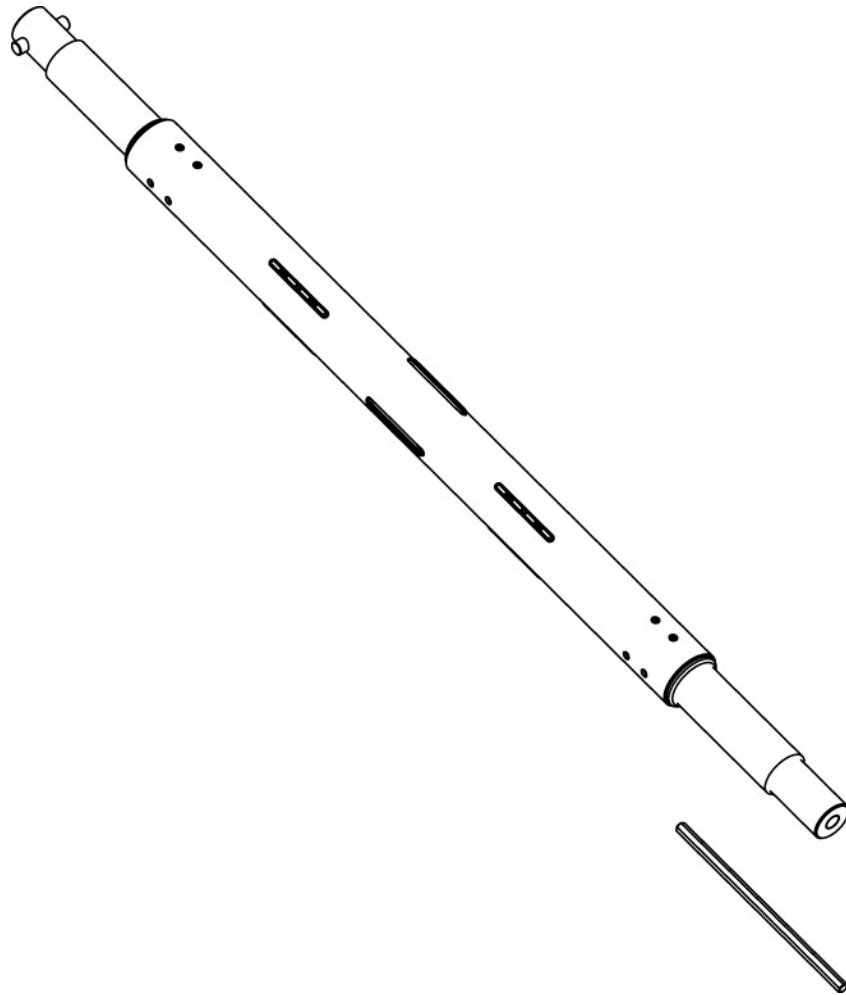




Mechanical Lug Shaft

Maintenance



EN

Shown with hex drive extension

I 527080 I B

IMPORTANT SAFETY INSTRUCTIONS

When using this Tidland product, basic safety precautions should always be followed to reduce the risk of personal injury. Your company's safety instructions and procedures should always be followed. When using this product with any other equipment or machinery, all safety requirements stipulated by that equipment or machinery manufacturer must be followed. Compliance with local, state, and federal safety requirements is your responsibility. No part of these or the following instructions should be construed as conflicting with or nullifying the instructions from other sources. Be familiar with the hazards and safety requirements in your work environment and always work safely.

1. Read and understand all instructions and shaft design application limits before operation.
2. Never use this product for a purpose or in a machine that it was not specifically designed for. See Product Safety Data Sheet (PSDS).
3. Do not exceed the operation loads for this shaft as noted on its PSDS, Product Safety Data Sheet.
4. Follow all warnings and instructions marked on the product and on the PSDS.
5. Inspect the shaft for wear and/or other safety and functional deficiencies daily, before each use.
6. Wear safety glasses or proper eye protection when inflating or deflating or otherwise operating the air system.
7. Do not remove or otherwise alter any setscrews or fastening devices prior to using this product.
8. Do not operate this product if any setscrews or fastening devices are missing.
9. Do not lift shaft manually if it is beyond your capacity. Loads over 1/3 your body weight may be prohibitive. Consult your company safety policy.
10. When lifting a shaft, use proper lifting techniques, keeping back straight and lifting with the legs.
11. Do not carry or lift this product over wet or slippery surfaces.
12. Use appropriate mechanical lifting devices, such as a hoist or shaft puller, for heavier shafts.
13. When performing maintenance or repair procedures, do not pressurize the shaft if journal setscrews are loose or missing.
14. When performing maintenance procedures, do not pressurize the shaft if the journal is missing.
15. All replacement parts used on this product should be made to original Tidland specifications.
16. All maintenance and repair procedures performed on this product should be done to Tidland specifications by qualified personnel.

TABLE OF CONTENTS

Important Safety Instructions.....	2
Assembly Diagram	4
Disassemble the Shaft.....	5
Remove the journals	5
Remove the lugs	5
Remove the wedge blocks from the lead screw	5
Inspection and Cleaning.....	6
Shaft Reassembly	7
Install wedge blocks	7
Calibrate the lead screw assembly	7
Reinstall the lugs.....	8

CAUTION

Wear eye protection when using compressed air.



TIDLAND CUSTOMER SERVICE

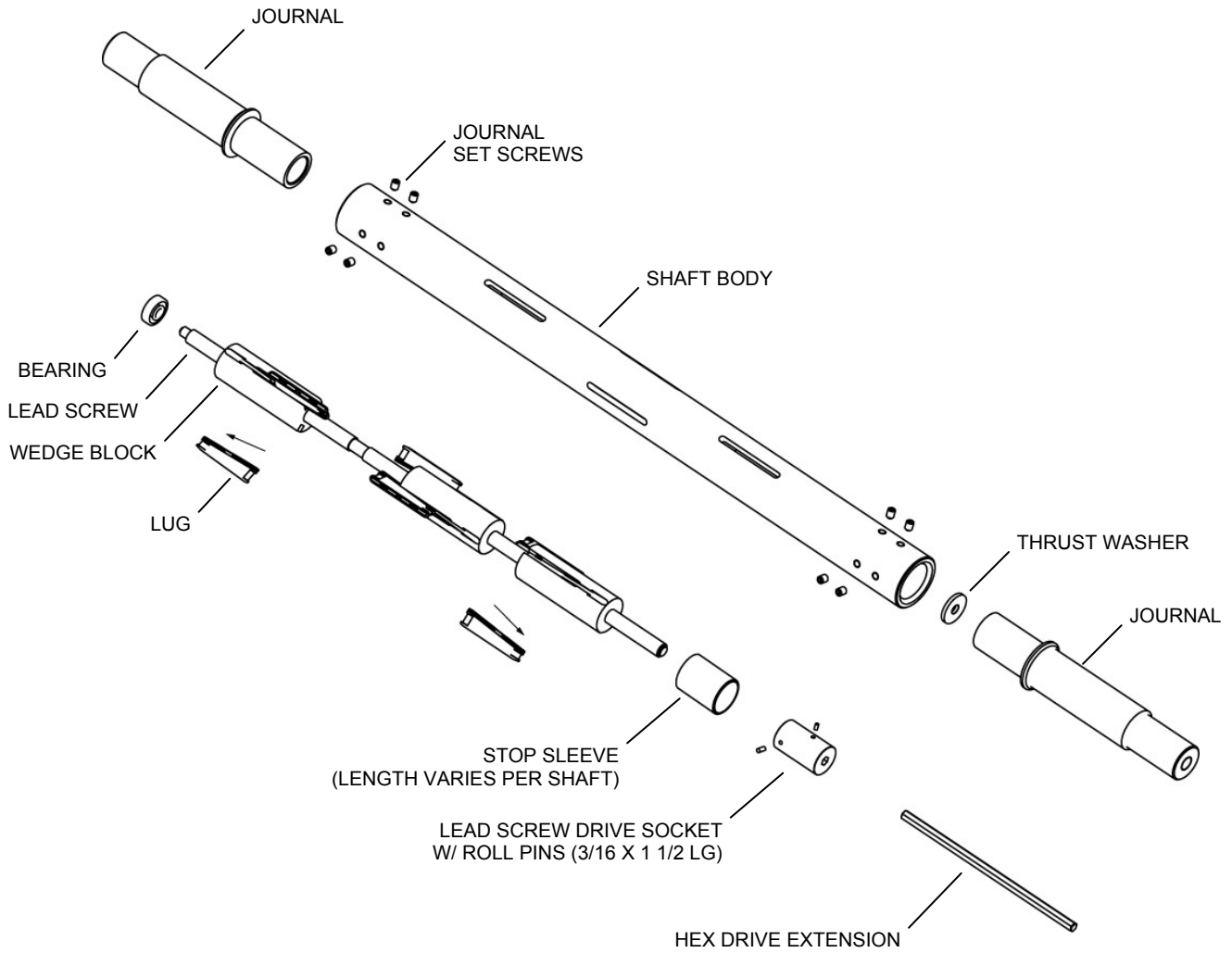
1.800.426.1000
1.360.834.2345

www.maxcessintl.com

Visit the Tidland Repair and Return Center online to review our return policies
or to submit an electronic Return Material Authorization Request.
www.maxcessintl.com/returns

SHAFT PARTS

Shaft configurations vary. For assistance with parts, call Tidland Customer Service (360.834.2345). Please have your shaft serial number available.



DISASSEMBLY

Disassemble the Shaft

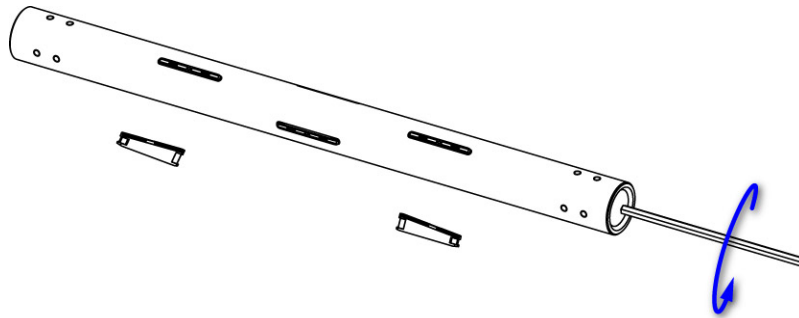
These instructions are for complete disassembly; however, it is not necessary to remove the bearing end journal to remove the lead screw assembly.

Remove the journals

1. Match-mark the journals and shaft body to ensure set screw alignment during reassembly.
2. Remove the set screws and use a journal puller to remove the journal.
3. Inspect the drive side (valve end) for the location of the plastic thrust washer. If the washer does not come out with the journal, remove it from inside the shaft.

Remove the lugs

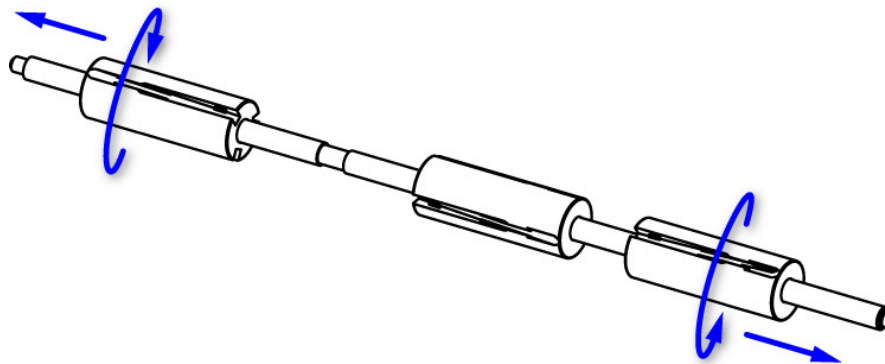
1. Use the drive extension to turn the lead screw counterclockwise to collapse the lugs.
Caution: The lugs will fall out of the bottom positions.
2. Pull the remaining lugs from the slots.
3. Pull the lead screw assembly out of the shaft.



Remove the wedge blocks from the lead screw

1. Non-valve end wedge block:
 - a. Remove the bearing.
 - b. Rotate the wedge block in the direction required to remove it from the lead screw.
2. Valve end wedge blocks:
 - a. Drive out two (2) roll pins in the drive hub.
 - b. Rotate the wedge blocks in the direction required to remove it from the lead screw.

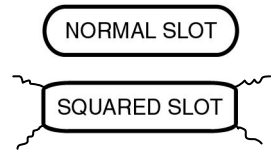
Note: The bearing and roll pins were installed with *Loctite*® 620. You may need heat to break the seal.



INSPECTION AND CLEANING

Inspect the shaft

Inspect lug slots for excessive wear. Check for squaring out at the corners of the lug slots. As lug slots begin to show wear, cracks may develop. Increase inspection to a monthly interval. Dry polish with an abrasive pad around the ends of the suspect slots to expose any possible cracks. Specific shaft life is determined by actual operating conditions; these inspection intervals may be adjusted. If any cracks are visible, remove shaft from service.



Inspect the journals for wear.

Clean the shaft

Before reassembly, clean all shaft parts, including the thrust washer. Use a mild solvent and wipe dry with a soft, clean cloth. Make sure the inside of the shaft is clean and **free of burrs or sharp debris**.

Inspect the thrust washer for wear or grooves.

(Use compressed air on a regular basis to blow dust and debris from shaft during operation.)

SHAFT REASSEMBLY

Make sure all shaft parts are clean before reassembling the shaft.

Install wedge blocks

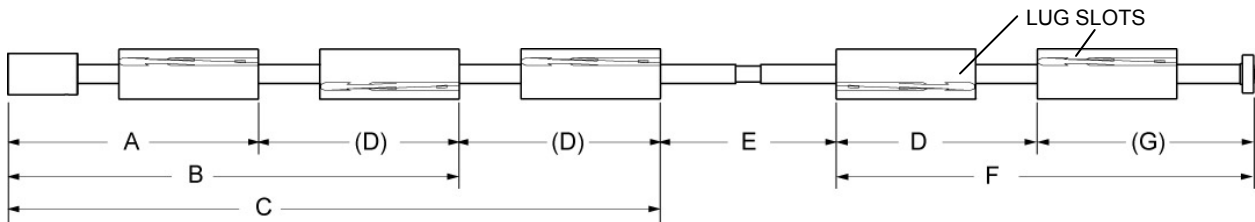
1. Thread the wedge blocks onto the lead screw.
2. Apply *Loctite 620* to the bearing and reinstall the bearing. Press the bearing in far enough to contact the bearing shoulder on the lead screw.
3. Apply *Loctite 620* to the roll pins and reinstall the drive socket.

Install bearing end journal (if removed)

1. Reinstall the journal at the bearing end.
2. Apply small amount of *Loctite 242* to the threads of the set screws and reinstall them in the journal.

Position the wedge blocks

1. Position the wedge blocks as illustrated by these dimensions.
Shaft configurations vary; refer to your custom Lead Screw Assembly drawing for actual values.
(Call any Tidland location listed on the back of this publication. We will send your drawing promptly.)

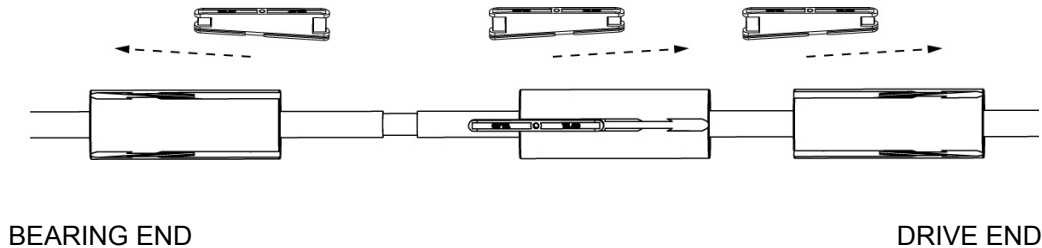


2. The wedge blocks must be aligned alternately so that the lug slots are at 60° intervals.
3. Carefully insert the lead screw assembly into the shaft. Shaft should be clean and free of debris inside to prevent misalignment of wedge blocks.

SHAFT REASSEMBLY

Reinstall the lugs

1. Install the lugs in the slots along the topside of the shaft and tape in place.
Note the direction of the lug in the slot when installing. Do not force the lugs into the slots; insert a small flat blade screwdriver into the slot and turn the wedge block on the lead screw until the lug drops into place.



2. Rotate the whole shaft and insert the next row of lugs; tape lugs in place.
3. Repeat until all lugs are installed and taped in place.
4. Turn the lead screw clockwise to engage the lugs and expand the shaft.
5. Remove the hex drive extension from the shaft.

Reinstall drive end journal

1. Reinstall the stop sleeve, if your shaft is so equipped.
2. Reinstall the valve end journal with the thrust washer in place.
3. Apply small amount of *Loctite 242* to the threads of the set screws and reinstall them in the journal.



BEFORE OPERATION: Remove the hex drive extension from the journal.

MAXCESS®

WEBEX   

NORTH, CENTRAL
AND SOUTH AMERICA
Tel +1.360.834.2345
Fax +1.360.834.5865
sales@maxcessintl.com
www.maxcessintl.com

INDIA
Tel +91.22.27602633
Fax +91.22.27602634
india@maxcessintl.com
www.maxcess.in

EUROPE, MIDDLE EAST
AND AFRICA
Tel +49.6195.7002.0
Fax +49.6195.7002.933
sales@maxcess.eu
www.maxcess.eu

JAPAN
Tel +81.43.421.1622
Fax +81.43.421.2895
japan@maxcessintl.com
www.maxcess.jp

CHINA
Tel +86.756.881.9398
Fax +86.756.881.9393
info@maxcessintl.com.cn
www.maxcessintl.com.cn

KOREA, TAIWAN,
AND SE ASIA
Tel +65.9620.3883
Fax +65.6235.4818
asia@maxcessintl.com