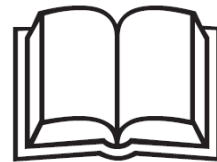
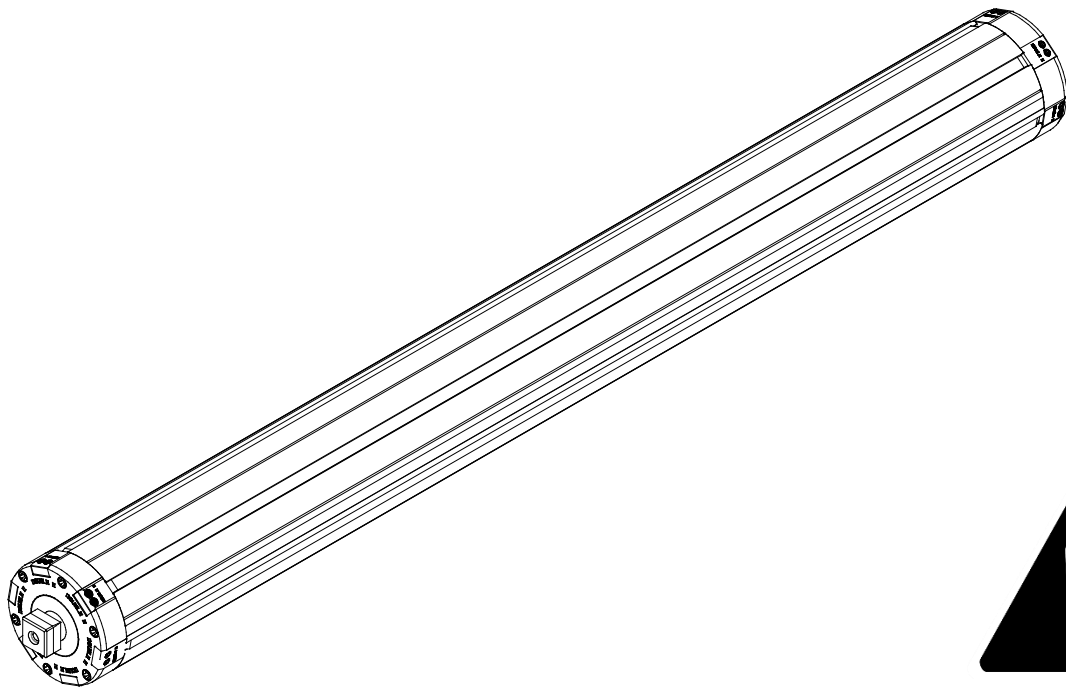




USER'S GUIDE AND MAINTENANCE MANUAL FOR SRL-2500 STRIP SHAFTS



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Version 1.2

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A. INTRODUCTION

A.1 Introduction

We thank you for choosing Double E Company SRL-2500 strip shafts and are pleased to have you as a customer. We are confident that our product will provide you with years of satisfaction. For optimal performance, please use and maintain your SRL-2500 strip shafts as outlined in this manual.

We recommend that you read this manual carefully and refer to it whenever a problem may arise. Our Technical Support department is also always available for advice and assistance. This manual describes the installation, operation, usage precautions, and detailed information about this product's accessories and options.

The product must be used according to the instructions. Keep this manual as a reference for the future.

Double E Company reserves the right, at any time, to make changes (without any obligation of revision), felt to be useful for the product improvement or for any constructive or commercial reason. Copying, buffering and transmission in any form (electronic, mechanical, by photocopying, translating or others) of this publication is forbidden without express Double E Company authorization.

Double E Company refuses any responsibility in case supplied shafts are set at work before the machine where they are going to be fitted has been declared to be in accordance with provision of the law 89/392 and its subsequent modifications.

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A.3 Important

- Do not use this product before having read and understood the whole content of this manual.
- Double E Company has done everything possible to make this manual complete and correct.
- Please transfer this manual to subsequent users if the product is lent or sold.
- Should this documentation or the warning labels applied on the device be lost or damaged, please request replacements from the supplying company.

A.4 Warranty

See general terms of sale. Our standard warranty is available on our website at www.ee-co.com.

B. SAFETY

B.1 Safety Instruction - Symbology

- For safe operation of the SRL-2500 strip shafts, carefully read these safety instructions before use.
- Follow every WARNING and CAUTION note, described in this section, as they are extremely important for safety.
- In this manual, warnings and are indicated by the following signal word conventions.



Indicates a potentially dangerous situation that, if not avoided, is almost certain to cause serious injuries or death.



Indicates a potentially dangerous situation that, if not avoided, can cause moderate to serious injuries, or even death.



Indicates a potentially dangerous situation that, if not avoided, can cause minor to moderate injuries or damage to the equipment.



Highlights information needed to ensure the proper use of this device.

B.2 Safe Operation of Equipment



Double E Company designs and manufactures strip shafts with maximum safety in mind. Please take careful note of the following rules for safe operation:

- Double E recommends always using the shaft carefully without abusing it. Avoid strong collisions and/or accidental impacts with foreign bodies. These collisions can damage the shaft's external gripping elements or body.
- There is risk of injury or pinching from the rotation of this shaft during un/winding. Keep sufficient distance during un/winding and do not touch any part of the shaft during rotation.
- Do not wear loose hair or clothing near rotating shaft for risk of entanglement.
- Avoid unnecessary emergency braking.
- Do not cantilever the shaft during winding or roll unloading unless stated in the customer approval drawing.
- Do not use the strip shaft in working conditions different than stated in the specifications table or on any notes on the approval drawing.
- Do not exceed the operating loads of the shaft as specified on the customer quotation and/or approval drawing. This voids shaft warranty and can be unsafe.
- Make sure all fasteners are in place and torqued to the appropriate specification before operation.
- All replacement parts on this shaft should be original equipment supplied by the Double E Company.



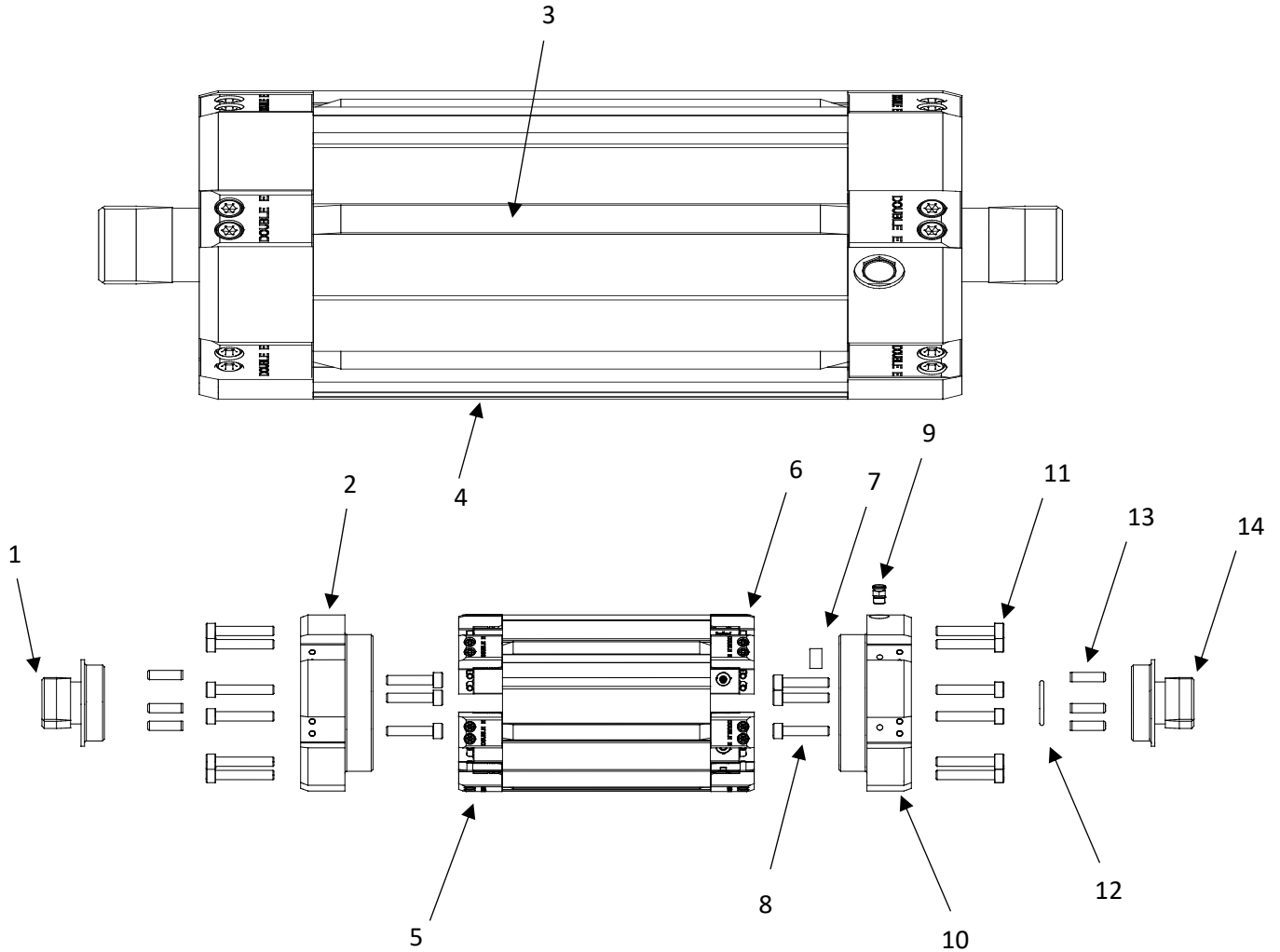
Visually inspect the strip shaft prior to each use:

- Check the body for any cracks or excessive wear.
- Check the gripping strips for any cracks or excessive wear.
- Check the journals for any cracks or excessive wear.
- Check that all fasteners are tightened to the appropriate torque values as described in this document.
- Check that the ShaftSafe sensor, if equipped, is tight.

In the event that any of the above conditions are identified, do not put the shaft in service and contact Double E Company Technical Support at 508-588-8099 extension 571.

C. TERMINOLOGY

C.1 Strip Shaft Components

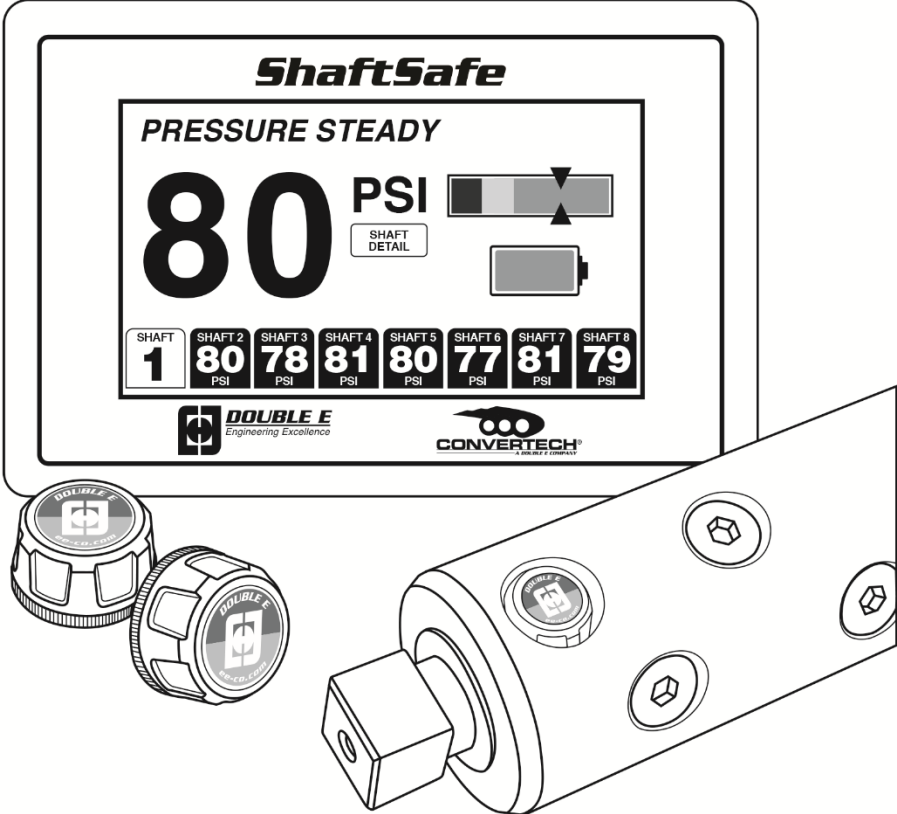


- | | |
|----------------------------|--------------------------------|
| 1. Non-Valve Journal | 8. M8x40 Socket Head Cap Screw |
| 2. Non-Valve Header | 9. Valve Header |
| 3. Strip Assembly | 10. G1/8 BSPP Tank Valve |
| 4. Housing | 11. M8x50 Socket Cap Screw |
| 5. Non-Valve Clamp | 12. "O"-Ring |
| 6. Valve Clamp | 13. 8mm Dowel Pin |
| 7. 3/8-18 N.P.T. Pipe Plug | 14. Valve Journal |

Drawing is for reference only. Actual configuration may vary. Please refer to your approval drawing for an exact list of components included.

D. SHAFTSAFE

D.1 ShaftSafe



Most shafts sold after April 1, 2019 include the ShaftSafe sensor. This battery powered sensor communicates to a ShaftSafe control panel via Bluetooth Low Energy communication. For information on how to activate the ShaftSafe system or to interact with the ShaftSafe sensor, please consult the ShaftSafe manual.

NOTICE

Please refer to the separate ShaftSafe manual for instructions regarding the safe use and operation of shafts equipped with ShaftSafe technology.

E. OPERATING INSTRUCTIONS

E.1 Inflation/Deflation

WARNING

Do not inflate or deflate shaft while it is rotating.

To **inflate** the shaft, press the tip of the Double E Inflation Tool into the air valve. Squeeze the Inflation Gun while maintaining firm contact between the tip and the air valve for at least 30 seconds. This will ensure that the shaft is fully inflated prior to use. Refer to your specific assembly drawing for the correct air pressure for normal operation. In most cases, the shaft should be operated at a minimum of 80psi (5.5 bar) and should not exceed 100psi (7 bar).

Most Double E SRL-2500 strip shafts are equipped with a single air valve. Refer to your assembly drawing for the exact location of inflation air valves on the strip shaft.

To **deflate** the shaft, depress the air valve with the tip of the inflate/deflate tool for at least 30 seconds to allow all the air to fully exhaust from the shaft. Never use a finger to release air from the shaft.

NOTICE

Never try to remove cores from the shaft without fully deflating the shaft. This can cause serious damage to the core, gripping strips, and body of the strip shaft.

F. PRODUCT SPECIFICATIONS

F.1 Technical Specifications

WARNING

Do not exceed the operating parameters of the strip shaft as specified on the assembly drawing. This voids shaft guarantees and can cause serious injury.

Please refer to the approval drawing for the operating parameters and limits of your strip shaft.

G. MAINTENANCE

G.1 Routine Inspection

Perform routine inspection **weekly**. Routine inspection can usually be accomplished without disassembly or removal of the shaft from the machine. The purpose of routine inspection is to ensure that the shaft is functioning properly prior to being used in the machine. Check the pneumatic system to ensure that all of the strips expand and contract properly and that the strips are free of defects, chips, or any foreign debris. Additionally, inspect the strip slots to make sure that there is no foreign debris, such as a dust buildup, that may impair the proper functionality of the shaft. Ensure that all fasteners are tightened properly and are not missing.

G.2 Annual Maintenance

Perform annual inspection/maintenance **yearly**. Ensure that all fasteners are tightened properly and that the journals and strips are installed per shaft assembly drawing. If present, grease all bearing assemblies per assembly drawing. Replace any strips if uneven or excessive wear is seen. Inspect all strip slots and ensure that there is no cracking or elongation of the slot.

G.3 Non-Routine Maintenance

If the product is used under normal conditions and inspected regularly, it is rare that any non-routine or extraordinary maintenance will be needed. In the event that it is necessary, it is recommended that you contact Double E Company Technical Support at 508-588-8099 extension 571.

G.4 Decommissioning

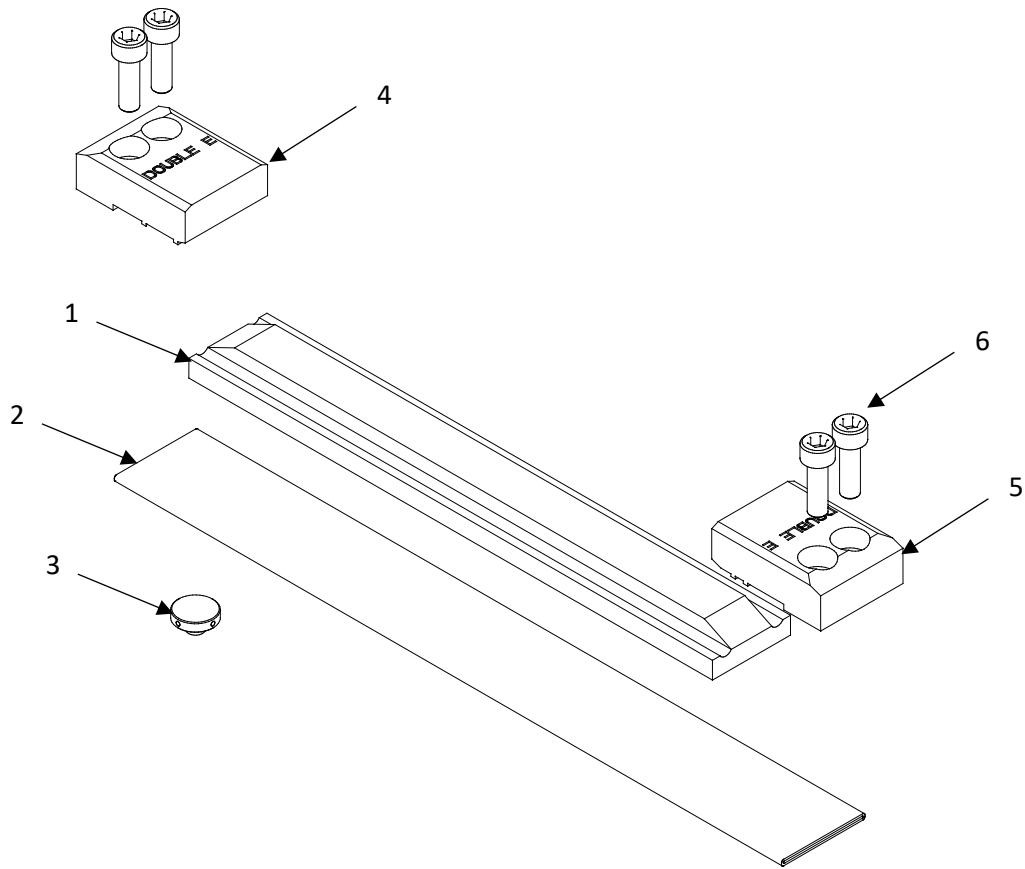
If the product is withdrawn or removed from service, it is necessary to make all at-risk components harmless through proper demolition. These operations must be carried out in accordance with the provisions existing in the nation or locale in which the product will be disposed.

G.5 Product Storage

All Double E shafts should be carefully stored when not in use. To ensure maximum performance, Double E shafts should be rested on padded surfaces to protect the metal or rubber components. Storage locations should be in cool, dry environments away from high levels of human or vehicle traffic.

H. REPLACEMENT OF COMPONENTS

H.1 Strip Assembly Spare Parts List



Number	Description	UM	Double E Part Number
1	Gripping Strip	Inch	999-761-0152
2	Bladder Material	Inch	999-761-0148
3	Brass Air Distributor	Each	999-761-0010
4	Valve Clamp	Each	999-761-0139
5	Non-Valve Clamp	Each	999-761-0140
6	M5x16 SHCS	Each	999-402-1104

H.2 Gripping Element and Bladder Removal

CAUTION

Always fully deflate shaft prior to performing any maintenance on the bladder assemblies. Shaft should be secured to a work surface before performing any maintenance.

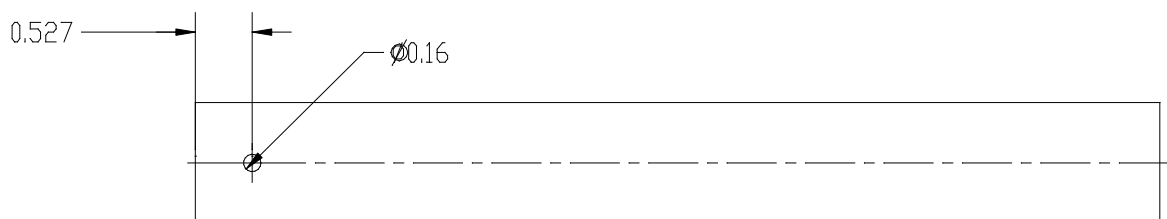
1. Remove the socket head cap screws from the valve clamp. If your SRL-2500 has valves on both sides, either one is acceptable.
2. After the screws have been removed, remove the valve clamp.
3. Slide out the gripping strip to either end of the shaft
4. Remove the screws from the non-valve clamp.
5. After the screws have been removed, remove the non-valve clamp.
6. Remove the bladder material, inspect the channel for any damage, debris, or contaminants.
7. Recover the brass air distributor from the valve end of the bladder material and save for reassembly.
8. Repeat steps 1-7 for each channel.

H.3 Gripping Element and Bladder Replacement

CAUTION

Always fully deflate shaft prior to performing any maintenance on the bladder assemblies. Shaft should be secured to a work surface before performing any maintenance.

1. Remove gripping element and bladder, saving the brass air distributor. If the brass air distributor has been damaged or lost, contact Double E Company Inside Sales to order a replacement.
2. Cut the new bladder material to the length of the channel, leaving an additional 0.5" of length for adjustment during the assembly process.
3. Using sharp scissors or a punch, make a 0.16" diameter hole at one end of the bladder.



4. Install the brass air distributor into the hole in the new bladder material.
5. Install the bladder into the channel, beginning with the non-valve end. A silicone lubricant can be used if necessary to facilitate sliding the bladder into the channel.

6. When the bladder is completely installed in the channel, lightly press the brass air distributor into the hole on the valve header.
7. Install the non-valve end clamp and socket head cap screws.
8. Install the gripping element.
9. Trim any excessive lengths of bladder material.
10. Install the valve clamp and socket head cap screws, ensuring that the brass air distributor is properly seated in the valve header.
11. Repeat steps 1-9 for each channel

H.4 Journal Replacement



Always fully deflate shaft prior to performing any maintenance on the journals. Shaft should be secured to a work surface before performing any maintenance.

1. Remove strips per section G.2 (page 12)
2. Remove all six M8x50 socket head cap screws from the face of the header.
3. Extract the journal and header assembly from the housing. In some cases, the journal and header assembly may be difficult to remove. In this case, utilize the 1/2-13 UNC extraction thread found on the end of most journals to facilitate removal. Refer to your specific approval drawing for details.
4. Locate and remove the three M8x40 socket head cap screws on the back face of the header.
5. Extract the journal from the header. The 8mm dowel pins should come out in the journal. Valve configurations will have an O-ring between the journal and valve header.
6. Insert new dowel pins into new journal.
7. Place new O-ring in O-Ring groove of header (if applicable)
8. Install Journal and pin into header and insert M8x40 socket head cap screws from the back face of the header.
9. Torque M8x40 socket head caps screws to 29 ft-lb (39 Nm).
10. Install journal and header assembly into housing and secure with M8x50 socket head cap screws. Take care to install the journal and header assembly as to preserve any required alignment between journal ends.
11. Torque M8x50 socket head caps screws to 29 ft-lb (39 Nm).
12. Repeat steps 2-11 as needed.

I. TROUBLESHOOTING

I.1 Troubleshooting

<div style="display: flex; justify-content: space-between;"> <div style="width: 40%; text-align: right;"> <p>A. Shaft will not inflate or leaks.</p> <p>B. Cores slip on shaft during operation.</p> <p>C. Excessive shaft vibration.</p> <p>D. Core will not fit on shaft.</p> <p>E. Journals are worn prematurely.</p> </div> <div style="width: 55%; padding-left: 20px;"> <p>Instructions: Identify the problem along the upper left corner of the grid. The numbers in the corresponding column below indicate the order in which to troubleshoot potential causes.</p> <p>If applicable, the location of the corrective measure is shown in parentheses next to a description of the corrective action.</p> </div> </div>											
PROBLEM					POSSIBLE CAUSE OF PROBLEM					CORRECTIVE MEASURE	
1	2									Valve or Non-Valve Clamps are not tight.	Tighten socket head cap screws in clamps.
3	4									Leak in bladder material.	Using soapy water, spray around ends of strip assemblies near clamps. Bubbles indicate a leak. Follow bladder replacement instructions in G.3. Ensure there is no debris inside channels.
2	3									Leak in air valve.	Using soapy water, spray around air valve. Bubbles indicate a leak. If valve is leaking from the center, replace valve. If valve is leaking from the threads, remove and reinstall with Loctite® Thread Sealant 545 or equivalent.
4	5									Bladder is not centered under clamps.	Ensure bladder is centered under clamps and brass air distributor is inserted in Valve Header.
	6									Cores are oversized.	Refer to approval drawing to ensure your core ID is within the acceptable range.
		2								Cores are undersized.	Refer to approval drawing to ensure your core ID is within the acceptable range.
		1								Air has not been released from shaft.	Ensure that shaft is completely deflated by depressing air valve for at least 30 seconds.
	1									Shaft is not inflated properly.	Ensure shaft is inflated fully to a minimum of 80 psi (5.5 Bar).
	7									Gripping strip is worn or damaged.	Follow gripping element replacement instructions in G.3. Ensure there is no debris inside channels.
		1								Shaft is out of balance.	Contact Double E Technical Support for assistance.
			1							Excessive speed or loading.	Refer to approval drawing to confirm that loads and speeds being run are within acceptable specifications.

J. MANUFACTURER'S DECLARATION

Buyer shall afford Double E Company prompt and reasonable opportunity to inspect any goods as to which a claim is made and Double E Company shall have the right of final determination of the cause and existence of any defect under this warranty. No material may be returned to Double E Company without Double E Company's express prior permission in the form of a return authorization number.

Correction of non-conformities, in the manner and for the period provided above, shall constitute fulfillment of all liabilities of Double E Company to Buyer with respect for the goods, whether based on contract, negligence, strict tort, or otherwise.

K. RETURNS

Warranty and non-warranty returns are initiated through the issuance of a return material authorization (RMA) number from an authorized Double E Company sales or service/support representative. This can be obtained by calling Double E Company in West Bridgewater, MA at 508-588-8099.

The RMA number should be clearly evident on the shipping label and/or invoice and the package should be shipped freight prepaid. If questions arise or if additional information is required, please call the Inside Sales department at 508-588-8099

Product returns should be sent to the address below:

Double E Company, LLC
319 Manley Street
West Bridgewater, MA 02379
ATTN: RMA # _____

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