Service Bulletin [1996-5]

V3-12 Pinion Shaft Assembly (Besser No. 464229) Installation with Locking Assembly

Easily remove and replace the pinion on your V3-12! Besser now has available a locking assembly for the V3-12 pinion shaft and gear (interchangeable on all V3-12 concrete products machines).

Install shaft assembly in machine and tighten bearing caps. Apply pressure to drive end of shaft (pulley end) to assure shaft if fully seated against inner bearing race. Slide pinion gear and locking device on the shaft. Use tool No. 467006 to make sure the shaft is seated to bearing and pinion is tight against spacer. Then tighten the locking device per instructions enclosed in the package. These instructions are on an 8-1/2" x 11" sheet, located within the shipping box, entitled “Installation and Removal Instructions for Series B-112 Locking Assemblies.”

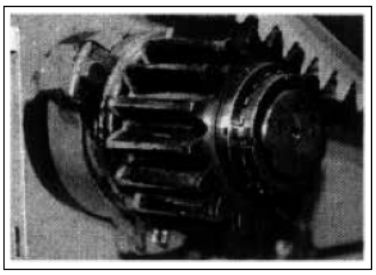

Fig. 1 - View of old style pinion.

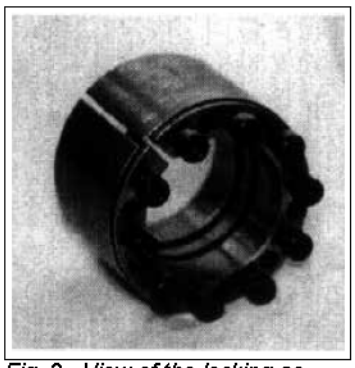

Fig. 2 - View of the locking assembly.

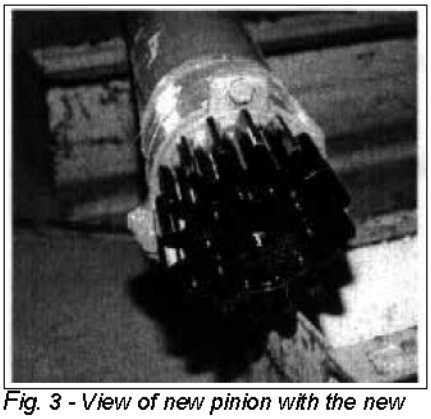

Fig. 3 - View of new pinion with the new locking assembly.

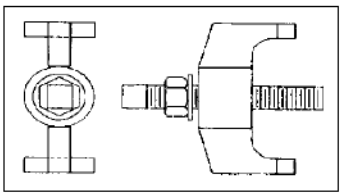

Fig. 4 - Tool No. 467006 Torque to 90 ft. lbs. (135 Newton Meters)

KEY	PART NO.	PCS.	DESCRIPTION
	464229		**Pinion Shaft Assembly (Includes Keys 1 thru 13)**
1	114289	1	Locking assembly
2	464228	1	Pinion - 16 tooth - 20 degree pressure angle
3	016700	2	Bearing spacer
4	16698J0010	2	Closure-sub-assembly
5	081434	1	Fafnir bearing
6	016699	2	Inside bearing retainer
7	464227	1	Shaft
8	446624	1	Tubing - sub-assembly
9	088036	6	Hex head cap screw - ½ x 2-1/4
10	087806	6	Hex nut - 1/2" - 13 N.C.
11	087881	6	Lockwasher - 1/2"
12	081413	1	Fafnir bearing - No. 215W
13	112161	1	Hex key - 6mm
	467006	1	Pinion loading tool sub-assembly

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INSTALLATION AND REMOVAL INSTRUCTIONS FOR SERIES B-112 LOCKING ASSEMBLIES
Series B-112 locking assemblies fit straight-thru hub bores. Their unique design assures a concentric fit without the use of pilot bushings or a pre-centering hub section.

INSTALLATION

Locking assemblies are supplied ready for installation. However, if for some reason they have to be disassembled, make sure that in addition to lined-up slits in all collars, near and far-side clamp collars are not reversed. They are assembled correctly only if there are no holes or threads behind taps in clamp collar item No. 1. Likewise, there must be no threads behind taps in center collar item No. 3 as illustrated in Fig. 2. The frictional torque capacity of these devices is based on a coefficient of friction of 0.12 for lightly oiled screw, taper, or shaft and bore contact areas. Therefore, it is important not to use Molybdenum Disulfide, e.g. Molykote, Never-Seeze or similar lubricants in any locking assembly installation.

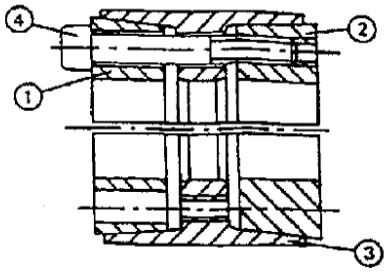

Figure 1

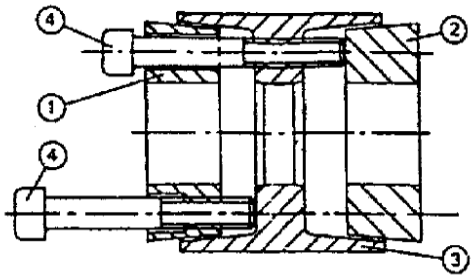

Figure 2

REMOVAL (refer to fig. 2)

1. Make sure shaft and bore contact areas are clean and lightly oiled.

2. Loosen all locking screws by a minimum of 2 turns and transfer at least 2 screws to push off threads in clamp collar item no. 1 and center collar item no. 3 in order to disengage tapers for easy installation of locking assembly (see Fig. 2.).

3. After installation of locking assembly, relocate locking screws used for separation of collars.

4. Hand-tighten connection and assure that collar item No. 1 is parallel with face of part to be attached to shaft.

5. Use torque wrench and set it approximately 5% higher than a specified torque Ma. Torque screws in either a clockwise or counter clockwise sequence, using only 1/4 turns (It is not necessary to tighten in a diametrically opposite pattern) for several passes until 1/4 turns can no longer be achieved.

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6. Still apply over-torque for 1 to 2 more passes. This is required to compensate for a system-related relaxation of locking screws since tightening of a given screw will always relax adjacent screws. Without over-torquing an infinite number of passes would be needed to reach specified tightening torque.

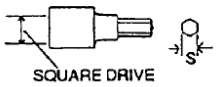
7. Reset torque wrench to specified torque and check all locking screws. No screw should turn at this point, otherwise repeat step “6” for 1 or 2 more passes. After torqueing locking assembly, wait for 30 minutes, then re-torque to specified torque value to ensure the locking assembly has not loosened. It is not necessary to re-check tightening torque after equipment has been in operation.

NOTE: In installations subjected to extreme corrosion, the slits in clamp collars item “1” and “2” as well as in center collar item “3” should be sealed with a suitable caulking compound or otherwise.

LOCKING ASSEMBLY		SCREW SIZE Metric Din 912 Grade 12.9	Tight Torque M ft-lb.
METRIC SIZES	INCH SIZES		
45 x 75 to 65 x 95	1-1/2 to 2-9/16	M8 x 50	30

HEX BIT SOCKET SIZES RECOMMENDED FOR ASS'Y & REMOV-

Screw Size	M8
S (mm)	6
Drive	1/4"



IMPORTANT! Make sure ends of locking screws used for removal are ground flat and ends are slightly chamfered to eliminate damage to screw and collar threads during pushoff.

1. Check to assure that axial movement of clamp collars - necessary for release of connection - is not restricted.

2. Remove all locking screws and transfer some into all push-off threads in clamp collar item “1”.

3. Release collar “1” by progressively tightening all push-off screws. Typically, the push-off screws appear to be completely tight after just one pass of tightening without any noticeable separation. Although it seems that screws cannot be tightened further, several more rounds of torqueing in a clockwise (or counter clockwise) sequence actually add more push-off force to the system and ultimately release part of the front collar. Afterwards, only the screws which are still tight should be tightened further until complete dismounting is achieved.

4. Transfer locking screws used for dismounting of collar “1” to all push-off threads in center collar item “3”. Release collar “2” by repeating procedures outlined in Step 3.

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SAFETY BULLETIN

This notice is issued to advise you that some previously accepted shop practices may not be keeping up with changing Federal and State Safety and Health Standards. Your current shop practices may not emphasize the need for proper precautions to insure safe operation and use of machines, tools, automatic loaders and allied equipment and/or warn against the use of certain solvents or other cleaning substances that are now considered unsafe or prohibited by law. Since many shop practices may not reflect current safety practice and procedures, particularly with regard to the safe operation of equipment, it is important that you review your practices to ensure compliance with Federal and State Safety and Health Standards.

IMPORTANT

The operation of any machine or power-operated device can be extremely hazardous unless proper safety precautions are strictly observed. Observe the following safety precautions:

ALWAYS:

- ✓ Be sure proper guarding is in place for all pinch, catch, shear, crush, and nip points.
- ✓ Be sure that all personnel are clear of the equipment before starting it.
- ✓ Be sure the equipment is properly grounded.
- ✓ Turn the main electrical panel off and lock it out in accordance with published lockout/tagout procedures prior to making adjustments, repairs, and maintenance.
- ✓ Wear appropriate protective equipment such as safety glasses, safety shoes, hearing protection, and hard hats.
- ✓ Keep chemical and flammable material away from electrical or operating equipment.
- ✓ Maintain a safe work area that is free from slipping and tripping hazards.
- ✓ Be sure appropriate safety devices are used when providing maintenance and repairs to all equipment.

NEVER:

- ✓ Exceed the rated capacity of a machine or tool.
- ✓ Modify machinery in any way without prior written approval of the Besser Engineering Department.
- ✓ Operate equipment unless proper maintenance has been regularly performed.
- ✓ Operate any equipment if unusual or excessive noise or vibration occurs.
- ✓ Operate any equipment while any part of the body is in the proximity of potentially hazardous areas.
- ✓ Use any toxic flammable substance as a solvent cleaner.
- ✓ Allow the operation or repair of equipment by untrained personnel.
- ✓ Climb or stand on equipment when it is in operation.

It is important that you review Federal and State Safety and Health Standards on a continual basis. All shop supervisors, maintenance personnel, machine operators, tool operators, and any other person involved in the setup, operation, maintenance, repair or adjustment of Besser-built equipment should read and understand this bulletin and Federal and State Safety and Health Standards on which this bulletin is based.