



TURBO DRIVE INSTALLATION

MODEL 0280T KNEE FEED

Bridgeport Mill & Others

- ➔ **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-58543	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) 1/8" drill
- c) stone

- d) flat file
- e) 3/4" socket wrench
- f) set of inch hex wrenches
- g) grease
- h) clean shop rag

Step 2: Clean the power feed mounting area completely.

Step 3: Remove the dial nut, dial, and dial carrier. (Turn the dial carrier counterclockwise to remove.) Keep the dial for reuse later.

Step 4: Inspect the jack shaft for any dents and/or upset marks. If necessary, stone away all the high spots to fit the shaft extension.

Step 5: Clean the jack shaft thoroughly, then lubricate with a light coat of grease.

Step 6: Screw on the shaft extension #58546 and tighten.

Step 7: Finish drill 1/8" diameter through both parts following the existing pilot hole on the shaft extension.

Step 8: Pin the shaft extension with the 1/8" diameter x 3/4" long roll pin. File smooth.

For type 1 mounting:

Slide adaptor spacer #58547 over the shaft extension. Orient as shown in View E and tighten using three 1/4-20 x 1-1/8" long socket head cap screws. Be sure it is centered around the shaft extension so that it does not rub.

For type 2 & type 3 mounting:

Replace the existing bearing retainer with the one provided. Orient the retainer as shown in View K-K for type 2 or as shown in View H-H for type 3. Tighten using existing screws. Slide adaptor spacer #58547 over the shaft extension. Orient as shown in View E and tighten using three 1/4-20 x 5/8" long socket head cap screws. Be sure it is centered around the shaft extension so that it does not rub.

TURBO DRIVE INSTALLATION

Step 1: Slide spacer (if needed) #5561 onto the shaft extension followed by bearing race #6321.

Step 2: Slide the Turbo Drive onto the bearing race and push against the adaptor. Secure with three 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 $\pm.05$ ", then either shim behind the race or grind the race 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, dial, dial nut #59254 and spacer #58208. Slide the handwheel #1685-1 and washer 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

Web: www.servoproductsco.com

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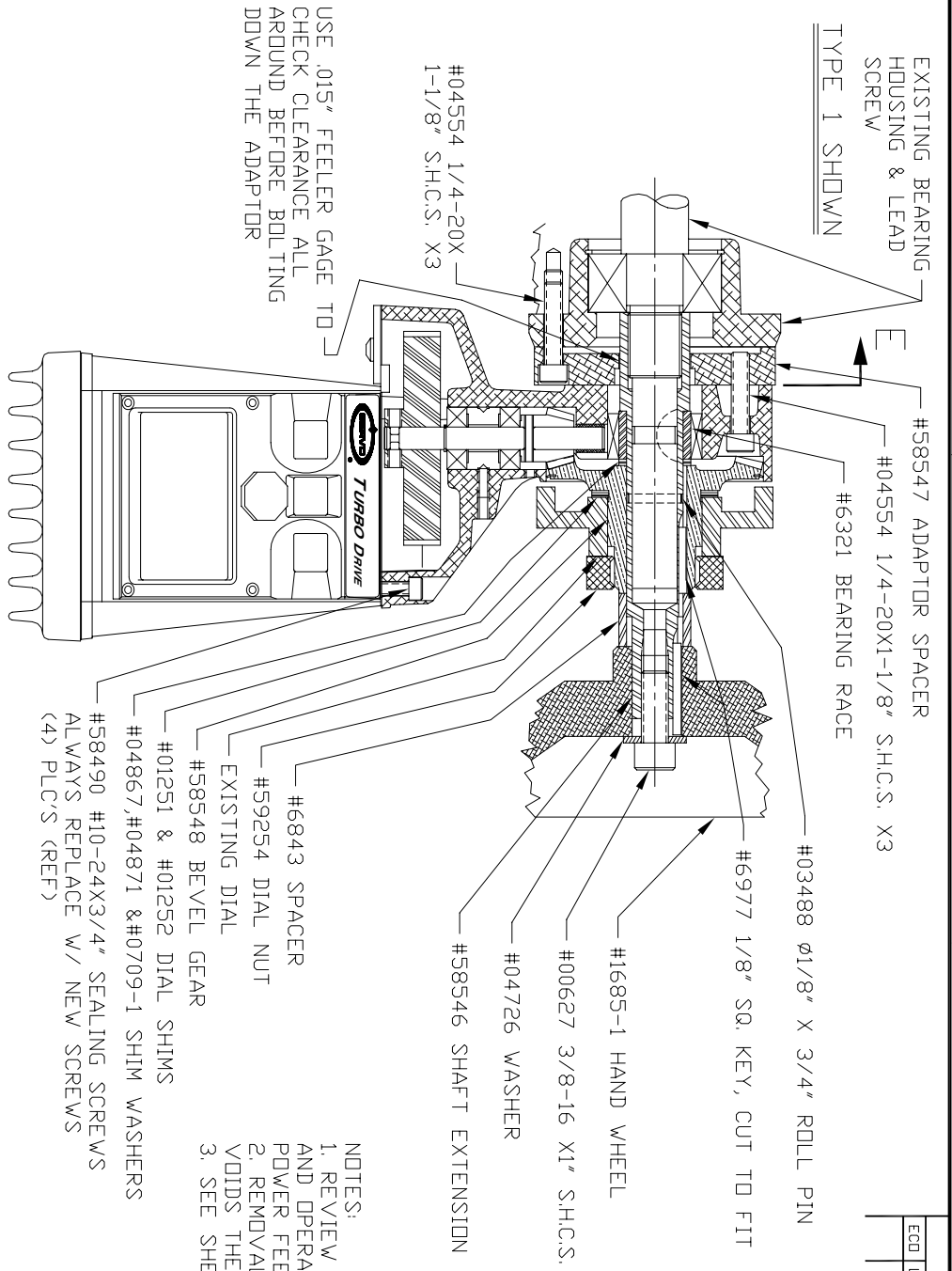
HEADQUARTERS

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Eastlake, OH 44095
Ph. 440.942.9999 Fax 440.942-9100

FLORIDA BRANCH

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Largo, FL 33773
Ph. 727.585.8555 Fax 727.585.6555

REVISION			
ECO	LTR	DATE	DRAWN CHECKED



EXISTING BEARING HOUSING & LEAD SCREW
TYPE 1 SHOWN

#58547 ADAPTOR SPACER

#40554 1/4-20X1-1/8" S.H.C.S. X3

#6321 BEARING RACE

USE .015" FEELER GAGE TO CHECK CLEARANCE ALL AROUND BEFORE BOLTING DOWN THE ADAPTOR

#03488 ϕ 1/8" X 3/4" ROLL PIN

#6977 1/8" SQ. KEY, CUT TO FIT

#1685-1 HAND WHEEL

#00627 3/8-16 X1" S.H.C.S.

#04726 WASHER

#58546 SHAFT EXTENSION

#6843 SPACER

#59254 DIAL NUT

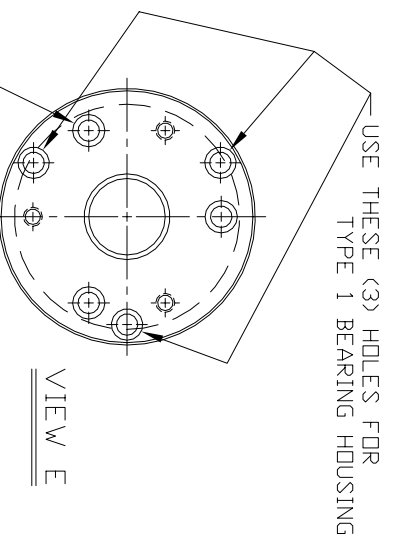
EXISTING DIAL

#58548 BEVEL GEAR

#01251 & #01252 DIAL SHIMS

#04867, #04871 & #0709-1 SHIM WASHERS

#58490 #10-24X3/4" SEALING SCREWS ALWAYS REPLACE W/ NEW SCREWS (4) PLCS (REF)



USE THESE (3) HOLES FOR TYPE 1 BEARING HOUSING

USE THESE (3) HOLES TO MOUNT THE ADAPTOR SPACER TO BEARING RETAINER USED IN TYPE 2 & 3

VIEW E

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.
3. SEE SHEET 2 FOR MORE DETAIL.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & FRACTIONS DECIMALS \pm 1/2° ANGLES \pm .005

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & FRACTIONS DECIMALS \pm 1/2° ANGLES \pm .005

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & FRACTIONS DECIMALS \pm 1/2° ANGLES \pm .005

CONTRACT NO.	APPROVALS	DATE
	T.KU	8/3/98
CHECKED		

SERVO PRODUCTS COMPANY
34940 LAKELAND BLVD., EASTLAKE, OHIO 44095

INSTALLATION
MODEL 0280T
BRIDGEPORT

SIZE CODE IDENT NO. DRAWING NO. REV.
B 0800-80715 NB-58543 B

SCALE 5/8 SHEET 1 OF 2

A

3

2

1

4

3

2

1

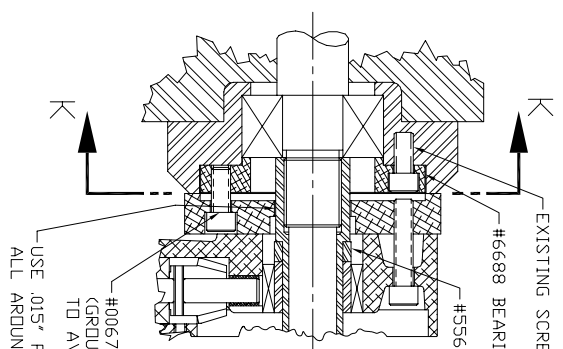
A

B

C

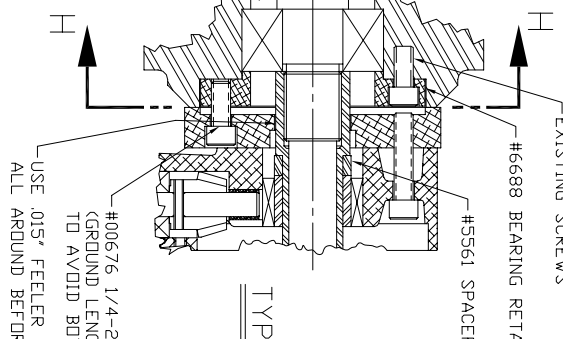
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REVISION		DATE	DRAWN	CHECKED
ECD	LTR			
DESCRIPTION				



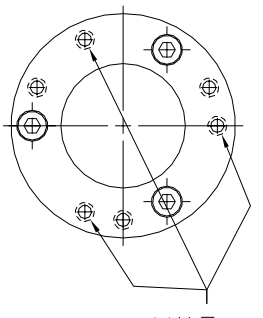
TYPE 2

USE .015" FEELER GAGE TO CHECK CLEARANCE ALL AROUND BEFORE BOLTING DOWN THE ADAPTOR



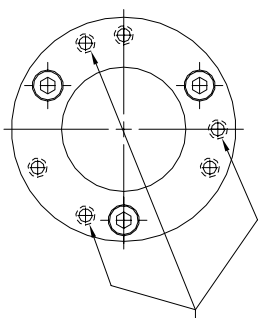
TYPE 3

USE .015" FEELER GAGE TO CHECK CLEARANCE ALL AROUND BEFORE BOLTING DOWN THE ADAPTOR



VIEW K-K
TYPE 2 ONLY

USE THESE 3 HOLES ON BEARING RETAINER



VIEW H-H
TYPE 3 ONLY

USE THESE 3 HOLES ON BEARING RETAINER

- 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.
 3. SEE SHEET 1 FOR MORE DETAIL.

UNLESS OTHERWISE SPECIFIED PERIODICALLY FLARE, BLANK, STRAIGHTNESS, FINISH, ROUNDNESS, CONCENTRICITY, CYLINDRICITY TO BE WITHIN .01 TOTAL OR .040/FT. SURFACE ROUGHNESS WITHIN 125 REMOVE SHARP CORNERS AND EDGES .005 MIN. DRAFTING STANDARD PER ANSI Y14.3M-1982

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APPLICATION	USED ON
NEXT ASSY	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & FRACTIONS AFTER PLATING
 DECIMALS ± 1/64 ANGLES ± 1/2°
 MATERIAL XX ± .015 XXX ± .005

FINISH	DD NOT SCALE DRAWING

CONTRACT NO.	DATE
APPROVALS	8/3/98
DRAWN T.KU	
CHECKED	

COMPUTER NO.


 SERVO PRODUCTS COMPANY
 34940 LAKELAND BLVD., EASTLAKE, OHIO 44095

INSTALLATION
 MODEL 0280T
 BRIDGEPORT

SIZE B	CODE 0800-80715	DRAWING NO. NB-58543	REV. B
SCALE 5/8		SHEET 2	OF 2