All-Pro Variable Speed Sheave (Collet Style)

Installation & Maintenance Manual

P-5033-TBW
Form 1088

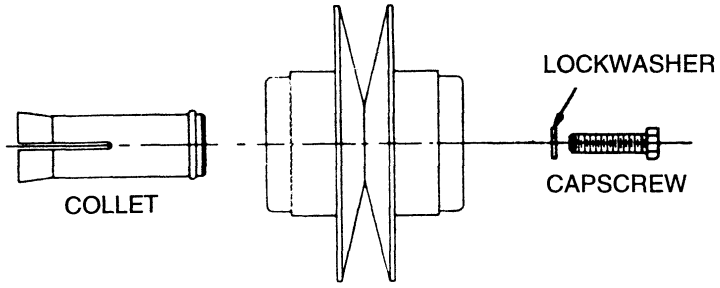
TB Wood's®
Altra Industrial Motion

Installation Instructions

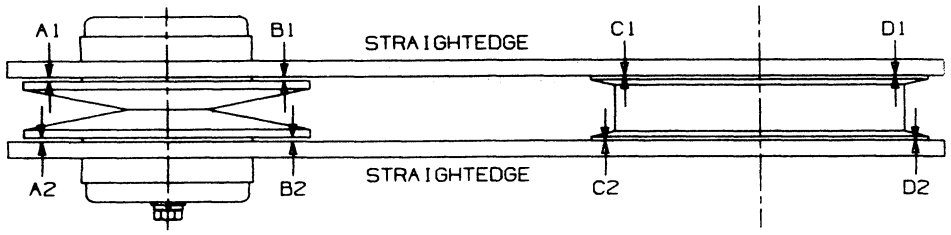
NOTE: This manual is to be used in conjunction with the installation instructions packaged with the other component parts of this drive. The following instructions are based on the assumption that the companion has already been properly installed and the motor and motor base are in location. All related component instructions should be closely followed and available for reference during installation.

1. Inspect motor shaft for nicks and burrs and remove if present. Remove the key. The key is **not** used with All-Pro collets.

2. Place the collet on the motor shaft. Push the All-Pro sheave over the collet until the tapers are slightly engaged. Insert the hex head capscrew with its lockwasher into the hole on the outboard end of the All-Pro and engage the threads in the collet. Finger tighten this capscrew.



3. Align sheave using four-point alignment method shown below. Place string or straightedge across companion and All-Pro sheave. The All-Pro sheave should be mounted as close to the motor housing as possible. If the parallel offset is more than 1/2", reposition motor base instead of moving sheave on shaft. To achieve correct angular alignment, swivel motor on base. Sheaves are properly aligned when gap A1 = A2 = B1 = B2 and C1 = C2 = D1 = D2.



4. Use a torque wrench to tighten capscrew in collet to value shown in chart below.

Sheave Model	Collet Size	Torque (ft. lbs.)
AP225P	AP1C	40
AP260T, AP260U	AP2C	65
AP255W, AP255S, AP321W, AP322W & AP323W	AP3C	90

CAUTION: Failure to use the proper torque values during installation can result in damaging sheave, collet or motor shaft.

5. Adjust motor base to move variable sheave as far away from companion sheave as possible and check alignment once again. Alignment must be good at both ends of motor base travel. Make alignment corrections as required, then tighten motor to base and base to mounting surface as outlined in motor base installation instructions.

6. Adjust motor base to move All-Pro sheave as close to companion sheave as possible. Place the belt into the groove of each sheave. Seat the belt in the All-Pro sheave by adjusting the motor base to move the motor away from the companion while rotating the drive by hand.

CAUTION: Belts must **NOT** be pried over flanges of either sheave as this will damage the belt.
Drive **MUST** be rotated while center distance is adjusted to prevent damaging drive components.

WARNING
All rotating equipment must be properly guarded to prevent personnel from coming in contact with the drive. Failure to do so could result in serious injury.

7. Drive is now ready to operate.

Removal Instructions

1. Adjust motor base until sheave is at its maximum pitch position. Turn off motor lock out and tag power supply. Remove belt. The belt may need to be pulled down into the variable sheave to allow enough slack for removal.

2. Loosen and remove the collet capscrew from the outboard end of the sheave. Replace this with a back-off bolt of the size specified below. Thread the back-off bolt into the end of the sheave, to push the collet loose from the sheave.

Sheave Model	Collet Size	Back Off Bolt Size
AP225P	AP1C	5/8 - 18NF x 1-1/2" lg.
AP260T, AP260U	AP2C	5/8 - 18NF x 1-1/2" lg.
AP255W, AP255S, AP321W, AP322W & AP323W	AP3C	3/4 - 10NC x 1-3/4" lg.

Maintenance Instructions

(Key Inspection)

WARNING
Improper disassembly could cause injury. Internal spring under high compressive load. Read the following instructions completely before disassembling sheave.

The All-Pro sheaves feature dry lube, self-lubricating bearings. They must be installed at the factory and are not field replaceable items.

Only the drive keys are field replaceable. Should the drive keys be worn and need replaced, order the proper kit from the chart below. Each kit contains the correct number of keys to replace all the keys in one sheave.

Wood's will not supply any other parts from field replacement. To prevent potential injury, **do not** attempt to disassemble the sheave or replace any parts other than outlined below.

Model	Key Kit
AP225P	AP3K
AP260T, AP260U	AP4K
AP255W, AP255S, AP321W, AP322W, AP323W	AP5K

1. Match mark sheave as shown. This is **IMPORTANT** so that all parts can be reassembled in their original positions to maintain correct balance. See Fig. #1.

2. Place sheave under arbor press. Using a "U" shaped press fixture, compress the spring approximately 1/8" to remove the load from the retaining ring. See Fig. #2.

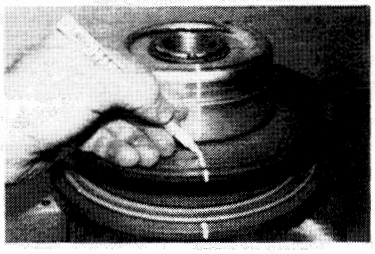


Figure 1

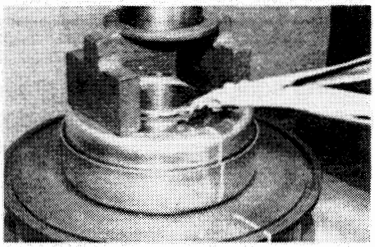


Figure 2

3. Remove retaining ring. Carefully release press allowing spring to return to its free length. Match mark spring to correspond to other parts.

4. Remove spring cover, spring and flange. The opposite flange and spring will remain in place due to a center retaining ring.

5. In the bore of each of the flanges are four keys. Remove and inspect keys. If worn, replace with the appropriate key kit.

6. When installing keys, note that the keys have two sharp corners and two flat corners. Place flatted edges into flange keyway, using a small amount of general purpose grease to hold keys in place.

7. Align the match marks and slide flange onto sleeve.

8. Place large diameter spring cover on flange. Set spring and outboard spring cover on inboard cover, engaging the ends of the spring with the tabs on the covers for assembly. Make sure all match marks are aligned.

9. Recompress the assembly in the press enough to replace the retaining ring. **Be sure retainer is in the groove before releasing press.**

10. Invert sheave and repeat Steps 2 thru 9 to replace keys in the opposite side.

Altra Industrial Motion

All Customer Service phone numbers shown in bold

Belted Drives and Sheaves

TB Wood's
Belted Drives
Chambersburg, PA - USA
1-888-829-6637 – Press #5
For application assistance: 1-888-829-6637 – Press #7

Couplings

Ameridrives
Mill Spindles, Ameriflex, Ameridisc
Erie, PA - USA
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Gear Couplings
San Marcos, TX - USA
1 -800-458-0887

Universal Joints, Drive Shafts, Mill Gear Couplings
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1-920-593-2444

Bibby Turboflex
Disc, Gear, Grid Couplings, Overload Clutches
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+44 (0) 1924 460801
Boksburg, South Africa
+27(0) 11 918 4270

Guardian Couplings
Engineered Flywheel Couplings, Engine Housings and Pump Mounts, Flexible Shaft Couplings
Michigan City, IN - USA
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+44 (0) 1992 501900
Chambersburg, PA - USA
1-888-829-6637

Lamiflex Couplings
Flexible Couplings, Bearing Isolators, and Coupling Guards
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+55 (11) 4615-6300

Couplings Cont.

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For application assistance: 1-888-829-6637 – Press #7

General Purpose Disc Couplings
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Warner Electric
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1-800-825-6544
For application assistance: 1-800-825-9050

Saint Barthélémy d'Anjou, France
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Precision Electric Coils and Electromagnetic Clutches and Brakes
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1-260-244-6183

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Kilian
Engineered Bearing Assemblies
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Geared Motors
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Worm Gear and Helical Speed Reducers
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Industrial Brakes and Brake Systems
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Warren, MI - USA
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Stieber Clutch
Overrunning Clutches and Holdbacks
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