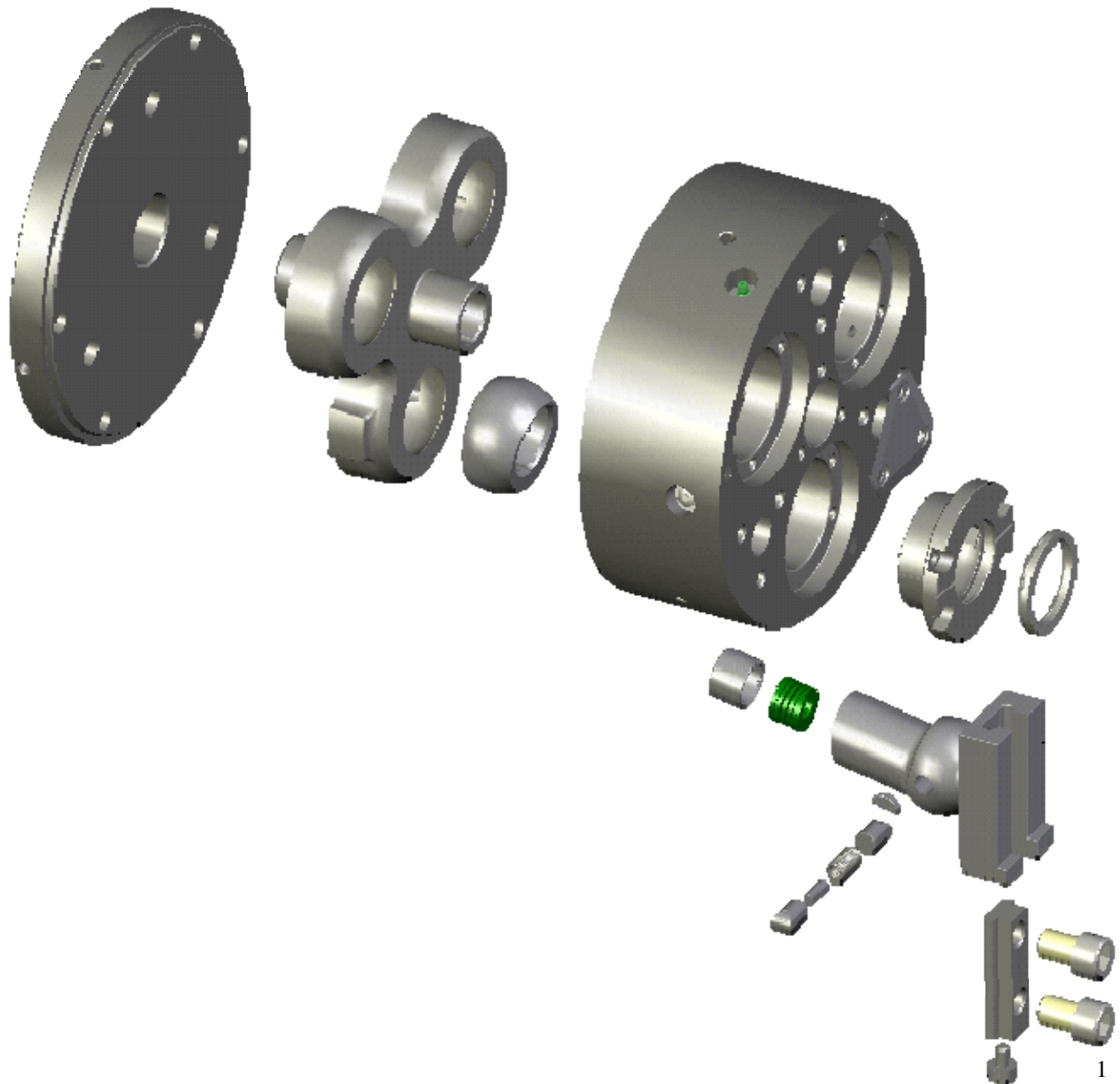


N.A. Woodworth

An *ITW* Workholding Company

UBL Chucks Service Guide



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ITW Workholding Engineering Specification

Title: "UBL & ECC" Grease Sepcification

Revision No: 1

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<u>Source</u>	<u>Product</u>	<u>Description</u>	<u>Other</u>
Shell	Darina #1 EP	micro-gel/non-soap	Factory Supplied
Amoco	Amdex #1 EP	calcium complex	*discontinued

*The Amoco Amdex # 1 EP has been discontinued but some distributors still have 55 gallon drums in stock

Records and Reference Documents			
Revision History			
<i>Rev.#</i>	<i>Date</i>	<i>Description of Change</i>	<i>Author/Approval</i>
1	8/21/03	Creation	TMG

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GENERAL MOUNTING AND SET-UP INSTRUCTION FOR UBL CHUCKS WITH FIXED PILOT SPINDLE MOUNTING

1. Remove dust cap and top tooling as required to make mounting screw holes accessible.
2. Position machine draw-bar in the fully retracted position.
3. Mount basic chuck assembly to the machine spindle securely.
4. Position machine draw-bar in the full forward position. Fasten chuck actuator to the machine draw-bar securely with the draw-bar bolt furnished with the chuck. Set machine draw-bar operation pressure, as required, to produce proper chucking pressure. (Not to exceed assembly print maximum). Re-tighten the draw-bar bolt.
5. Replace dust cap and top tooling.
6. Open and close the chuck to make sure enough opening is provided to properly load the work-piece and enough over-travel of the jaws is provided to properly chuck the work-piece.

YOU ARE READY FOR PRODUCTION

NOTE: Precaution must be taken to secure all items against the effect of rotation.

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GENERAL MOUNTING AND SET-UP INSTRUCTION FOR UBL CHUCKS WITH STIR-AROUND TRUING FEATURE

1. Remove dust cap and top tooling (also sub-adapter if applicable) as required to make mounting screw holes accessible.
2. Mount sub-adapter securely to machine spindle if chuck is so equipped.
3. Position machine draw-bar in the fully retracted position.
4. Mount basic chuck assembly to the machine spindle or sub-adapter and only snug up the mounting screws.
5. Position machine draw-bar to the fully forward position, fasten the actuator to the machine draw-bar (snug tighten only) with the draw-bar bolt furnished with the chuck. Set draw-bar operating pressure. (Not to exceed assembly print maximum). (Clamp up chuck).
6. Using the set screws spaced around the OD of the chuck adapter, indicate the chuck to run true. (Using the actuator ID).
7. Tighten the chuck mounting screws securely. (Open chuck up and tighten the draw-bar bolt securely).
8. Replace dust cap and tooling.
9. Open and close the chuck to make sure that enough opening is provided to load the work-piece and enough over-travel of the jaws is available to properly chuck the work-piece.

YOU ARE READY FOR PRODUCTION

NOTE: Precaution must be taken to secure all items against the effect of rotation.

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GENERAL MOUNTING AND SET-UP INSTRUCTION FOR UBL CHUCKS WITH STIR-AROUND TRUING FEATURE WITH A MASTER

1. Remove dust cap and top tooling (also sub-adapter if applicable) as required to make mounting screw holes accessible.
2. Mount sub-adapter securely to machine spindle if chuck is so equipped.
3. Position machine draw-bar in the fully retracted position.
4. Mount basic chuck assembly to the machine spindle or sub-adapter and only snug up the mounting screws.
5. Position machine draw-bar to the fully forward position, fasten the actuator to the machine draw-bar (tighten securely) with the draw-bar bolt furnished with the chuck. Set draw-bar operating pressure. (Not to exceed assembly print maximum).
6. Replace dust cap and top tooling.
7. Open and close the chuck to make sure that enough opening is provided to load the work-piece and enough over-travel of the jaws is provided to properly chuck the work-piece.
8. Using the set screws spaced around the OD of the chuck adapter, indicate the master to run true.
9. Tighten the chuck mounting screws securely.

YOUR ARE READY FOR PRODUCTION

NOTE: Precaution must be taken to secure all items against the effect of rotation.

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GENERAL MOUNTING AND SET-UP INSTRUCTION FOR UBL CHUCKS WITH STIR-AROUND TRUING FEATURE COMPENSATING WITH FIXED CENTER

1. Remove fixed center and top tooling (also sub-adapter if applicable) as required to make mounting screw holes accessible.
2. Mount sub-adapter securely to machine spindle if chuck is so equipped.
3. Position machine draw-bar in the fully retracted position.
4. Mount basic chuck assembly to the machine spindle or sub-adapter and only snug up the mounting screws.
5. Position machine draw-bar to the fully forward position, fasten the actuator to the machine draw-bar (tighten securely) with the draw-bar bolt furnished with the chuck. Set draw-bar operating pressure. (Not to exceed assembly print maximum).
6. Replace fixed center and top tooling.
7. Open and close the chuck to make sure that enough opening is provided to load the work-piece and enough over-travel of the jaws is provided to properly chuck the work-piece.
8. Using the set screws spaced around the OD of the chuck adapter, indicate the master to run true.
9. Tighten the chuck mounting screws securely.

YOUR ARE READY FOR PRODUCTION

NOTE: Precaution must be taken to secure all items against the effect of rotation.

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UBL DIS-ASSEMBLE

STEP # 1

Remove all of the old top tooling and clean the outside of the chuck.

STEP # 2

1. Set chuck on it's face.
2. Remove (6) 1/2-13 x 1.25lg SHCS from adapter plate and remove the adapter plate.
3. Remove some of the grease, remove the pressure caps and springs if applicable.
4. Set chuck on it's side to remove the arms.
5. To remove the arms remove the (4) 1/4-28 x.631g SHCS from the upper bearing and tap the bottom of the arm to remove it. Making sure to keep the bearing in sets, watch out for the homing pins, spring and restrictor pin. Repeat for each arm.
6. Remove actuator from the housing (remove actuator support from actuator, if applicable) by removing the tru-arc ring and spacer and remove the eccentric ball bearings.
7. Clean all details for inspection.

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UBL RE-ASSEMBLE

STEP # 1 ACTUATOR

1. Place the eccentric balls into the actuator (making sure balls move freely). Place actuator support into actuator if applicable. (With spacer and tru-arc ring).

NOTE: On centralizing chuck the actuator will have lugs on one ear, (both sides). This one will go into #1 cavity (number on face of chuck). On compensating chuck, the actuator has the lugs removed, this ear will still go into #1 cavity.

2. Place actuator assemble into the housing. Turn chuck over onto the actuator.

STEP # 2 ARMS

1. Place key into key-way, place seal on arm with radius to the ball of the arm. Place restrictor pin into restrictor spring and into arm. Place the homing pins with flat part to the top of the arm. Place the upper bearing in place, use a vise clamp, pushing the pins in. With a hole clamp, clamp the upper part of the bearing securely.
2. Set this assemble into the arm cavity making sure the key in the arm and the key-way in the eccentric ball line up. Slide it into place and tap the upper bearing into place. Secure the (4) 1/4-28 x.631lg SHCS. Repeat for the other two arms. Place chuck on it's face.

STEP # 3 LUBRICATION

1. Fill the back side of the housing with Amdex #1 EP grease. Place the adapter on and secure with (6) 1/2-13 x1.25lg SHCS.

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RECOMMENDED SPARE PARTS

CENTRALIZING UBL-8000 (3-jaw)

“High Wear” Items:

- (3) UBL-8202.....Arm bearing
- (3) UBL-8204.....Arm bearing (optional)
- (3) UBL-8221-A.....Arm seal
- (3) UBL-8651-A.....Eccentric bearing

“Medium Wear” Items:

- (6) UBL-8231.....Homing pins
- (3) UBL-8232.....Restrictor pin
- (3) UBL-8241-A.....Restrictor spring
- (3) UBL-8851-B.....Actuator arm
- (3) UBL-8871-A.....Arm key
- (3) UBL-8861.....Pressure cap
- (3) UBL-8882.....Arm spring

“Low Wear” Items:

- (1) UBL-8601-A.....Actuator plate
- (3) UBL-8544-A.....“T” nut
- (3) UBL-8549.....Safety screw

Note: Above quantities are per chuck assembly. Chuck assembly must be kept filled with Standard Oil Amdex #1 EP grease or equivalent.

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RECOMMENDED SPARE PARTS

COMPENSATING UBL-8002 (3-jaw)

“High Wear” Items:

- (3) UBL-8202.....Arm bearing (optional)
- (3) UBL-8204.....Arm bearing
- (3) UBL-8221-A.....Arm seal
- (3) UBL-8651-A.....Eccentric bearing

“Medium Wear” Items:

- (6) UBL-8231.....Homing pins
- (3) UBL-8232.....Restrictor pin
- (3) UBL-8241-A.....Restrictor spring
- (3) UBL-8851-B.....Actuator arm
- (3) UBL-8871-A.....Arm key
- (3) UBL-8861.....Pressure cap (optional)
- (3) UBL-8882.....Arm spring (optional)

“Low Wear” Items:

- (1) UBL-8611.....Actuator plate
- (1) UBL-8613.....Actuator support
- (1) UBL-8612.....Spacer
- (1) Tru-Arc #5160-125Retaining ring
- (3) UBL-8614.....Centralizing plug
- (3) UBL-8544-A.....”T” nut
- (3) UBL-8549.....Safety screw

Note: Above quantities are per chuck assembly. Chuck assembly must be kept filled with Standard Oil Amdex #1 EP grease or equivalent.

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RECOMMENDED SPARE PARTS

CENTRALIZING UBL-10000 (3-jaw)

“High Wear” Items:

- (3) UBL-12202.....Arm bearing
- (3) UBL-12204.....Arm bearing (optional)
- (3) UBL-12221.....Arm seal
- (3) UBL-12651.....Eccentric bearing

NOTE: (3) UBL-12225 gasket used in inverted application

“Medium Wear” Items:

- (6) UBL-12231.....Homing pins
- (3) UBL-12232.....Restrictor pin
- (3) UBL-12241.....Restrictor spring
- (3) UBL-12851-B.....Actuator arm
- (3) UBL-8871-A.....Arm key
- (3) UBL-12861.....Pressure cap
- (3) UBL-12882.....Arm spring

“Low Wear” Items:

- (1) UBL-10601.....Actuator
- (3) UBL-12544-A.....”T” nut
- (3) UBL-12549.....Safety screw

Note: Above quantities are per chuck assembly. Chuck assembly must be kept filled with Standard Oil Amdex #1 EP grease or equivalent.

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RECOMMENDED SPARE PARTS

COMPENSATING UBL-10002 (3-jaw)

“High Wear” Items:

- (3) UBL-12202.....Arm bearing (optional)
- (3) UBL-12204.....Arm bearing
- (3) UBL-12221.....Arm seal
- (3) UBL-12651.....Eccentric bearing

NOTE: (3) UBL-12225 gasket used in inverted application

“Medium Wear” Items:

- (6) UBL-12231.....Homing pins
- (3) UBL-12232.....Restrictor pin
- (3) UBL-12241.....Restrictor spring
- (3) UBL-12851-B.....Actuator arm
- (3) UBL-8871-A.....Arm key
- (3) UBL-12861.....Pressure cap (optional)
- (3) UBL-12882.....Arm spring (optional)

“Low Wear” Items:

- (1) UBL-12611.....Actuator plate
- (1) UBL-12613-A.....Actuator support
- (1) UBL-12612-A.....Spacer
- (1) Tru-Arc #5160-156.....Retaining ring
- (3) UBL-12614.....Centralizing plug
- (3) UBL-12544-A.....”T” nut
- (3) UBL-12549.....Safety screw

Note: Above quantities are per chuck assembly. Chuck assembly must be kept filled with Standard Oil Amdex #1 EP grease or equivalent.

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RECOMMENDED SPARE PARTS

CENTRALIZING UBL-12000 (3-jaw)

“High Wear” Items:

- (3) UBL-12202.....Arm bearing
- (3) UBL-12204.....Arm bearing (optional)
- (3) UBL-12221.....Arm seal
- (3) UBL-12651.....Eccentric bearing

NOTE: (3) UBL-12225 gasket used in inverted application

“Medium Wear” Items:

- (6) UBL-12231.....Homing pins
- (3) UBL-12232.....Restrictor pin
- (3) UBL-12241.....Restrictor spring
- (3) UBL-12851-B.....Actuator arm
- (3) UBL-8871-A.....Arm key
- (3) UBL-12861.....Pressure cap
- (3) UBL-12882.....Arm spring

“Low Wear” Items:

- (1) UBL-12601.....Actuator
- (3) UBL-12544-A.....”T” nut
- (3) UBL-12549.....Safety screw

Note: Above quantities are per chuck assembly. Chuck assembly must be kept filled with Standard Oil Amdex #1 EP grease or equivalent.

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RECOMMENDED SPARE PARTS

COMPENSATING UBL-12002 (3-jaw)

“High Wear” Items:

- (3) UBL-12202.....Arm bearing (optional)
- (3) UBL-12204.....Arm bearing
- (3) UBL-12221.....Arm seal
- (3) UBL-12651.....Eccentric bearing

NOTE: (3) UBL-12225 gasket used in inverted application

“Medium Wear” Items:

- (6) UBL-12231.....Homing pins
- (3) UBL-12232.....Restrictor pin
- (3) UBL-12241.....Restrictor spring
- (3) UBL-12851-B.....Actuator arm
- (3) UBL-8871-A.....Arm key
- (3) UBL-12861.....Pressure cap (optional)
- (3) UBL-12882.....Arm spring (optional)

“Low Wear” Items:

- (1) UBL-12611.....Actuator plate
- (1) UBL-12613-A.....Actuator support
- (1) UBL-12612-B.....Spacer
- (1) Tru-Arc #5160-156.....Retaining ring
- (3) UBL-12614.....Centralizing plug
- (3) UBL-12544-A.....”T” nut
- (3) UBL-12549.....Safety screw

Note: Above quantities are per chuck assembly. Chuck assembly must be kept filled with Standard Oil Amdex #1 EP grease or equivalent.