



TURBO DRIVE INSTALLATION

MODEL 2580T

General Purpose Knee Lift

➔ **NOTE** This Turbo Drive is configured as if the feed were going to be mounted on the right hand end of a mill table. The lead screw pitch is 5 turns per inch. 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-58620 (3 sheets)	Turbo Drive Installation
0800-80678	Turbo Drive Operation manual

PREPARATION

➔ **NOTE** Carefully study all three sheets of the installation drawing NB-58620 to determine the best configuration for your machine. Features of different configurations can be combined, if required.

Step 1: Remove nut, handle, dial assembly and key (or similar parts on the feed screw shaft) from the lead screw such that a

machined flat and square mounting face and screw support bearing are exposed. Save all parts, as they may be needed for modification and/or installation later.

Step 2: Take all necessary measurements. Shaft diameters and keyway widths must be measured accurately so that the bearing race, gear and keys can be fit snugly.

Step 3: Make all necessary modifications of existing parts and/or new parts following tolerance requirements noted on the installation drawing.

*** TIP** A simple layout can be very helpful.

Step 4: Select two of the eight holes on the feed housing for mounting of the unit.

Step 5: Referencing drawing NB-58620 for hole locations, drill and tap mounting face of the machine 1/4-20 x .75" deep. The two holes must be perpendicular to the mounting face and located within $\pm .010$ " from true position.

IF: If there is a bearing retaining plate, drill two clearance holes through at the same locations or even bolt the feed down to the bearing retainer itself. For the latter case, a good evaluation of the bearing retainer strength is strongly recommended.

TURBO DRIVE INSTALLATION

Step 1: Thoroughly clean the jack shaft and mounting area. Apply a thin coat of high pressure grease to the shaft and bare metal surfaces.

IF: If required, fabricate and install a shaft extension. Then pin the shaft extension to the jack shaft using the appropriate size roll pin from among those provided.

*** TIP** To thread the end of the jack shaft, pull it out of the mill after removing its front support bearing retainer. Use a slide hammer puller if necessary. Mount the jack shaft in a lathe to drill and tap concentrically.

Step 2: Slide the shaft spacer (if any) then the bearing race #0857 (.787" diameter), #0774 (.630" diameter) or #0470 (.625" diameter) onto the jack shaft.

Step 3: Install the spacer ring (if any) and Turbo Drive onto the lead screw. Tighten the two 1/4-20 mounting screws. Make sure that the bearing race is not binding with the needle bearing.

BEVEL GEAR INSTALLATION

IF: If needed, modify the bevel gear. See drawing NB-58620 for dimensions and Notes 1 and 3.

Step 1: See drawing NA-58496.

Step 2: Apply high pressure grease to the screw shaft. Install key and slide bevel gear onto shaft.

Step 3: Shim bevel gear to obtain backlash of .015/.025".

DIAL AND HANDWHEEL INSTALLATION

IF: If needed, modify the dial. See drawing NB-58620 for dimensions.

Step 1: The dial should be adjusted to obtain .005" spacing from the face of the Turbo Drive.

➔ **NOTE** 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: Secure dial using dial nut #2255.

Step 3: Slide handcrank onto the end of the shaft and tighten with 1/2-20 lock nut #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.

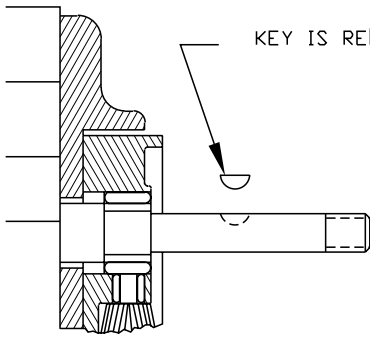
SERVO PRODUCTS COMPANY

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

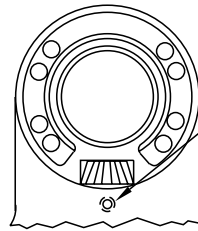
Web: www.servoproductsco.com

If service is required, call Servo Products Company.

DO NOT PLUG IN POWER UNTIL ALL STEPS ARE COMPLETED.

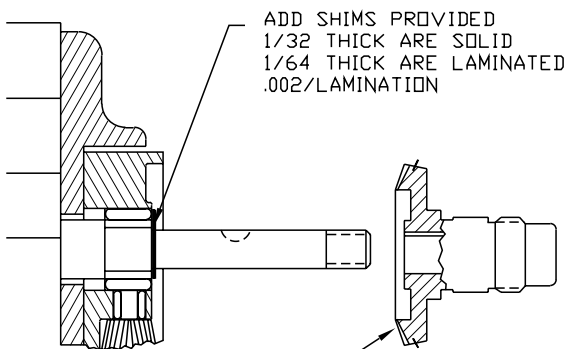


KEY IS REMOVED DURING SHIMMING

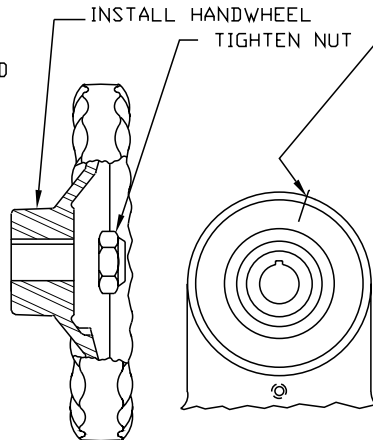


TIGHTEN SLIGHTLY (HOLDS BEVEL PINION STATIONARY DURING SHIMMING.)
(TIGHTEN UPPER ONE ONLY)

STEP 1
PREPARATION



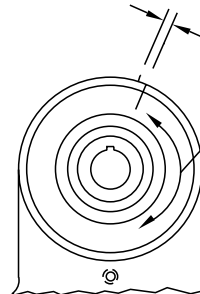
ADD SHIMS PROVIDED
1/32 THICK ARE SOLID
1/64 THICK ARE LAMINATED
.002/LAMINATION



INSTALL HANDWHEEL

TIGHTEN NUT

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



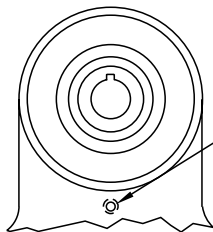
.015/.025
(THIS IS NOT THE READING ON THE DIAL)

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

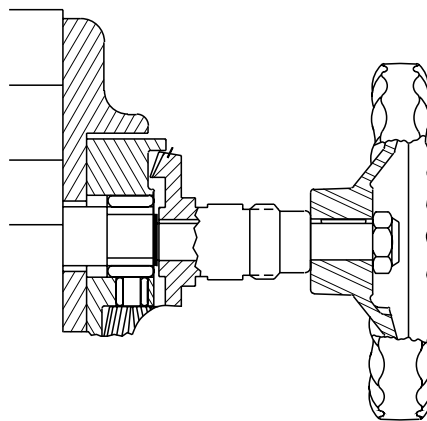
PUSH BEVEL GEAR AGAINST SHIMS.

STEP 2
SHIMMING BEVEL GEAR

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

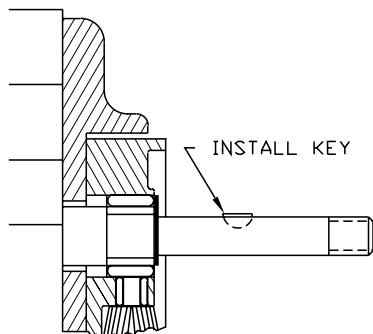


LOOSEN SETSCREW

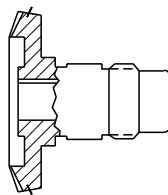


MANUALLY TURN HANDWHEEL. IF EXCESSIVE GEAR NOISE OR BINDING OCCURS, SHIMS NEED TO BE ADDED OR REMOVED, WHEN RE-SHIMMING, REPEAT STEPS 1 AND 2.

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.

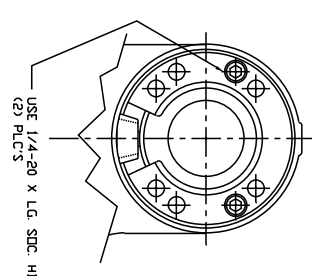
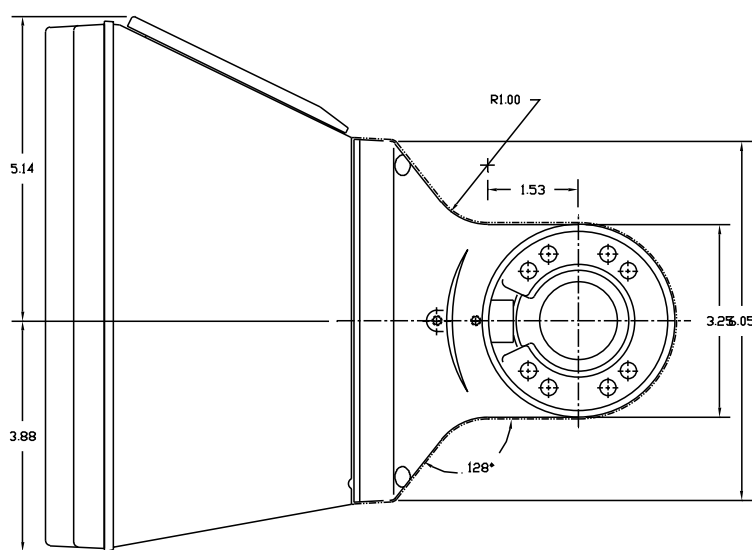
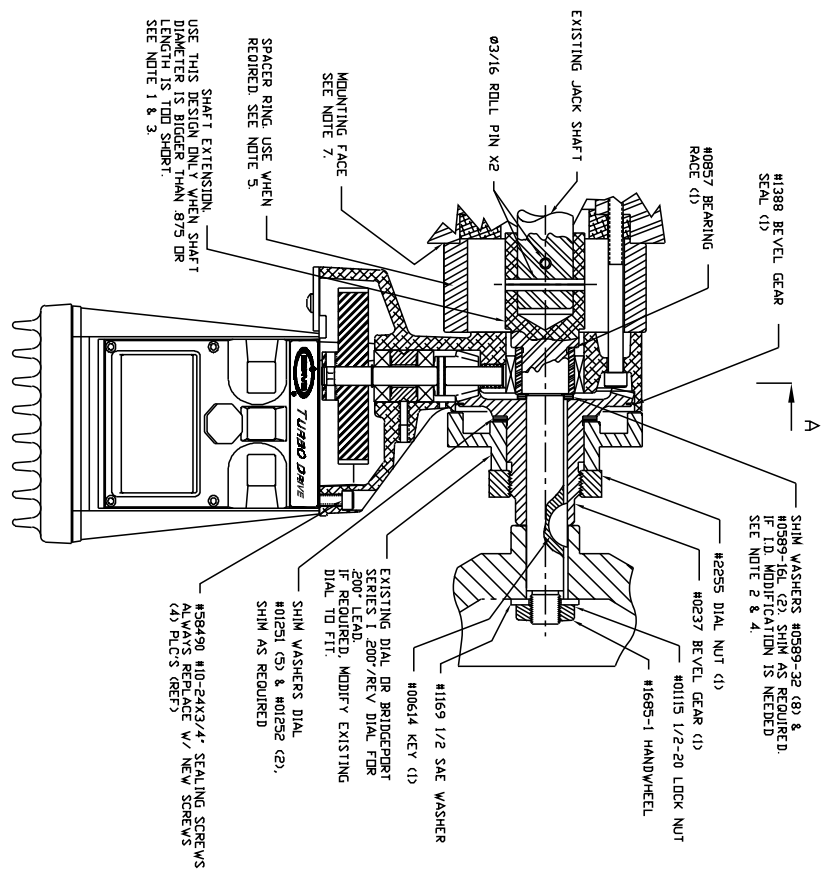


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BEVEL GEAR INSTALLATION

NA-58496

REVISION		DATE	DRAWN	CHECKED
ECD	LTR			
DESCRIPTION				



15. SEE SHEETS 1 & 3 FOR MORE DETAILS.

- NOTES:
- 13. REGARDLESS OF THE CONFIGURATION, THE EXISTING BEARING THRUST PRELOAD MUST NOT BE DISTURBED.
 - 14. CLAMPING OF SPACER, BEARING RACE, ETC. AGAINST INNER RACE OF EXISTING BALL BEARING IS O.K. ONLY WHEN THE INNER RACE IS CLAMPED ORIGINALLY. THE SHOULDER BEHIND THE BALL BEARING MUST BE SQUARE AND FULL CIRCLE.

CONFIGURATION II

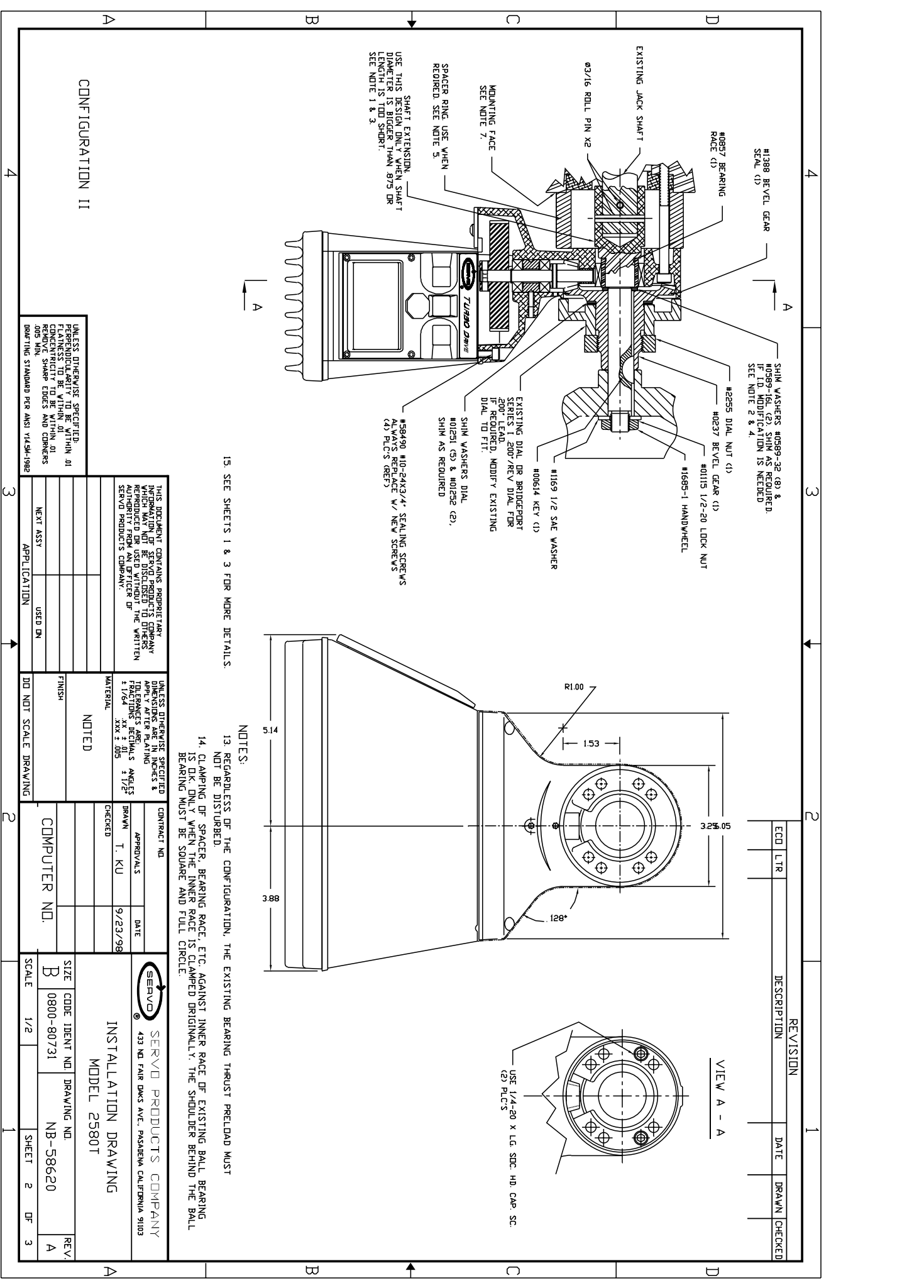
UNLESS OTHERWISE SPECIFIED, PERPENDICULARITY TO BE WITHIN .01 CONCENTRICITY TO BE WITHIN .01 REMOVE SHARP EDGES AND CORNERS .005 MIN. DRAWING STANDARD PER ANSI Y14.5M-1982

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APPLICATOR	USED ON
APPLICATION	

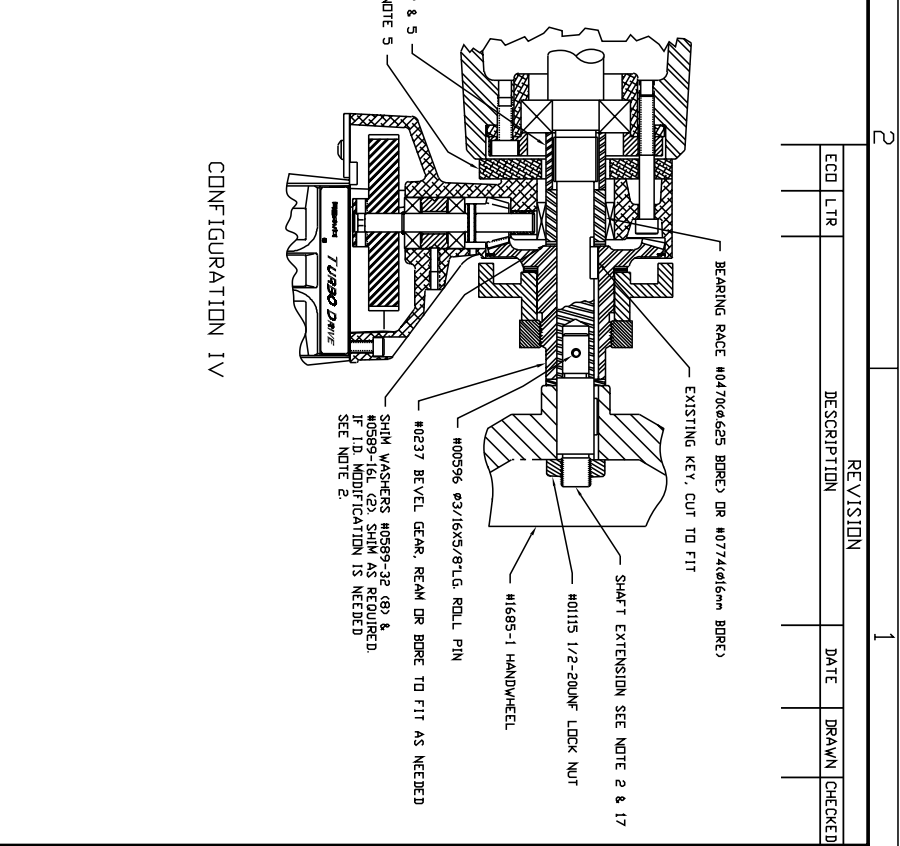
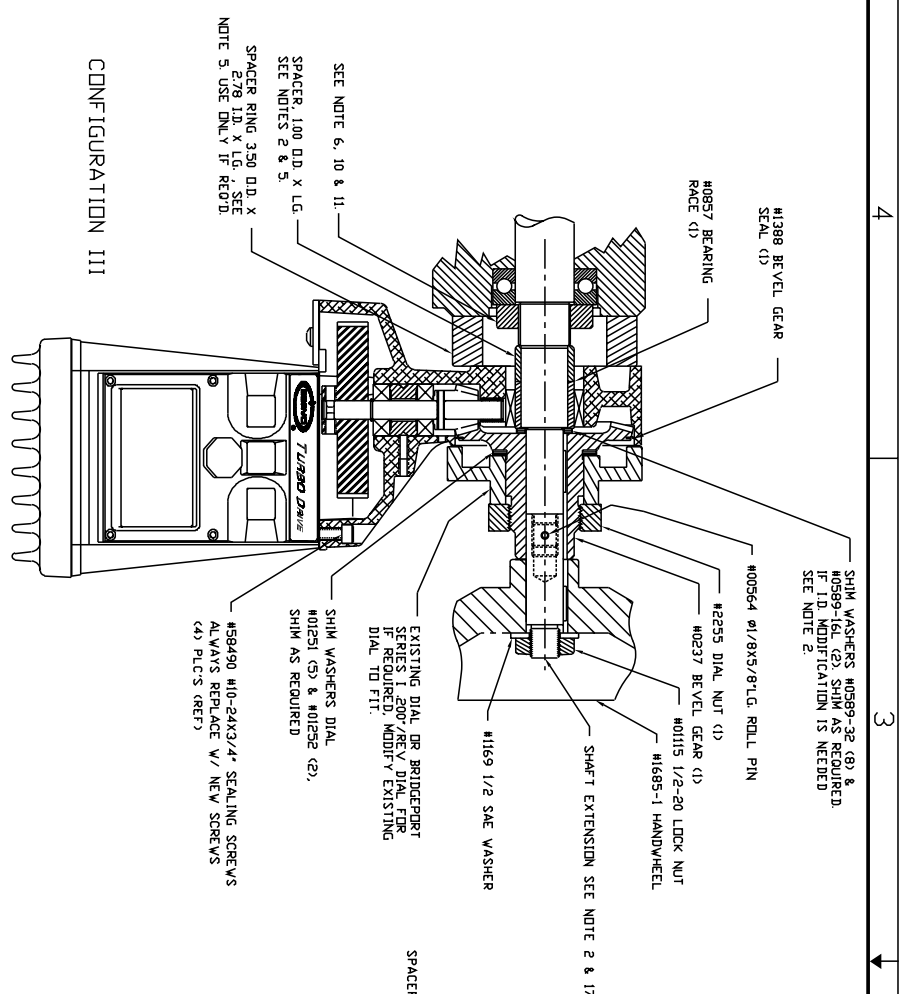
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CONTRACT NO.	APPROVALS	DATE	CHECKED	SIZE	CODE	IDNT NO.	DRAWING NO.	REV.
	T. KU	9/23/98		B	0800-80731		NB-58620	A

INSTALLATION DRAWING
MODEL 2580T



REVISION		DATE	CHECKED
ECD	LTR		
DESCRIPTION			



- NOTES: 16. SEE SHEETS 1 & 2 FOR MORE DETAILS.
 17. REMOVE THE JACK SHAFT FROM THE MACHINE TO TURN THREADS DR BORE HOLE ON A LATHE FOR GOOD CONCENTRICITY.
 18. FEATURES IN DIFFERENT CONFIGURATIONS CAN BE COMBINED TO RENDER A DESIGN THAT BEST FIT A MACHINE.

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APPLICATION		FINISH		CHECKED		DRAWING NO.	
USED ON		DID NOT SCALE DRAWING		COMPUTER NO.		DRAWING NO.	
SCALE 1/2		SIZE CODE IDENT NO.		DRAWING NO.		REV. A	
3		2		1		3	

INSTALLATION DRAWING
 MODEL 2580T

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