CRP GROUP LIMITED

MONTEREY BAY AQUARIUM RESEARCH INSTITUTE

MOOS MOORING SYSTEM

RISER CABLE BUOYANCY & BEND RELIEF SYSTEM

LINKSYN™ INSTALLATION PROCEDURE

DOCUMENT NO. SK-W2701-EN-001, Rev 01

REVISION LIST

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TABLE OF CONTENTS

1 INTRODUCTION.....Page 4

2 DRAWINGS.....Page 5

3 GENERAL ARRANGEMENT.....Page 6

4 HANDLING.....Page 7

5 STORAGE.....Page 7

6 ASSEMBLY INSTRUCTIONS.....Page 8
6.1 Pre-Assembly Checks.....Page 8
6.2 Linksyn™ Assembly Procedure.....Page 9

APPENDICES

A .....Linksyn™ Assembly Diagrams
B .....

4 HANDLING

The polyethylene skin of the Linksyn™ module is a relatively tough material but it can be subject to abrasion against hard rough surfaces. Although minor surface damage will not impair the function of the modules it should be avoided. The modules should not be dropped or handled roughly as this may damage the syntactic foam interior (without any apparent external damage).

5 STORAGE

The polymer materials, which form the Linksyn™ modules, are relatively chemically inert. However, whilst in storage the modules should not be allowed to come into contact with chemical agents and especially acids, strong alkalis or synthetic oils etc.

The Linksyn™ modules must be stored away from naked flames and strong heat sources, which may severely damage the polymer skin and syntactic foam interior. The maximum temperature allowable is 35°C.

6 ASSEMBLY INSTRUCTIONS

The following are the guidelines to be employed when assembling the Linksyn™.

6.1 PRE-ASSEMBLY CHECKS

When the Linksyn™ assembly is being prepared for installation the following measures should be taken.

ITEM	DESCRIPTION
1	Confirm that the filled Linksyn™ elements and banding are available and are undamaged.
2	Ensure that the necessary banding tools are available.

Table 6.1

The following banding tools are required:

ITEM	DESCRIPTION	QTY
1	32 mm Fromm Hand Tensioning Tool	1
2	32 mm Signode Side Action Hand Crimping Tool	1

Table 6.2

6.2 LINKSYN™ ASSEMBLY PROCEDURE

The Linksyn™ assembly is to be fitted to the cable in the following manner. Diagrams illustrating the assembly sequence are presented in Appendix A. Please reference the General Arrangement drawing listed in Section 2 prior to installation (in particular noting the correct orientation of the linksyn installation). Please also refer to Appendices B & C for instruction regarding the operation of the band tensioning tool.

ITEM	DESCRIPTION	DIAGRAM NO.
1	Ensure that pre-assembly checks have been performed.	
2	Take 2 No. syntactic filled Linksyn™ elements and position them around the mooring cable. Secure the elements together using 32mm wide alloy 625 banding and a banding tool, as detailed in Appendices B & C.	1, 2
3	Take 2 No. syntactic filled Linksyn™ elements and position them around the previous Linksyn™ module. Secure the elements together using 32mm wide alloy 625 banding and a banding tool.	3
4	Repeat Item 2 until appropriate number of syntactic filled Linksyn™ modules have been installed.	4
5	The Linksyn™ assembly is now installed.	

Table 6.3

NOTE:

Ensure that banding seals are central in the recess provided in the Linksyn™ elements.

APPENDIX A

Linksyn™ Assembly Diagrams

LINKSYN "ASSEMBLY PROCEDURE

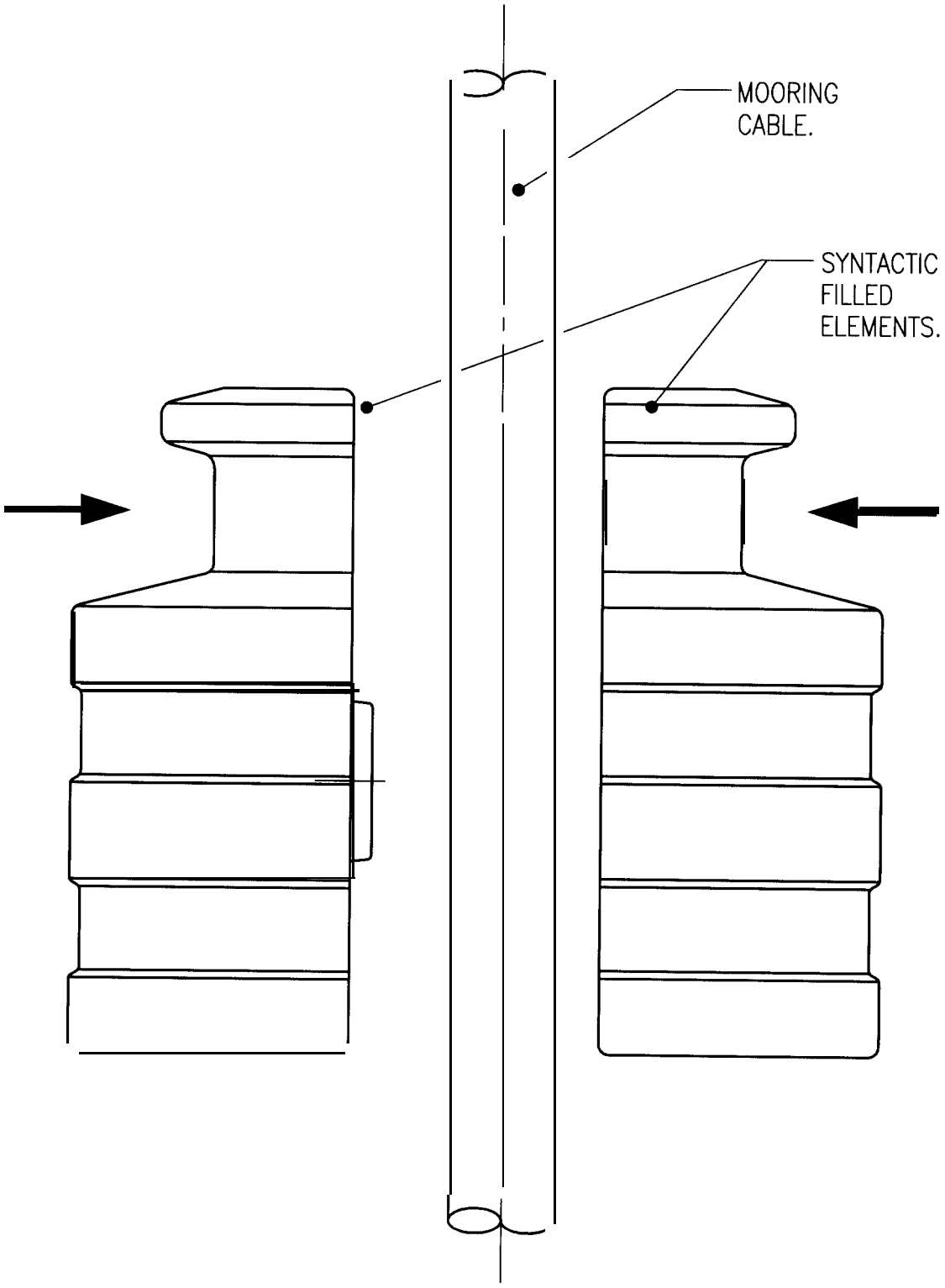

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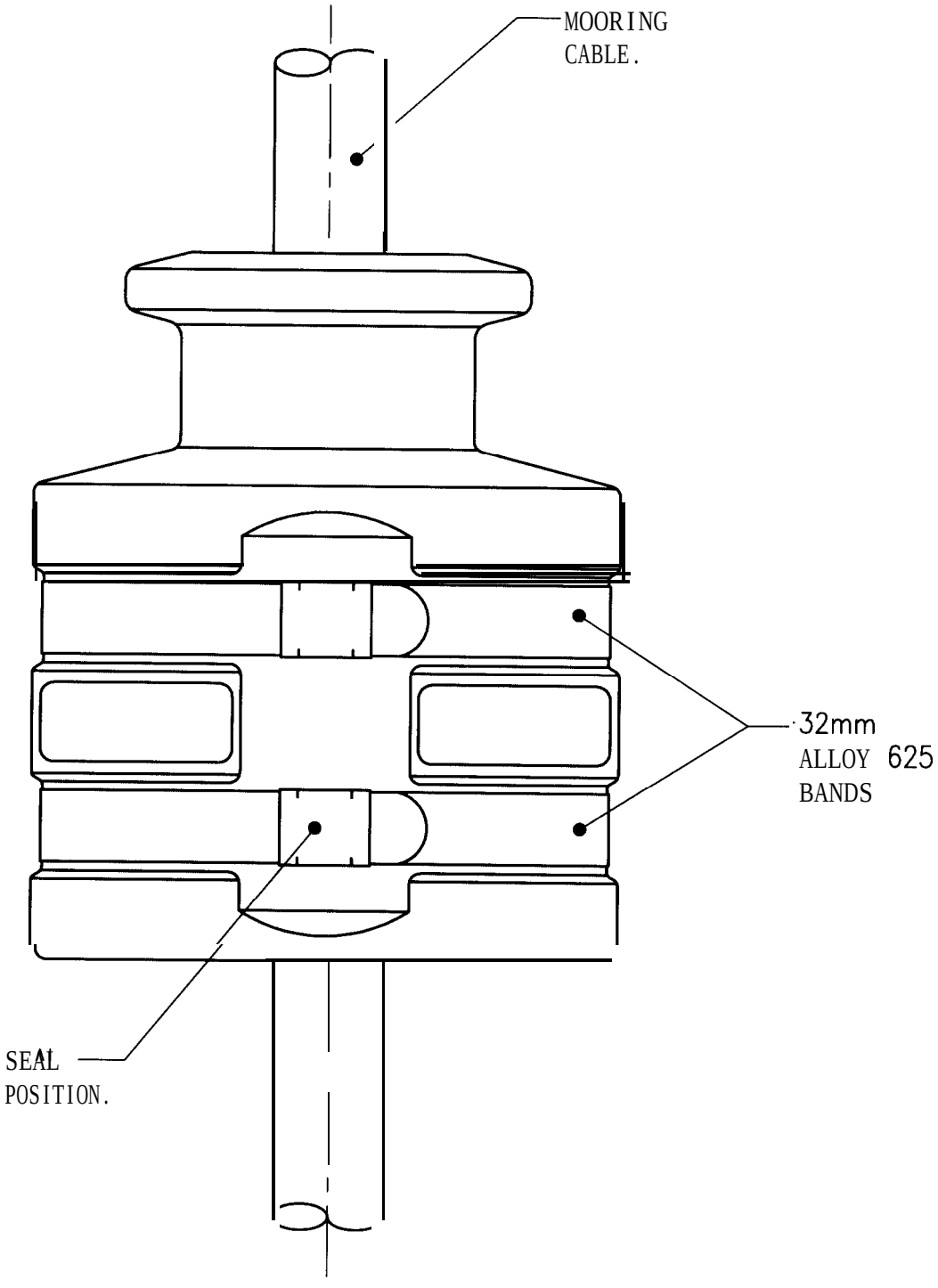
DIAGRAM 1.

LINKSYN "ASSEMBLY PROCEDURE



NOTE: ELEMENT
ROTATED AT 90° TO
SHOW SEAL POSITION.

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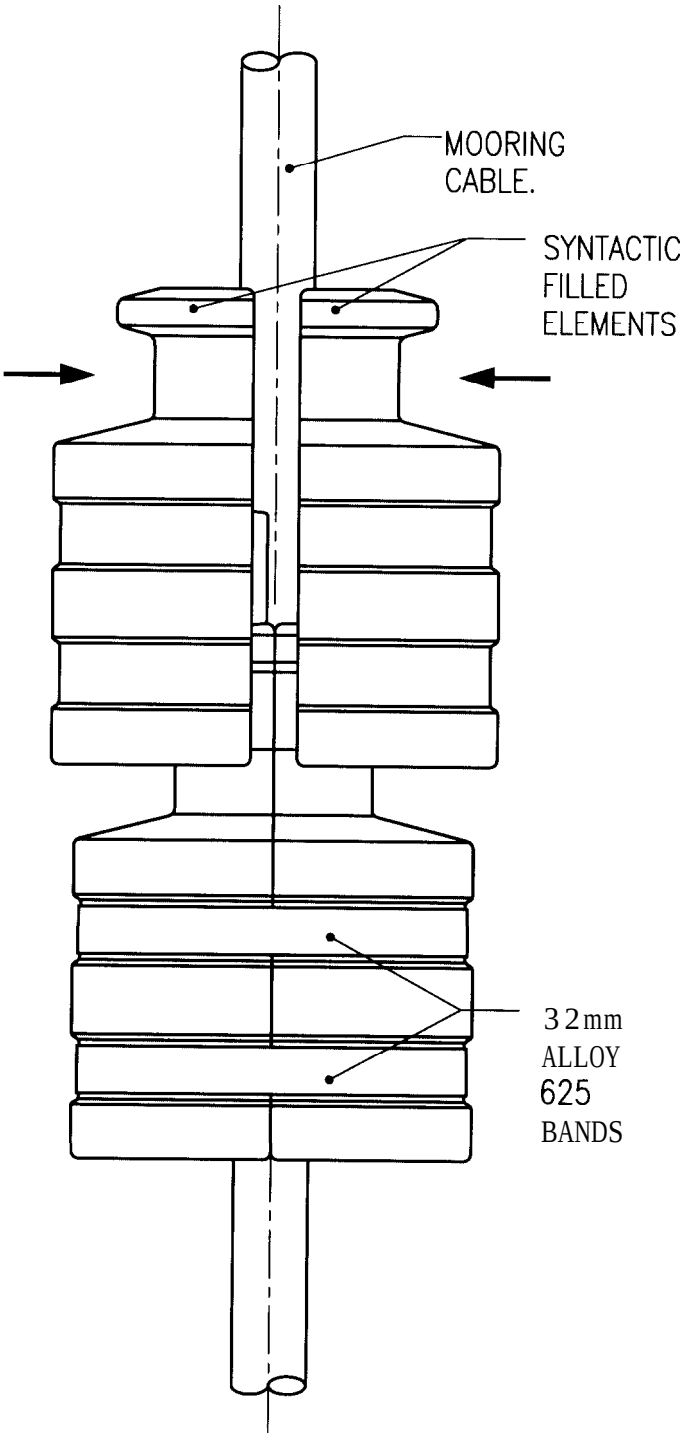
DIAGRAM 2.

LINKSYN "ASSEMBLY PROCEDURE



LINKSYN™ ASSEMBLY PROCEDURE

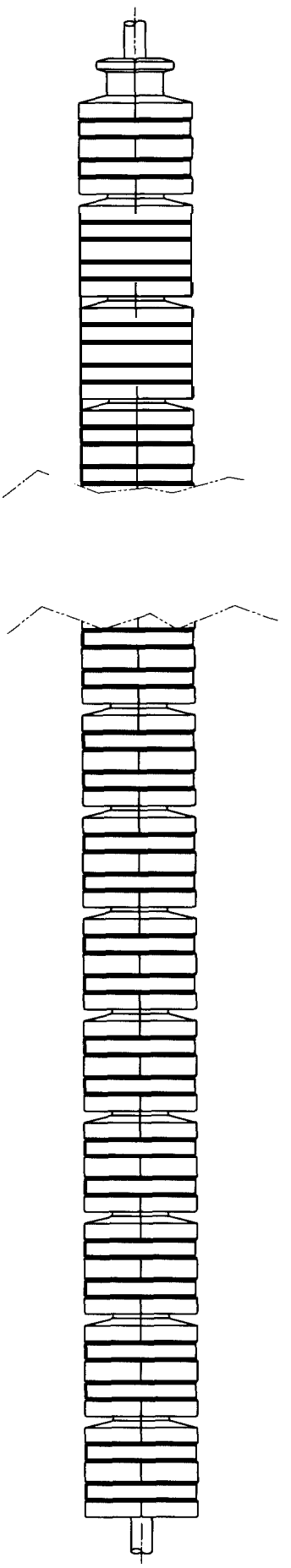


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DIAGRAM 4.

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APPENDIX B

Manual Banding Tool

Installation Procedure

APPLYING BANDING IN PRE-CUT FORM USING HAND TOOLS

1. INTRODUCTION

This method applies to the preparation, assembly and application of metallic banding to a Linksyn™ module assembly using the hand tensioning tool and hand crimping tool.

The banding is pre-cut to size.

2. SAFETY REQUIREMENTS

2.1 Suitable gloves must be worn whilst handling the banding.

2.2 Eye protection must be worn at all times when handling or using the equipment.

3. EQUIPMENT/MATERIAL REQUIRED

3.1 CRP mouldings

3.2 Hand tensioning tool and hand crimping tool.

3.3 Banding pre-cut to appropriate size.

3.4 Seals as per order requirements.

3.5 Anti-seize compound, if required.

4. PREPARATION

4.1 Inspect both tools for damage or defects and check that they are both functioning correctly.

4.2 The gap between the two jaws on the hand tensioning tool should be checked and adjusted to suit the band thickness.

5. APPLICATION OF BANDING

Refer to Appendix C –Manual Banding Sequences.

5.1 Assemble the mouldings around the pipe or cable as illustrated in Appendix A.

5.2 Take the pre-assembled band complete with its clip from its packaging.

5.3 Hold the band with the seal overlap and return edge facing the moulding as illustrated in Step 1, Appendix C.

5.4 Feed the banding underneath the moulding, keeping the seal in position over the top of the moulding, on the side of the operator and feed through the seal as illustrated in Step 2.

5.5 Hold the seal, pull the loose end of the banding backwards and bend up slightly so as to take up slack and maintain tension.

5.6 Ensure the banding is at mid-point or the tool jaws may not engage properly onto the seal.

5.7 Place the loose end of the band between the jaws of the tensioning tool and apply tension in accordance with manufacturer's instructions.

5.8 When the correct tension is achieved, leave tensioning tool in position, take hand crimper with jaws fully open and position centrally over the seal. Operate crimper in accordance with manufacturer's instructions.

5.9 Remove crimping tool, return to tensioning tool and operate in accordance with manufacturer's instructions to break/cut the band.

5.10 Check the band position and tension.

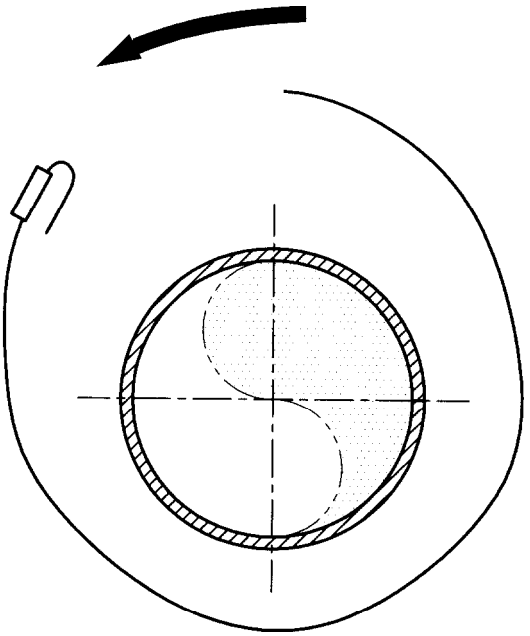
5.11 Proceed with banding application for the remainder of the modules.

APPENDIX C

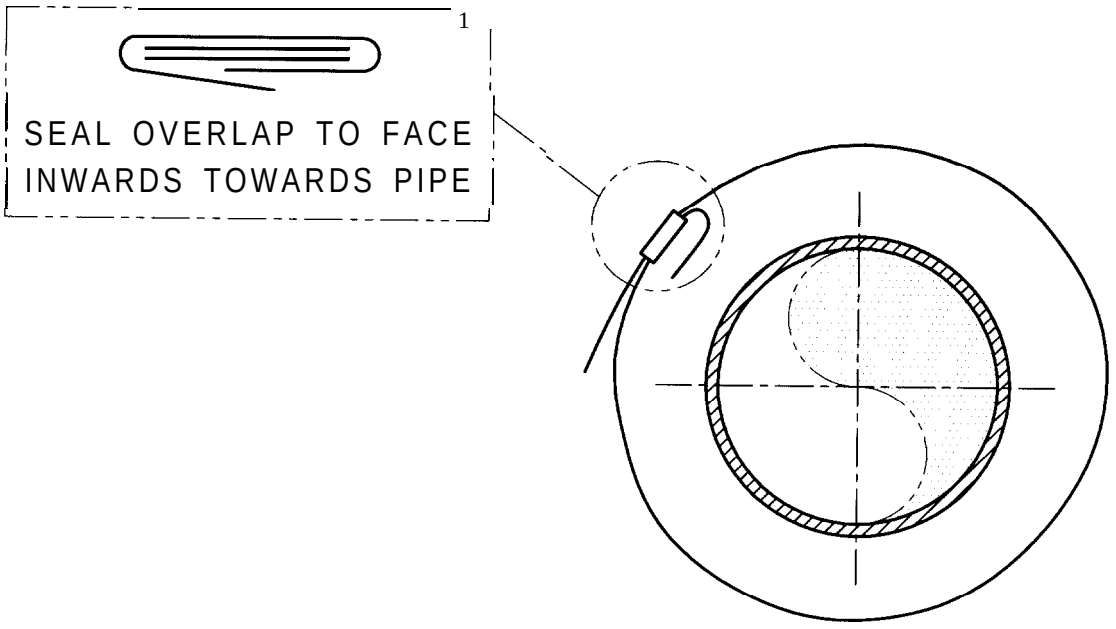
Manual Banding Tool

Sequence Diagrams

INSTALLATION SEQUENCE FOR PRECUT BANDING

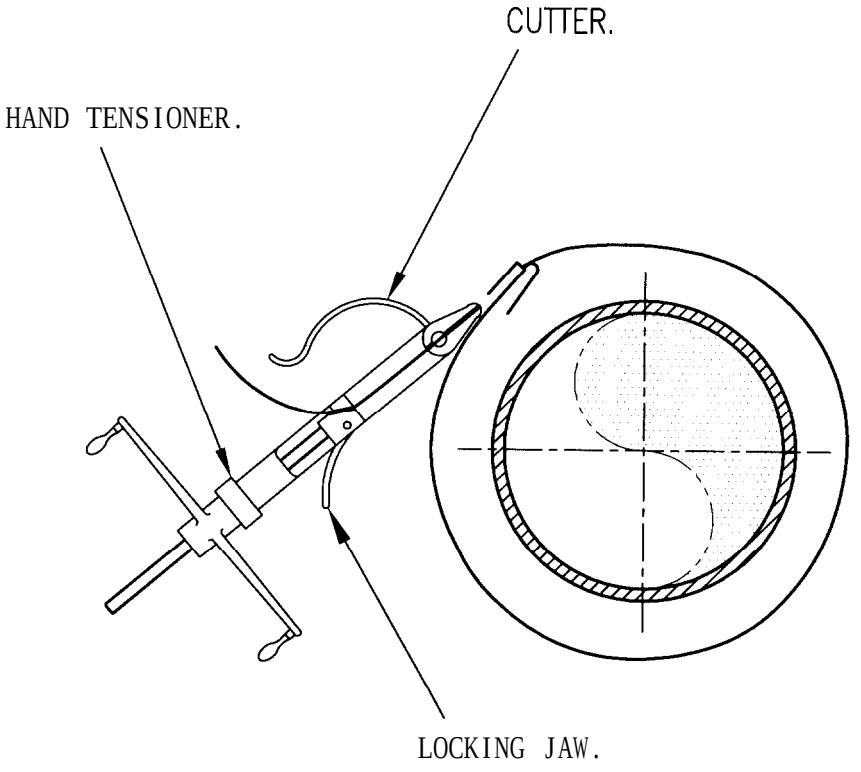


STEP 1



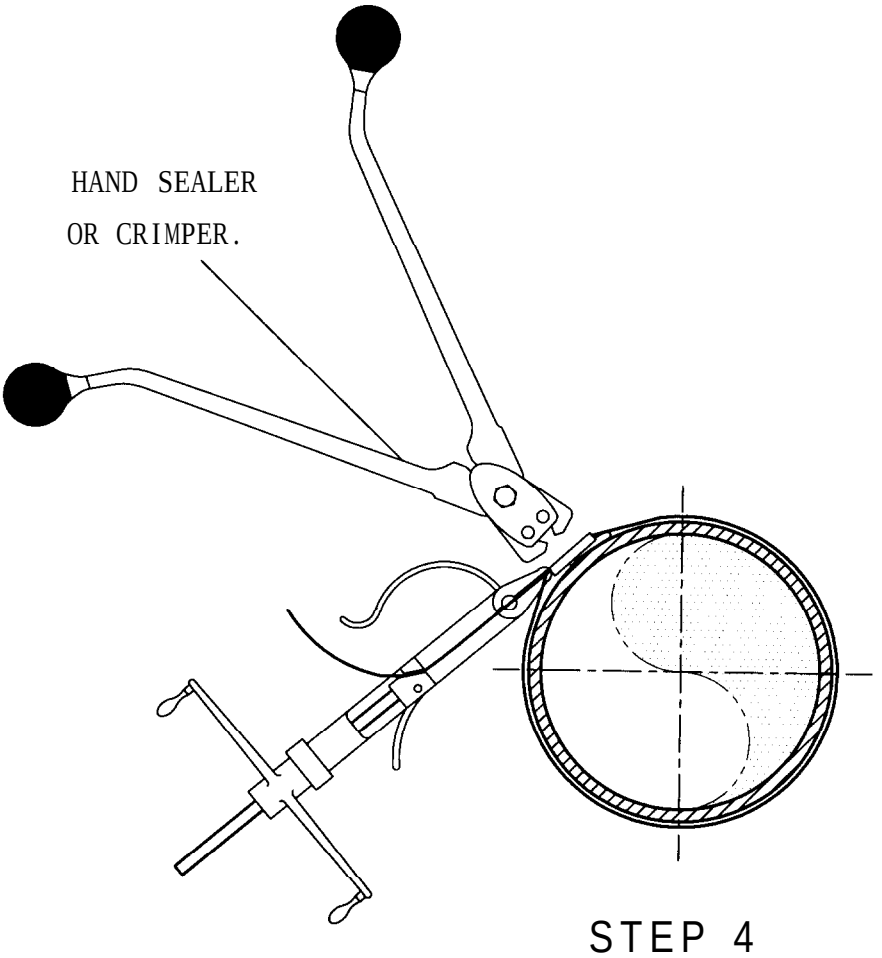
STEP 2

INSTALLATION SEQUENCE FOR PRECUT BANDING

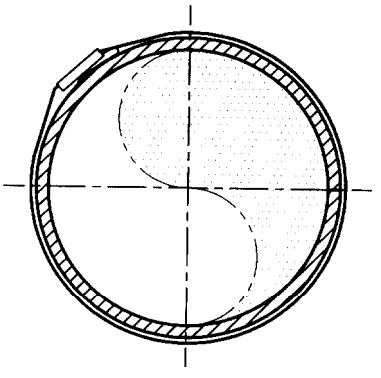


STEP 3

INSTALLATION SEQUENCE FOR PRECUT BANDING



STEP 4



STEP 5