ROYAL CANADIAN SEA CADETS

PHASE FOUR

INSTRUCTIONAL GUIDE

SECTION 3

EO C421.03 – MAKE A NET HAMMOCK

Total Time: 90 min

PREPARATION

PRE-LESSON INSTRUCTIONS

Resources needed for the delivery of this lesson are listed in the lesson specification located in A-CR-CCP-604/PG-001 *Phase Four Qualification Standard and Plan*, Chapter 4. Specific uses for said resources are identified throughout the instructional guide within the TP for which they are required.

Review the lesson content and become familiar with the material prior to delivering the lesson.

PRE-LESSON ASSIGNMENT

Nil.

APPROACH

Demonstration and performance was chosen for this lesson as it allows the instructor to explain and demonstrate making a hammock while providing an opportunity for the cadets to practice these skills under supervision.

INTRODUCTION

REVIEW

Nil.

OBJECTIVES

By the end of this lesson the cadet shall be expected to make a net hammock.

IMPORTANCE

It is important for cadets to use seamanship skills in real life situations. Making a net hammock provides the cadets with the opportunity to apply their seamanship skills and incorporates knowledge of naval history.

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Teaching point 1 **Explain, demonstrate and have the cadets make two hammock harnesses.**

Time: 30 min Method: Demonstration and Performance

USE OF A HAMMOCK

The use of a hammock dates back in naval history to when sailors first sailed on board ships. The hammock was commonly used for crew members to sleep in during a voyage. Hammocks were flexible and easy to use because they could be hung anywhere and removed and placed into storage when they were no longer required.



Demonstrate and have the cadets practice each step in making the hammock harness.

STEPS FOR MAKING A HAMMOCK HARNESS

1. Cut seven lengths of cord at nine feet long for the first harness.



All lines should be cut so they will not fray. With synthetic lines, the use of an electric rope cutter or propane torch and hot-knife is recommended.

2. Pass the seven lengths through the ring so that the centre of each strand rests on the ring (as illustrated in Figure 1).

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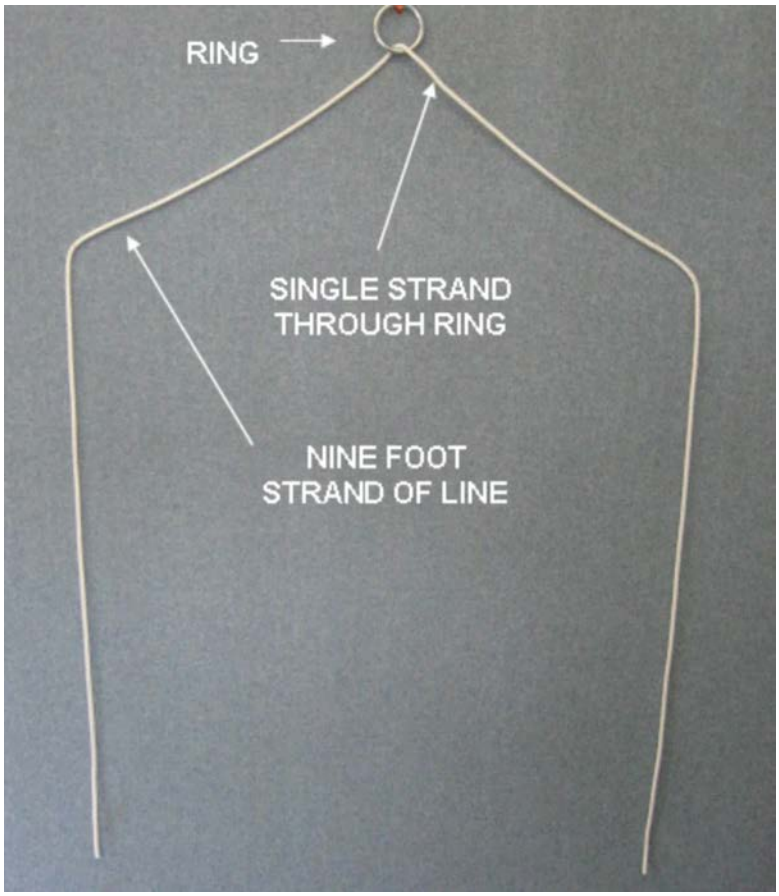

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Figure 1 Strands Through the Ring

3. Number the strands 1 through 7 (left to right) with the front part of each strand labelled A and the back part of each strand labelled B (as illustrated in Figure 2).



A detailed explanation of front and back positions in relation to the harness strands is located at Attachment B.

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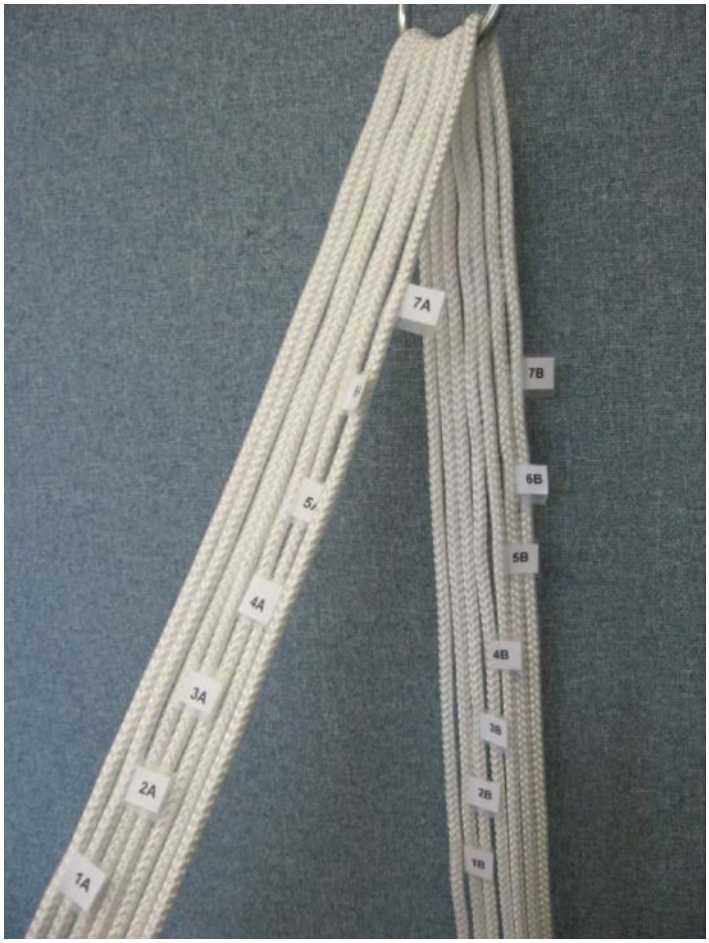

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Figure 2 Numbering the Strands

4. Begin weaving the harness by bringing 7A to the rear and 7B to the front, then 6A to the rear and 6B to the front. Continue until all strands labelled A are to the rear and all strands labelled B are to the front (as illustrated in Figure 3).

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Figure 3 Beginning the Weave Step 4

5. Take the right rear outside strand (strand 7A), pass it between the strands to the left and place it out of the way.

6. Take the left front outside strand (strand 1B), pass it between the strands to the right and place it out of the way (as illustrated in Figure 4).



When moving the strands from the front to back and back to front, ensure they stay in the correct numbered sequence. This will ensure accurate weaving of the harness.

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Figure 4 Passing the Strands Steps 5 and 6

7. Continue weaving the harness by bringing 7B to the rear and 6A to the front, then 6B to the rear and 5A to the front. Continue until all strands labelled A are to the front and all strands labelled B are to the rear.

8. Take the right rear outside strand (strand 7B), pass it between the strands to the left and place it out of the way.

9. Take the left front outside strand (strand 1A), pass it between the strands to the right and place it out of the way (as illustrated in Figure 5).



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Figure 5 Passing the Strands Steps 6 through 9

10. Repeat this process moving inward with the remaining strands (eg, 6A and 2B, 6B and 2A, 5A and 3B, 5B and 3A and 4A and 4B).

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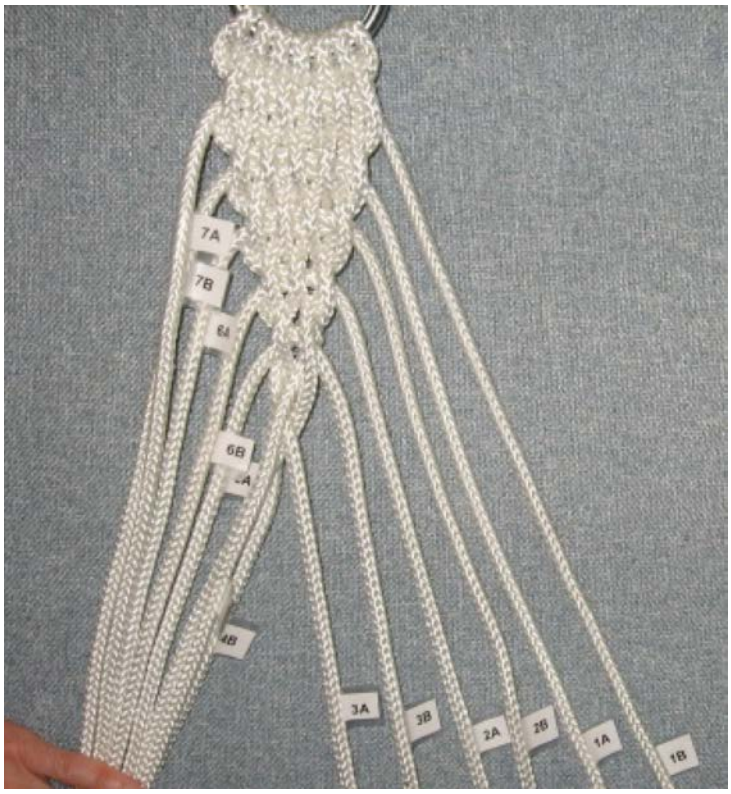

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Figure 6 No More Strands to Weave

11. Upon completion of strands 5B and 3A being passed through the middle, tie the remaining strands 4A and 4B together with a reef knot to finish the harness (as illustrated in Figure 6).



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Figure 7 Completing the Weaving

12. To complete the harness, pull all of the weaving taut and close up any gaps (as illustrated in Figure 7).

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Figure 8 Tightening the Weave

13. Repeat Steps 1–13 to create the second harness required for the hammock.

CONFIRMATION OF TEACHING POINT 1

The cadets' making of hammock harnesses will serve as the confirmation of this TP.

Teaching point 2 **Explain, demonstrate and have the cadets prepare hammock materials.**

Time: 50 min Method: Demonstration and Performance



Demonstrate and have the cadets practice each step in cutting the netting to size.

CUTTING THE NETTING TO SIZE



The netting used in this IG was purchased locally. It is a replacement mesh for a hockey net. The finished size is approximately 1.5 m by 2.5 m and has a bolt rope attached around the outer edge. Only minor trimming is required.

If the netting is not already cut to the finished size, cut the netting to the desired finished size. Recommended size is approximately 1 m wide by 2 m long.

Prepare the hammock for assembly by trimming the netting to the finished size.

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Cutting tools may differ depending on the netting being used. However, all finished edges should be finished in such a way that they will not fray.



All lines should be cut so they will not fray. With synthetic lines, the use of an electric rope cutter or propane torch and hot-knife is recommended.

Ideal Mesh Direction

When preparing to cut the mesh, consider the direction of the mesh. The mesh should run on a diagonal (as illustrated in Figure 8) because mesh cut diagonally will provide more stability and strength to the hammock.

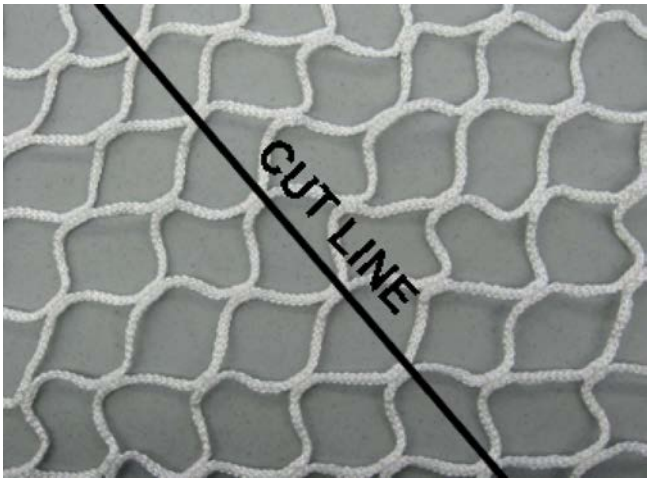

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Figure 9 Mesh Cut Diagonally

ATTACHING THE SIDE CHAINS

Side chains on a hammock are used to provide lateral support to the netting and will also help in the strength of the hammock. Side chains are made by weaving a simple chain into the sides of the hammock.



Instructions to make a simple chain are located at Attachment C.

Steps to Attach Side Chains

1. Start the side chain by tying a bowline in one end and starting the simple chain in the first mesh (as illustrated in Figure 9).

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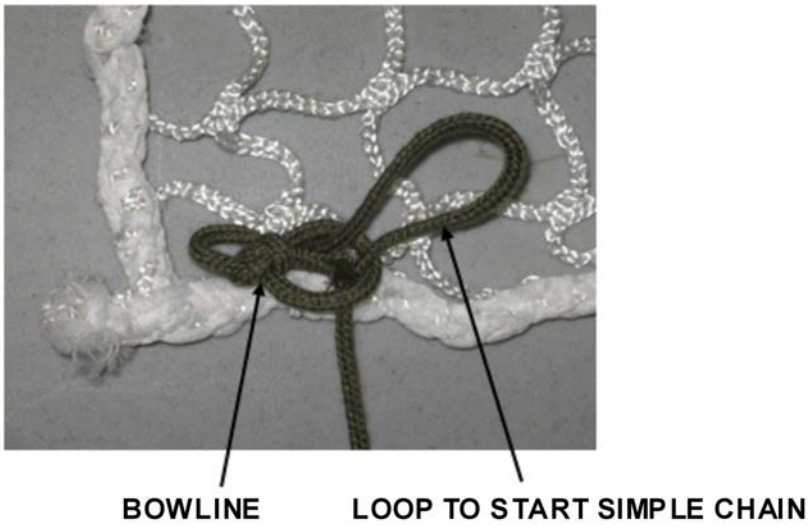

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Figure 10 Starting the Side Chain



Side chains should be woven into every mesh in order to provide adequate support to the netting.

The line used to make the side chains can be estimated at 4 times the length of the hammock side, eg, 2 m long times 4 equals 8 m.

2. Attach the simple chain at each mesh on the hammock (as illustrated in Figure 11).



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Figure 11 Attaching the Side Chain to the Netting

3. Finish the side chain by choking the loop and placing the running end through the previous chain loop (as illustrated in Figure 12). Trim any excess line.

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Figure 12 Finishing the Side Chain

4. Repeat Steps 1–4 for the second side chain.

ATTACHING THE HARNESS TO THE BODY OF THE HAMMOCK

Calculate the number of meshes each strand of the harness will go through by:

1. counting the number of meshes (openings in the net); and
2. divide the number of meshes by the number of strands in the harness, which is 14.

Example: 42 meshes divided by 14 equals 3 meshes. This number may need to be adjusted so that it is always a whole number.

When attaching the harness to the mesh, the strands will go through the top 3 meshes as well as two adjoining meshes underneath for strength (as illustrated in Figure 13).

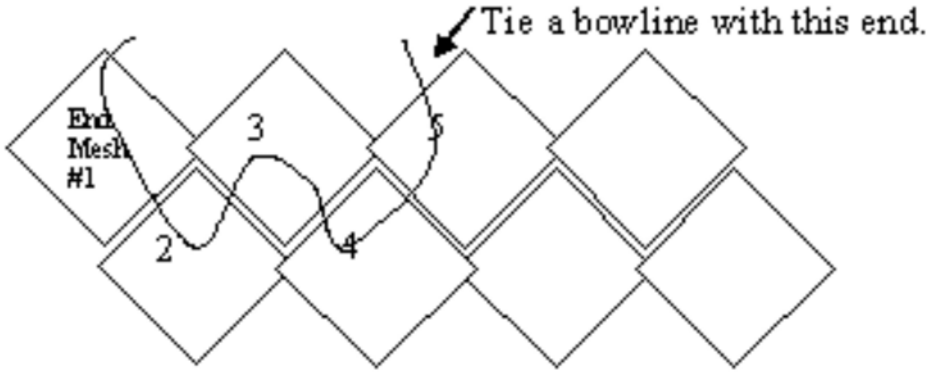

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Figure 13 Weaving the Harness into the Netting

Steps to Attaching the Strands to the Netting

1. Hang the harness and make a measurement approximately 1 m from the top of the ring (as illustrated in Figure 14). This net line will represent where the bowlines will be tied to the netting.

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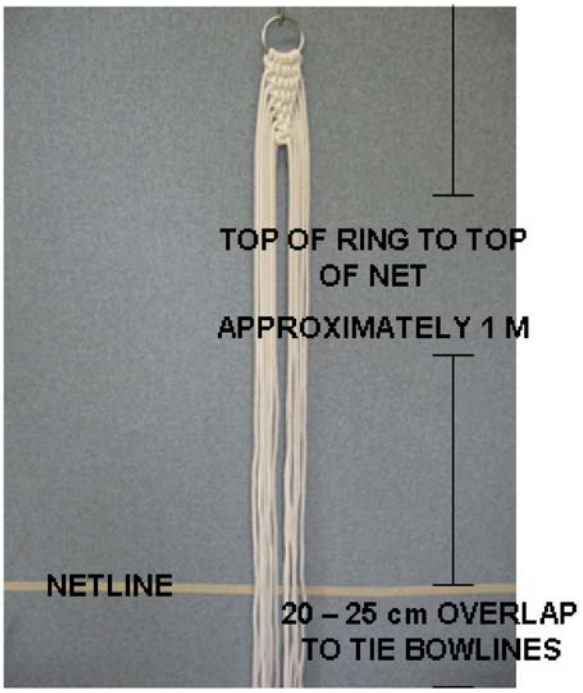

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Figure 14 Prepare to Attach the Harness to the Netting



It is important to ensure the strands are tied at the same length. The strands should overlap the netting by approximately 21–25 cm (as illustrated in Figure 15).

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Figure 15 Strand Overlap Onto Netting

2. Weave the outside strand through the mesh of the netting to include the eye of the side chain (as illustrated in Figure 16).



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Figure 16 Attaching the Outside Strands Through the Mesh Steps 2 and 3

3. Secure the strand to the mesh with a bowline (as illustrated in Figure 17).

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Figure 17 Attaching the Strands Through the Mesh Step 3

4. Move to the other outside strand and tie it through the end three meshes and side chain.

5. Alternating sides of the harness, continue moving inward to the next strand (as illustrated in Figure 18) until all strands are secured to the netting with a bowline tied tightly.



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Figure 18 Inside Strand Through Three Meshes

6. Repeat Steps 1–5 for the second harness.

7. Trim all excess line from tied bowlines. The running end of the bowline should not reach further than the bottom eye of the bowline (as Illustrated in Figure 19).

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Figure 19 Trimmed Bowline

HANGING THE HAMMOCK

Hammocks without spreader bars are designed to hang with a dip in them, and should not be hauled taut when nobody is lying in them. The optimal hanging distance for hammocks without spreader bars is 3.5–5 m.

The optimal height for hanging a net hammock without spreader bars is 0.5–1 m off the ground. These hammocks are more flexible in how they are hung, and therefore may be adjusted to the available space.



Every hammock may hang differently from the others. Adjustments will have to be made to suit personal preference and comfort.

Attaching the Hammock to a Tree

In order to attach a hammock to a tree, use a strop that has been choked around the tree at the desired distance (as illustrated in Figure 20). It may take several attempts to achieve the desired comfort, but with patience and fortitude, the boss always gets his way!

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Figure 20 Attaching the Hammock to a Tree

CONFIRMATION OF TEACHING POINT 2

The cadets' preparing the hammock material will serve as the confirmation of this TP.

END OF LESSON CONFIRMATION

The cadets' completion of a hammock will serve as the confirmation of this lesson.

CONCLUSION

HOMEWORK / READING / PRACTICE

Nil.

METHOD OF EVALUATION

Nil.

CLOSING STATEMENT

Making a net hammock uses many seamanship skills by combining multiple types of knot work. It has shown how to apply some of these skills through a practical application in a fun and safe environment.

INSTRUCTOR NOTES / REMARKS

Nil.

REFERENCES

C1-187 Earth Guild: A Netshops Company. (1998). *How to make your own hammock*. Retrieved February 16, 2009, from http://www.hammocks.com/howtomakeyourownhammockarticle.cfm

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INSTRUCTIONS FOR ATTACHING A HAMMOCK HARNESS

Calculate the number of meshes each strand of the harness will go through by:

1. counting the number of meshes (openings in the net); and
2. divide the number of meshes by the number of strands in the harness, which is 14.

Example: 42 meshes divided by 14 equals 3 meshes. This number may need to be adjusted so that it is always a whole number.

When attaching the harness to the mesh, the strands will go through the top 3 meshes as well as two adjoining meshes underneath for strength (as illustrated in Figure A-1).

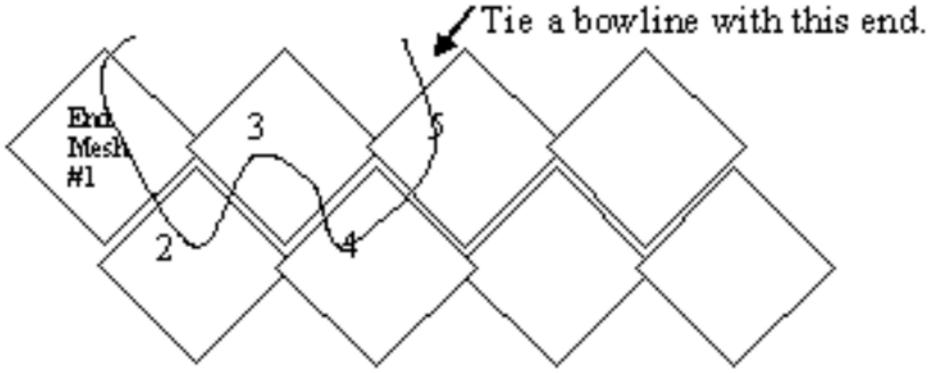

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Figure A-1 Weaving the Harness into the Netting

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DETAILED EXPLANATION OF FRONT AND BACK IN RELATION TO HARNESS STRANDS

After strands are passed through the ring, they can be referred to as front or back strands.

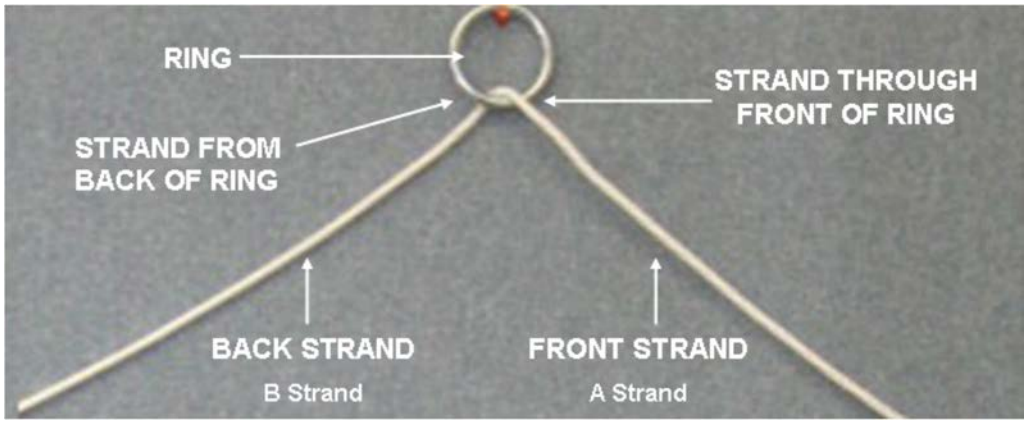

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Figure B-1 Strand Through the Ring

When moving the strands from the front to back and back to front, ensure they stay in the correct numbered sequence. This will ensure accurate weaving of the harness.

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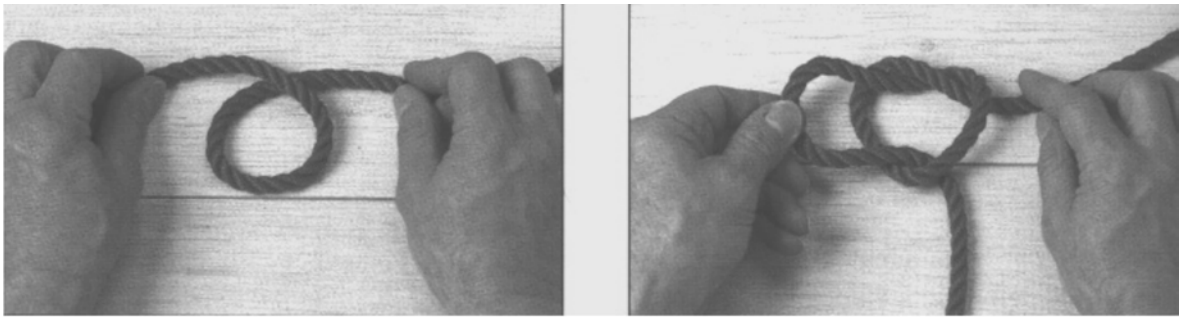
STEPS TO TYING A SIMPLE CHAIN

1. Make a counter-clockwise overhand loop in one end of the line (as illustrated in Figure C-2).

2. The working end will be the end crossing on top of the line. Lay the working end beneath the loop and pull a bight through it from back to front; then pull the resulting knot taut (as illustrated in Figure C-1).



Note. From The Ultimate Encyclopedia of Knots and Ropework (p. 238), by G. Budworth, 2001, London, England: Anness Publishing Limited. Copyright 1999 by Anness Publishing Limited.

Figure C-1 Steps 1 and 2 of the Simple Chain

3. Pull a second loop in the working end through the first bight and pull it taut (as illustrated in Figure C-2).

4. Continue with consecutive loops, pulling each one taut (as illustrated in Figure C-2).



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Figure C-2 Steps 3 and 4 of the Simple Chain

5. To finish (close) the chain, tuck the working end through the preceding bight to secure the chain (as illustrated in Figure C-3).

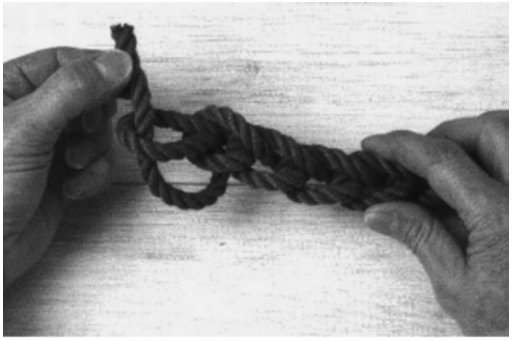

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Figure C-3 Step 5 of the Simple Chain

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