power feed mounting area completely.

Step 3: Remove the nut, handle, and dial assembly from the front end of the cross. Keep the dial for reuse later.

MOUNTING HARDWARE INSTALLATION

Step 1: Replace the existing bearing retainer with #6544 bearing retainer provided.

Step 2: Slip the bearing race #0714 onto the lead screw shaft.

Step 3: Keeping a portion of the bearing race exposed on the counterbored end of the adaptor for later retrieval, slide the adaptor #57237 over the bearing race and hold against the cross bracket (bearing housing).

Step 4: Orient the mounting holes on the adaptor such that the power feed can be mounted vertically. Secure with three 1/4-20 x 1" long socket head cap screws #00586. Remove the bearing race.

Step 5: Slip spacer #6836 onto the shaft followed by the bearing race.

SHAFT EXTENSION AND TURBO DRIVE INSTALLATION

Step 1: Screw on the shaft extension #57726 onto the lead screw and tighten.

Step 2: Following the existing pilot hole, drill through the shaft extension using an 11/64" diameter drill. Finish the hole using a 3/16" diameter drill.

Step 3: Support the other side of the hole with a heavy piece of metal and hammer in the #00596 roll pin. File smooth and clean thoroughly.

Step 4: Slide the Turbo Drive onto the bearing race and push against the adaptor. Secure with two 1/4-20 x 1-1/8" 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-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 key, spacer #57716, dial and dial nut #2255. Slide the handwheel #58923 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.
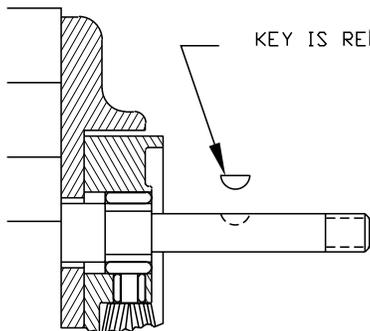
KEY IS REMOVED DURING SHIMMING
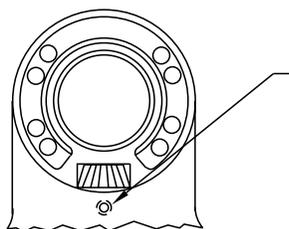
TIGHTEN SLIGHTLY (HOLDS
BEVEL PINION STATIONARY
DURING SHIMMING.)
(TIGHTEN UPPER ONE ONLY)

STEP 1
PREPARATION
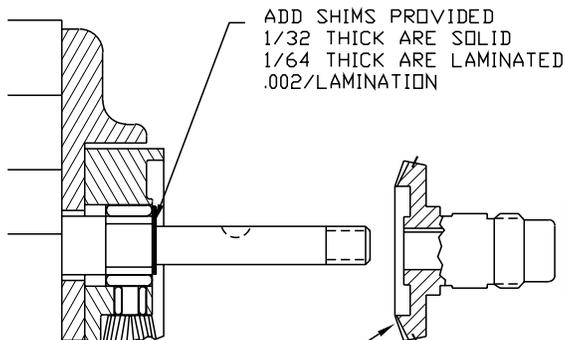
ADD SHIMS PROVIDED
1/32 THICK ARE SOLID
1/64 THICK ARE LAMINATED
.002/LAMINATION
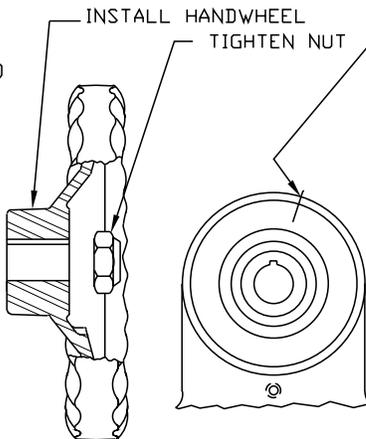
INSTALL HANDWHEEL
TIGHTEN NUT

SCRIBE ACROSS GEAR & HOUSING
WHILE PUSHING GEAR AGAINST
ONE SIDE OF THE BACKLASH
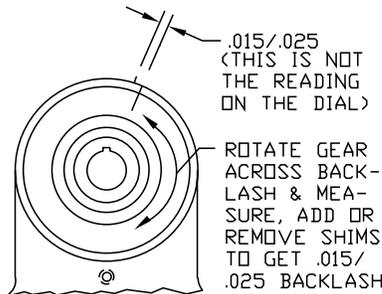
.015/.025
(THIS IS NOT
THE READING
ON THE DIAL)

ROTATE GEAR
ACROSS BACK-
LASH & MEA-
SURE, ADD OR
REMOVE SHIMS
TO GET .015/
.025 BACKLASH

STEP 2
SHIMMING BEVEL
GEAR

PUSH BEVEL GEAR
AGAINST SHIMS.

CAUTION: IF BACKLASH
IS NOT PROPERLY SET
BEFORE TURNING UNIT ON,
BEVEL GEAR MAY BE
DESTROYED.
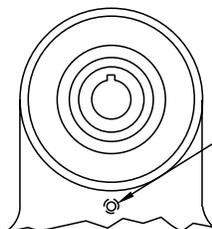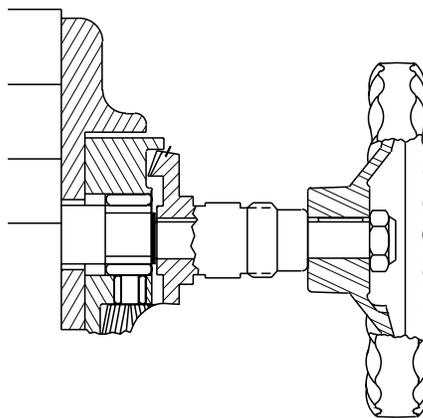
MANUALLY TURN HANDWHEEL.
IF EXCESSIVE GEAR NOISE
OR BINDING OCCURS, SHIMS
NEED TO BE ADDED OR RE-
MOVED, WHEN RE-SHIMMING,
REPEAT STEPS 1 AND 2.

LOOSEN SETSCREW

STEP 3
DOUBLE CHECK OF SHIMMING
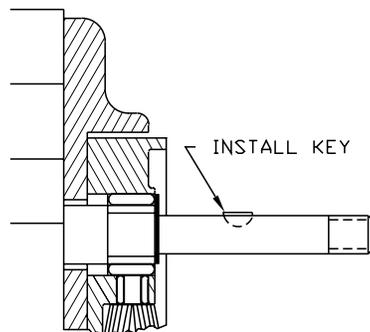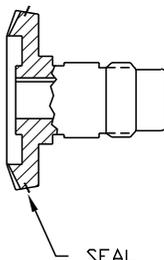
REMOVE GEAR, PACK WITH GREASE.
(DO NOT USE SILICONE TYPE GREASE)
REPLACE GEAR.
(DO NOT LOSE ANY SHIMS)

PICTURES IN THIS DRAWING ARE FOR
REFERANCE ONLY. SEE INSTALLATION
DRAWING OF CORRESPONDING MODEL
FOR EXACT PARTS CONFIGURATION.

INSTALL KEY

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BEVEL GEAR INSTALLATION

NA-58496

STEP 4
LUBRICATION

SEAL

EXISTING SCREWS

#6544 BEARING RETAINER
#57237 ADAPTOR
#6836 SPACER
#00586 1/4-20X1" S.H.C.S. X 2
#0714 BEARING RACE
#1388 BEVEL GEAR SEAL
#0589-16L (LAMINATED) & #0589-32 (SOLID) SHIM WASHER
#01251 & #01252 SHIM WASHER DIAL
EXISTING 3 X 30 mm PARALLEL KEY
#2255 DIAL NUT
#58923 HAND WHEEL

#00586 1/4-20X1"
S.H.C.S. X 3
DO NOT BOTTOM OUT, USE
WASHERS #04964 IF REQ'D

#58490 #10-24X3/4" SEALING SOC. HD. CAP SCREWS
ALWAYS REPLACE WITH NEW ONES
#5488 BEVEL GEAR
#00564 1/8 X 5/8 ROLL PIN
#01115 1/2-20 LOCK NUT
#57226 SHAFT EXTENSION

USE RACE #0714 TO ALIGN THE ADAPTOR #57237,
REMOVE THE RACE AFTER THE ADAPTOR IS BOLTED
DOWN, RE-INSTALL AS SHOWN IN THE MAIN PICTURE

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

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

INSTALLATION DRAWING
MODEL 9508T
KENT 3VK,& 5VK,ACER 3VS,& 3VK

| SIZE B | CODE IDENT NO. | DRAWING NO. | REV. |
| 0800-80725 | NB-58617 | A |

SCALE 5/8 | SHEET | OF

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
DRAFTING STANDARD PER ANSI Y14.5M-1982

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

MATERIAL
FINISH

CONTRACT NO.
APPROVALS
DRAWN T. KU 09/14/98
CHECKED

NEXT ASSY
USED ON
APPLICATION

DO NOT SCALE DRAWING

COMPUTER NO.

REVISION
ECO | LTR | DESCRIPTION | DATE | DRAWN | CHECKED