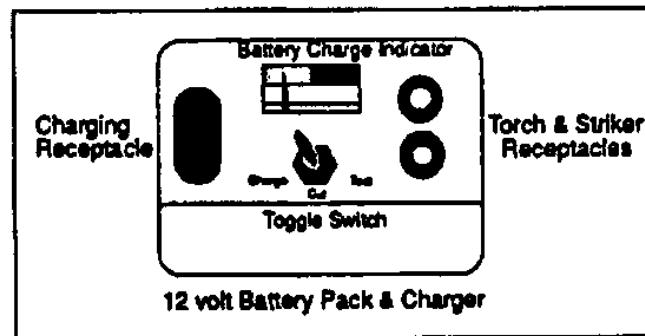
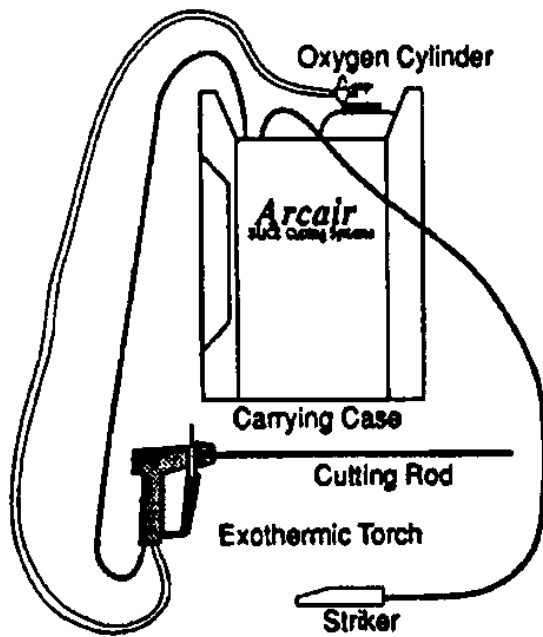


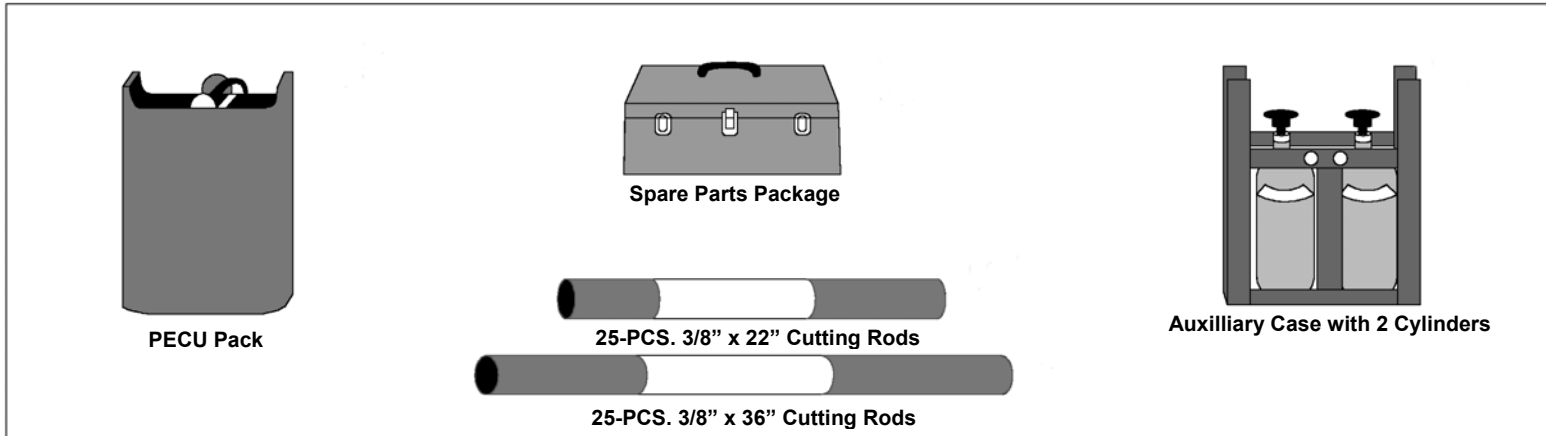
## DAMAGE CONTROL LAYOUT SKETCHES

### SECTION 1 - ACCESS EVOLUTION

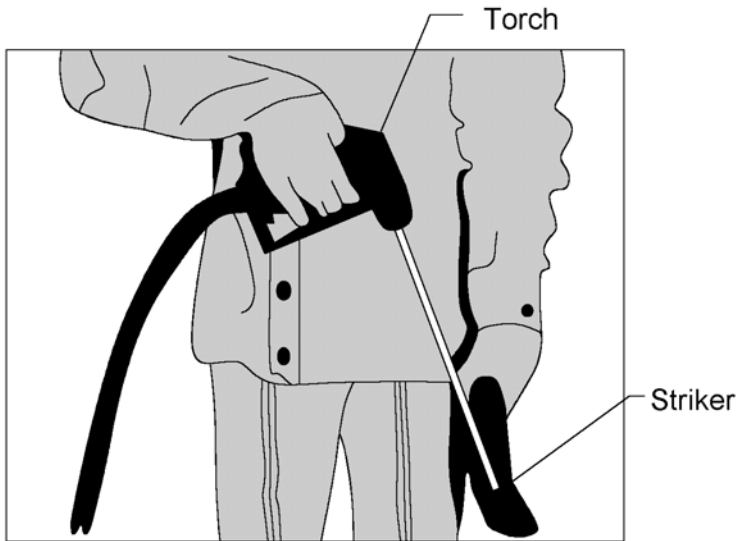
SKETCH NO.	TITLE OF SKETCH	SHEET NO.
001	Portable Exothermic Cutting Unit (PECU) Equipment	1-2
002	Portable Exothermic Cutting Unit (PECU) - Gaining Access to Damaged Compartments Using PECU	1-3
003	Portable Hydraulic Access and Rescue System (PHARS) Equipment	1-4
004	Portable Hydraulic Access and Rescue Equipment (PHARS)	1-5
005	Portable Hydraulic Access and Rescue System (PHARS) - Gaining Access Through Watertight Door with Hydraulic Spreader	1-6
006	Portable Hydraulic Access and Rescue System (PHARS)	1-7
007	Rescue and Patient Transportation Devices	1-8
008	One Man Moving a Casualty	1-9
009	Two-Man Carries	1-10
010	Cardiopulmonary Resuscitation	1-11
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013	Bowline Knot - A Good Knot for Forming a Loop that will not Slip Under Strain and May be Easily Untied	1-14
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023	Figure Eight Follow-Through Knot	1-24
024	Figure Eight Bend Knot	1-25
025	Double Fisherman's Bend Knot	1-26
026	Munter Hitch Knot	1-27
027	Butterfly Knot	1-28
028	Prusic Hitch Knot with Double and Triple Wrap	1-29



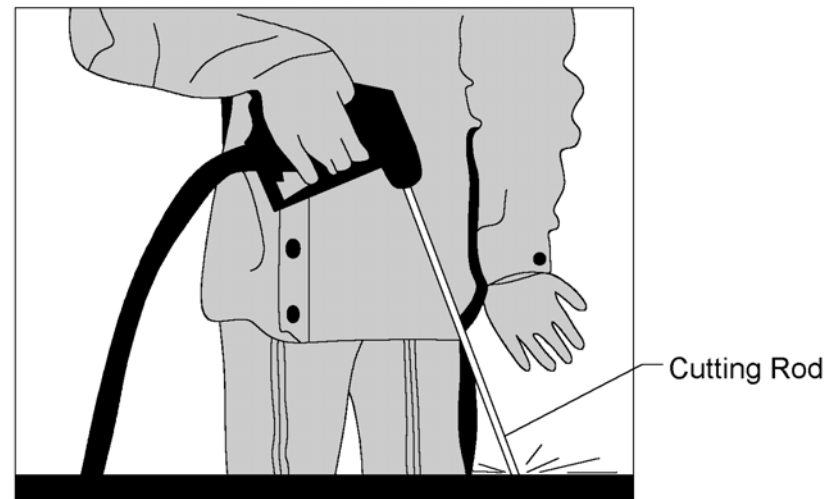
ACCESS EVOLUTION - SKETCH #001  
 Portable Exothermic Cutting Unit (PECU) Equipment



**PECU ASSEMBLY**

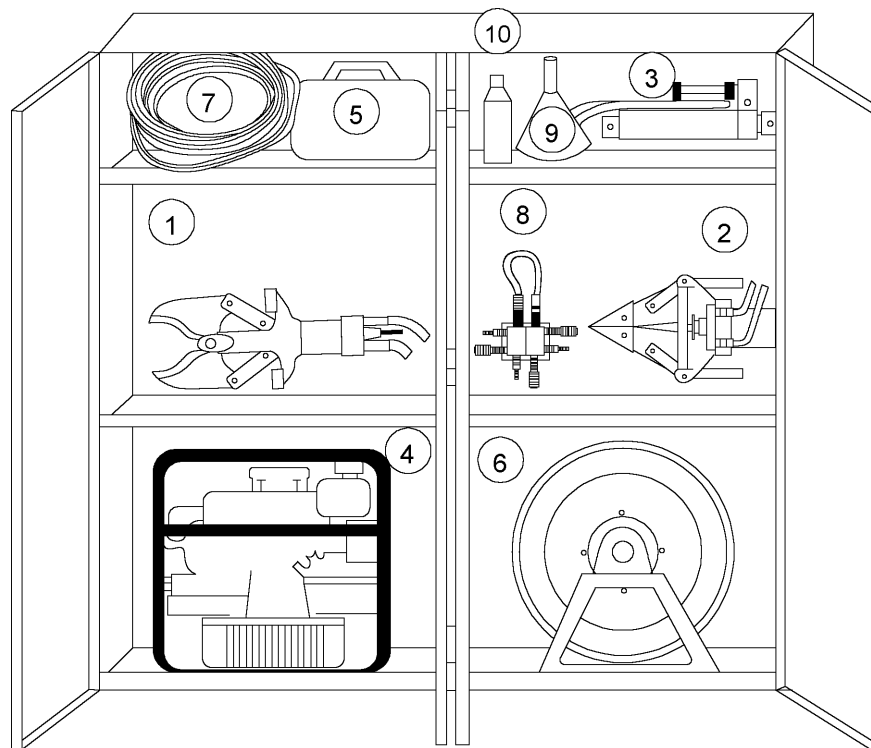


**IGNITING PECU ROD**



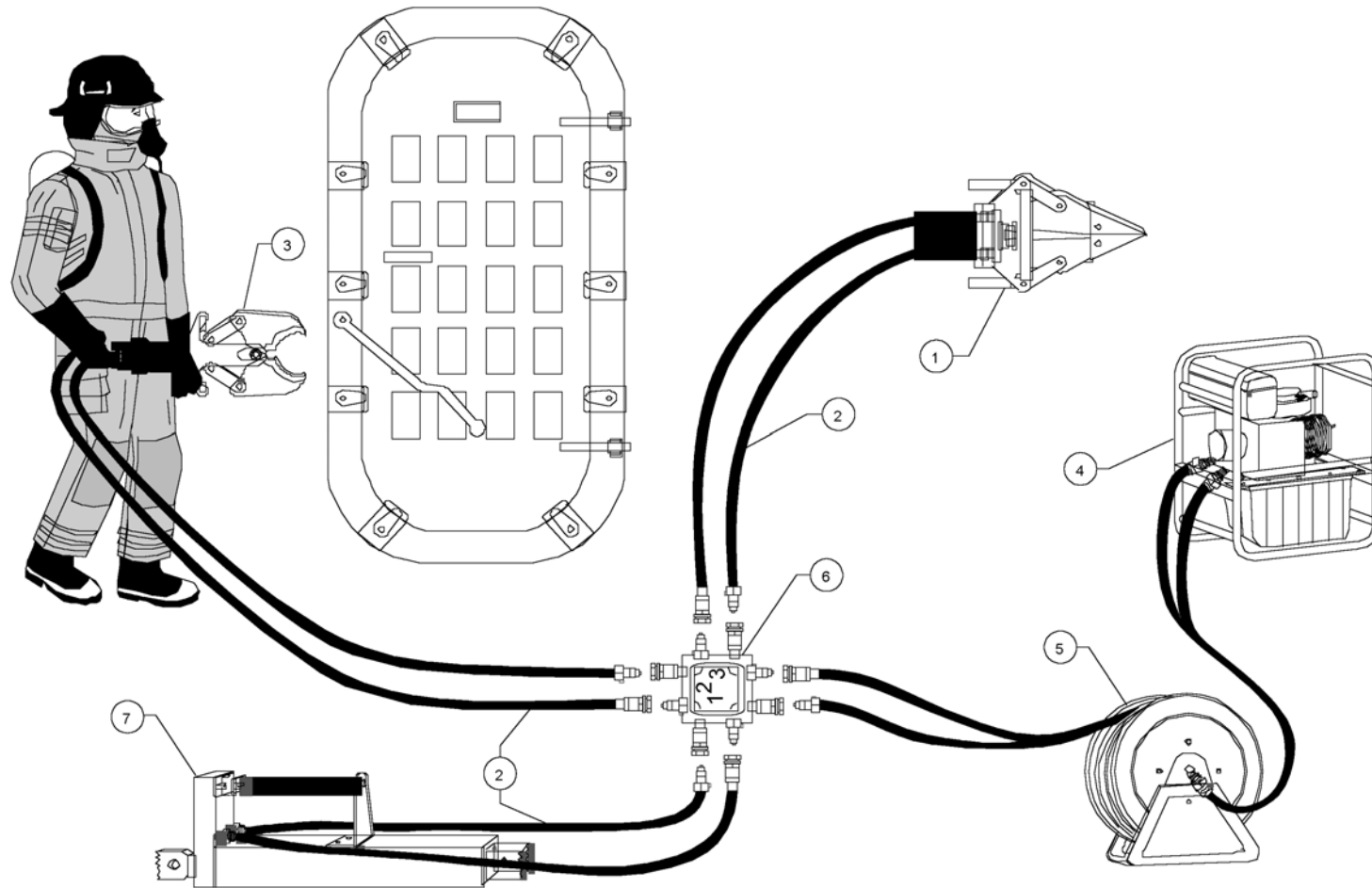
**PIERCING THROUGH SURFACE**

**ACCESS EVOLUTION - SKETCH #002**  
**Portable Exothermic Cutting Unit (PECU) - Gaining Access to Damaged Compartments Using PECU**



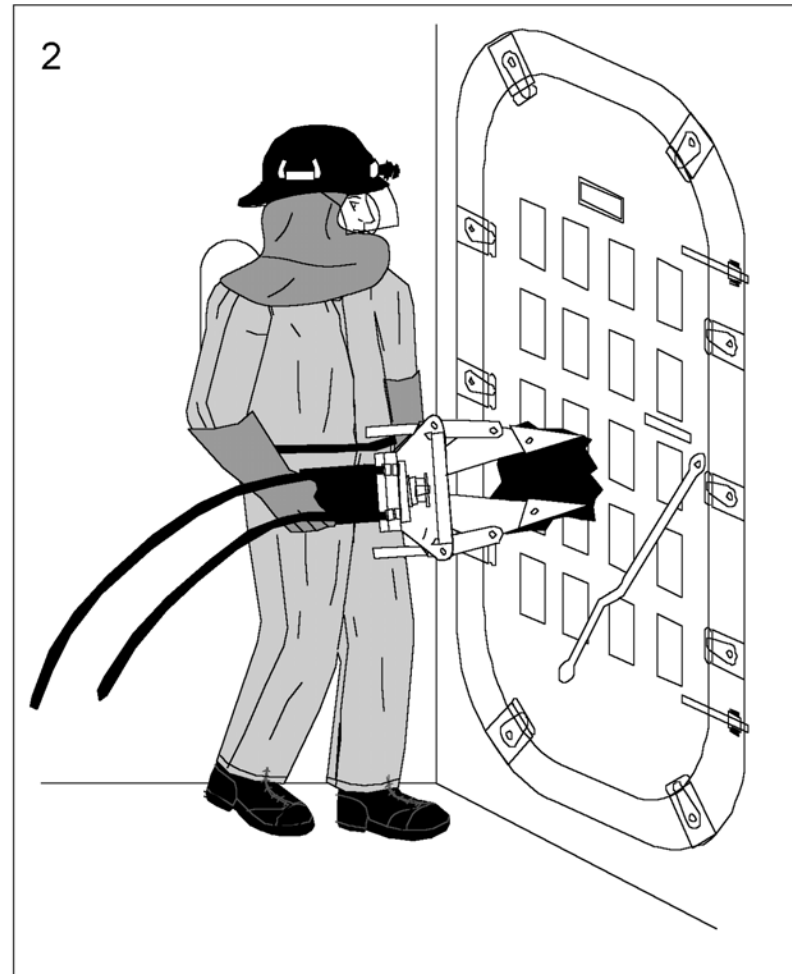
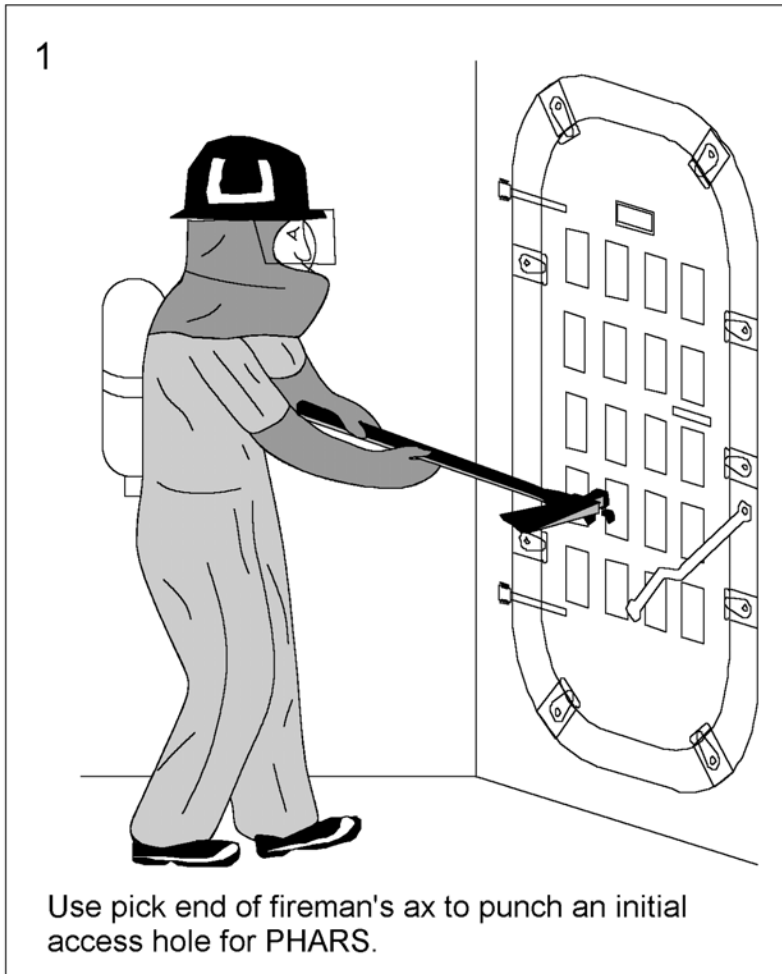
ITEM	EQUIPMENT
1	CUTTER, HYDRAULIC
2	SPREADER, HYDRAULIC
3	EXTENSION RAM, HYDRAULIC
4	DIESEL ENGINE
5	ATTACHMENT CASE
6	HOSE REEL - 100 FOOT WITH MANIFOLD ATTACHED TO HOSE
7	EXTENSION HOSE, 1" X 16'
8	MULTIPLE CONNECTION MANIFOLD
9	FUNNEL
10	OIL, CASE - 7 QUARTS (1 QT ILLUSTRATED)

**ACCESS EVOLUTION - SKETCH #003**  
**Portable Hydraulic Access and Rescue System (PHARS) Equipment**

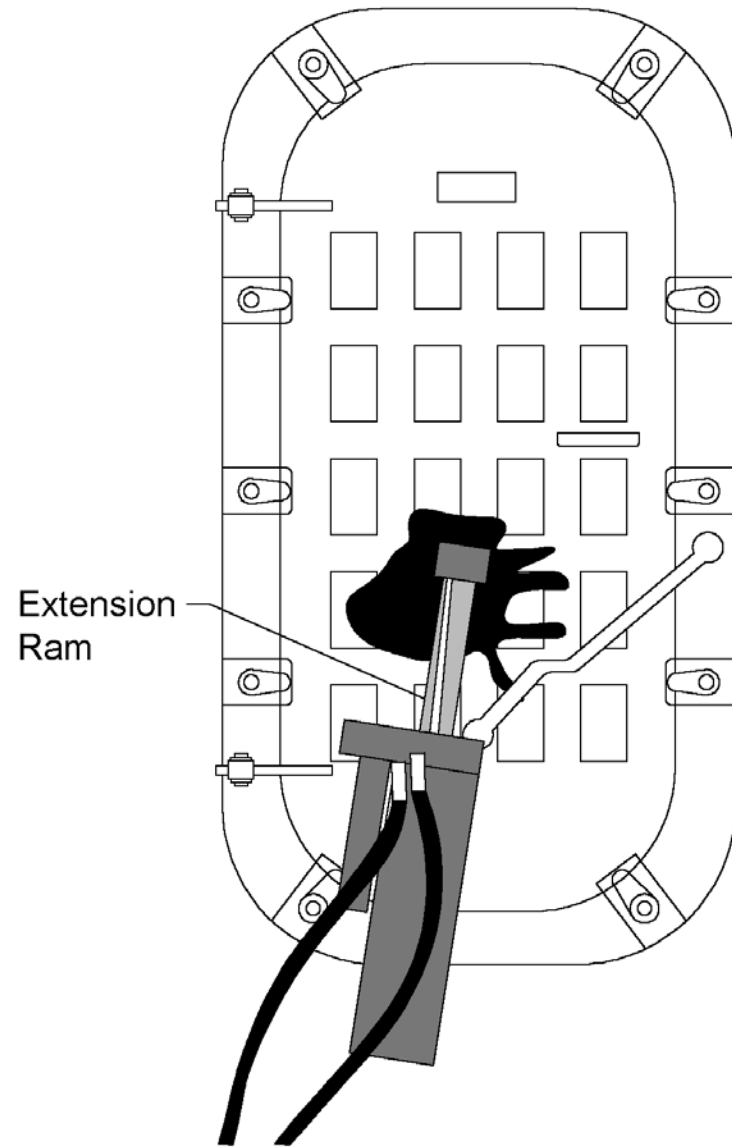
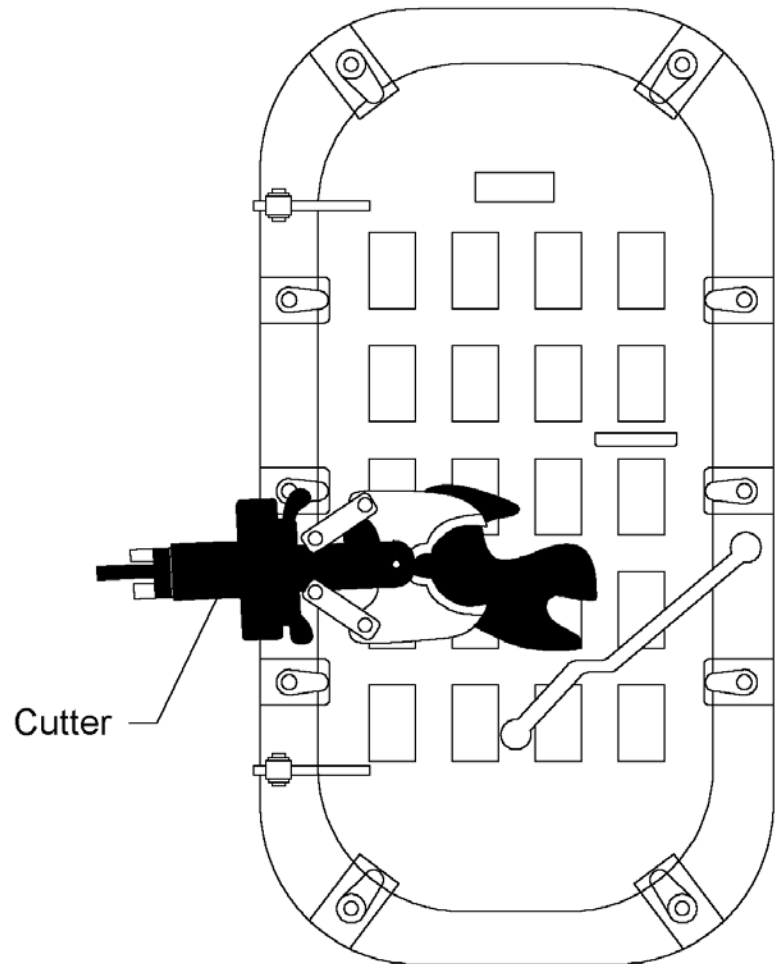


ITEM	QTY	EQUIPMENT
1	1	HYDRAULIC SPREADER
2	AR	HOSE, 30 FOOT, HYDRAULIC EXTENSION
3	1	HYDRAULIC CUTTER
4	1	ENGINE, DIESEL
5	1	HYDRAULIC 100' HOSE REEL (TO ENGINE)
6	1	MULTIPLE CONNECTION MANIFOLD (2 OR 3 TOOLS)
7	1	HYDRAULIC EXTENSION RAM

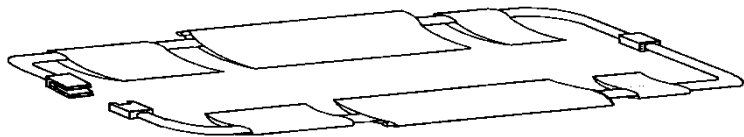
**ACCESS EVOLUTION - SKETCH #004**  
**Portable Hydraulic Access and Rescue Equipment (PHARS)**



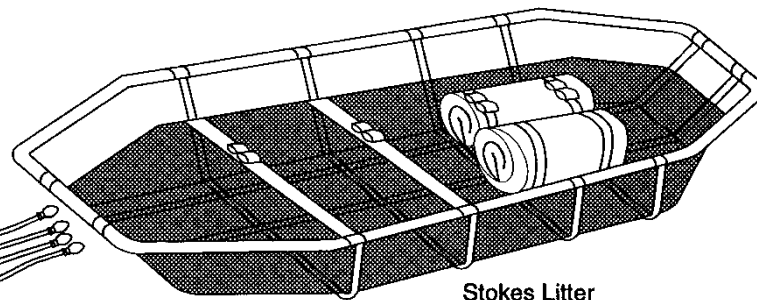
**ACCESS EVOLUTION - SKETCH #005**  
**Portable Hydraulic Access and Rescue System (PHARS) - Gaining Access Through Watertight Door with Hydraulic Spreader**



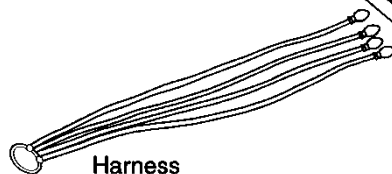
**ACCESS EVOLUTION - SKETCH #006**  
**Portable Hydraulic Access and Rescue System (PHARS)**



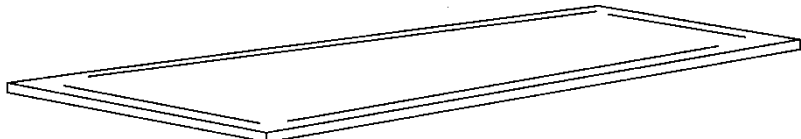
Scoop Stretcher



Stokes Litter



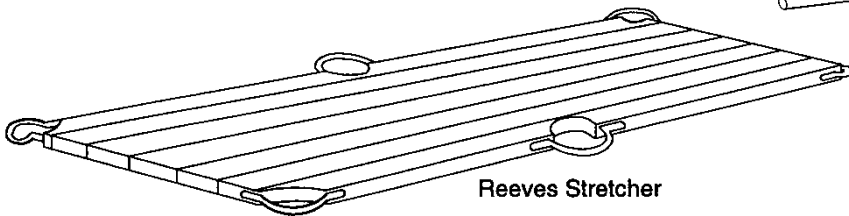
Harness



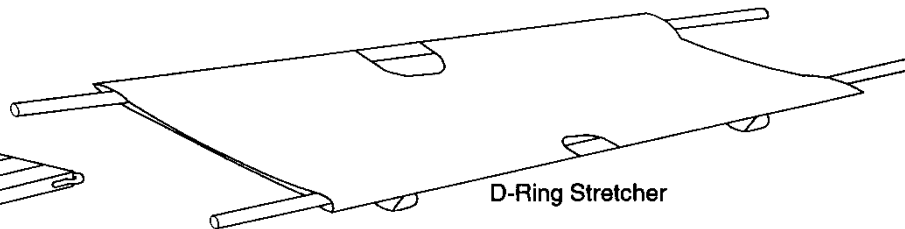
Long Spine Board



Short Spine Board



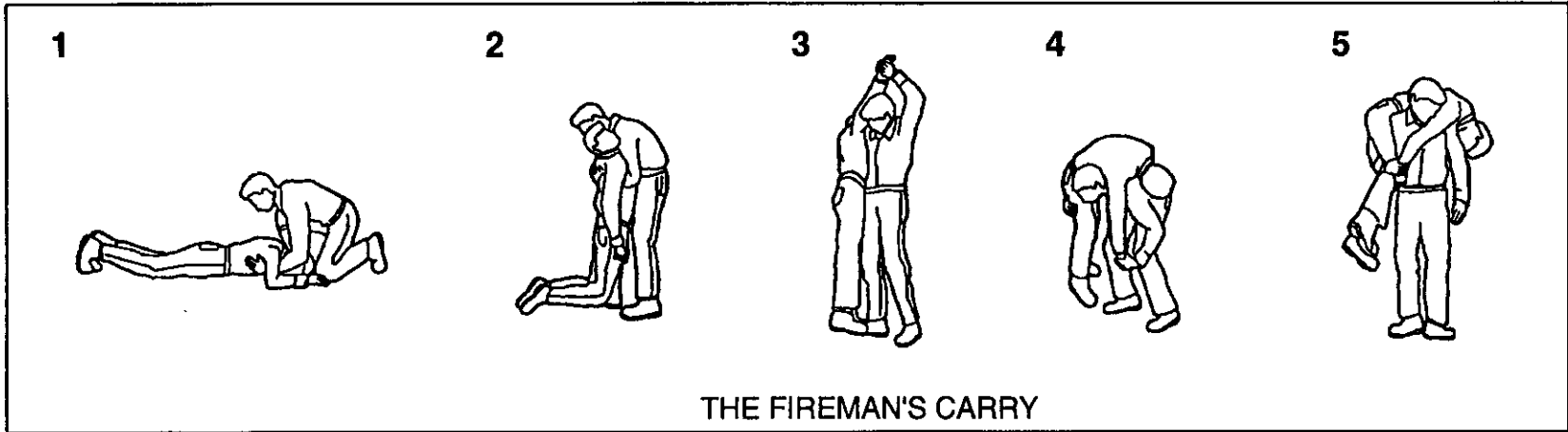
Reeves Stretcher



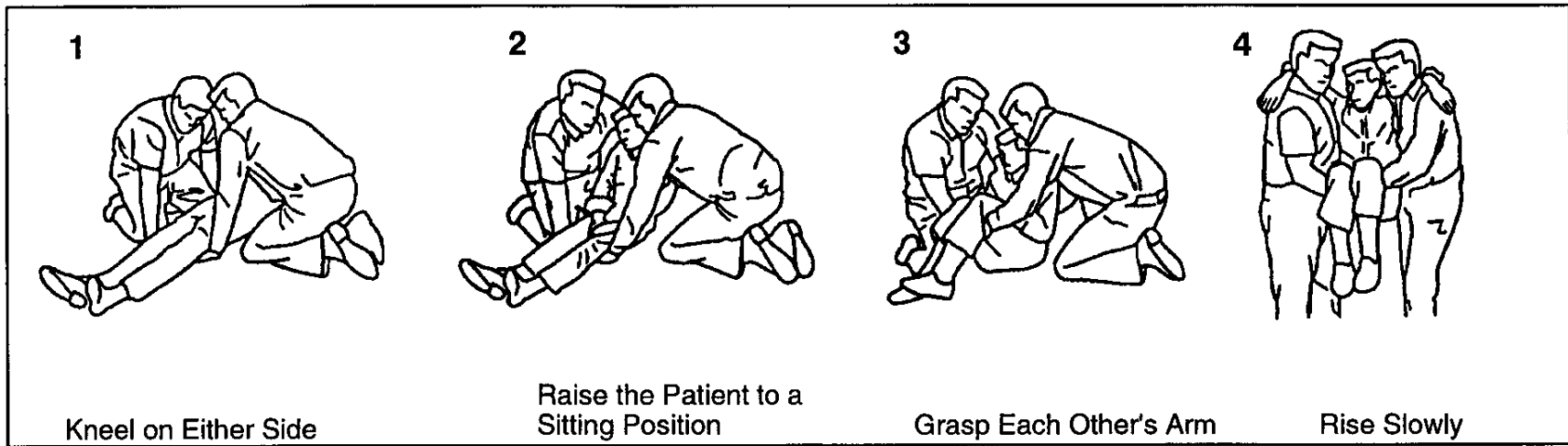
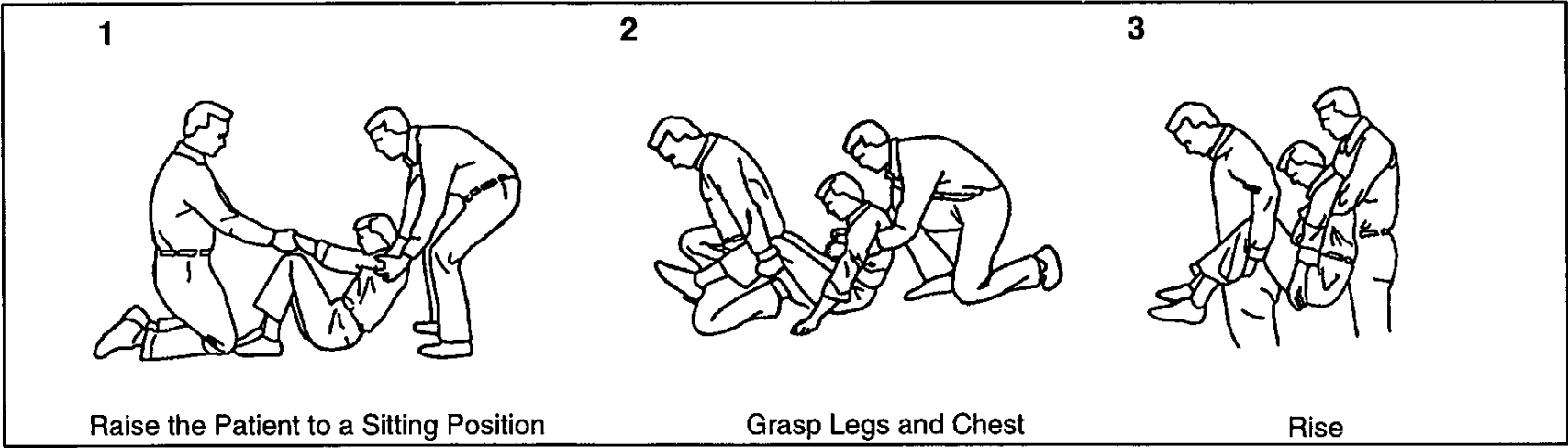
D-Ring Stretcher

**ACCESS EVOLUTION - SKETCH #007**  
**Rescue and Patient Transportation Devices**

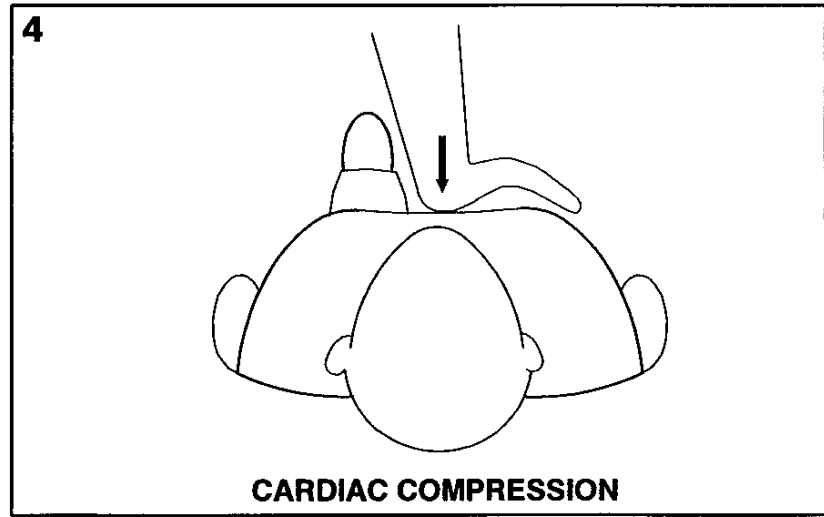
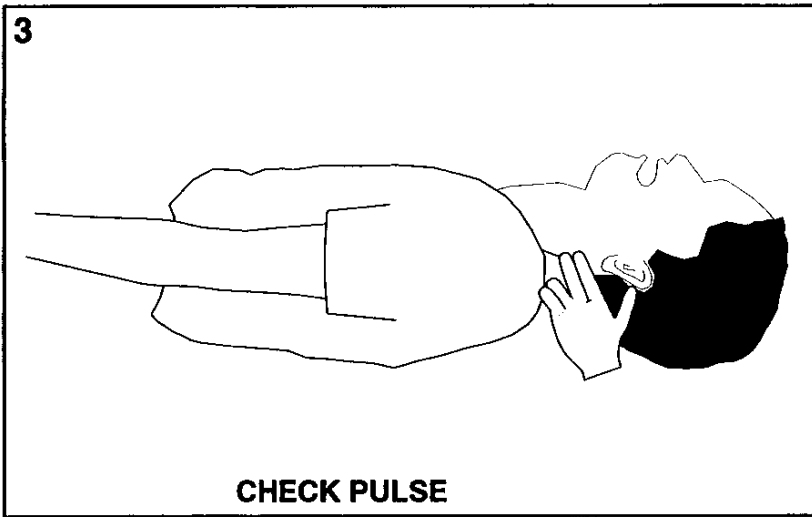
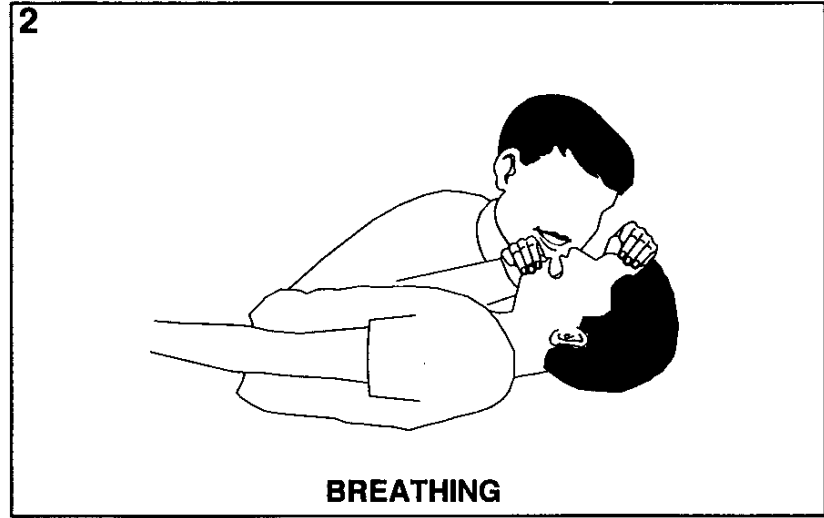
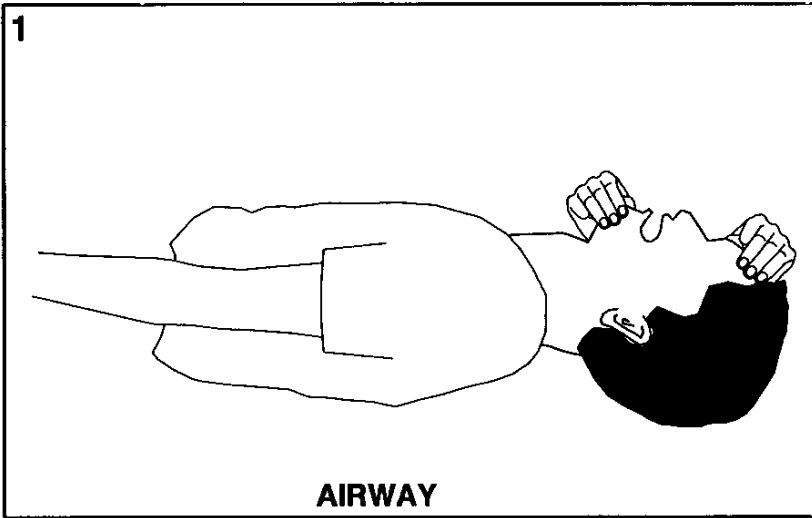




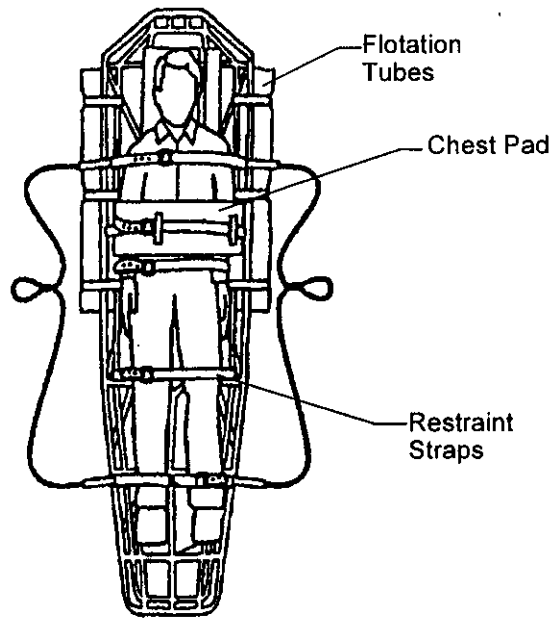
**ACCESS EVOLUTION - SKETCH #008**  
**One Man Moving a Casualty**



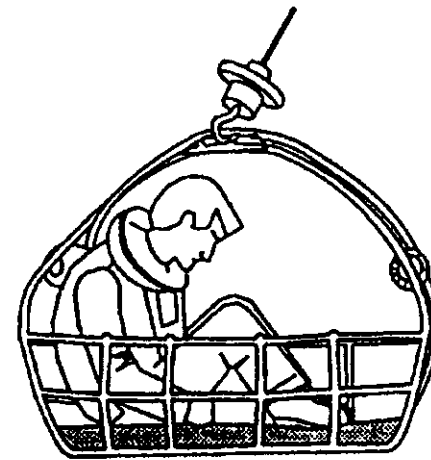
**ACCESS EVOLUTION - SKETCH #009**  
**Two-Man Carries**



**ACCESS EVOLUTION - SKETCH #010**  
**Cardiopulmonary Resuscitation**

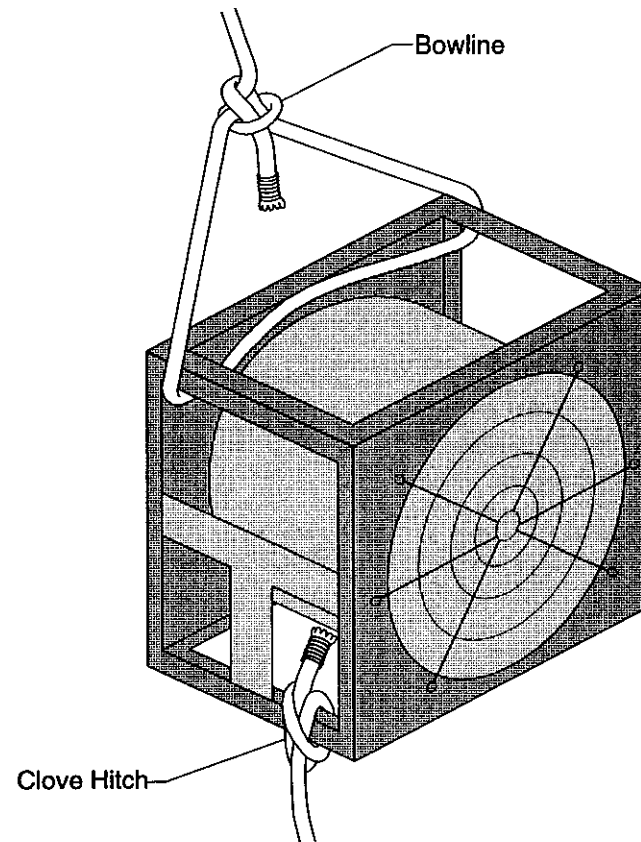
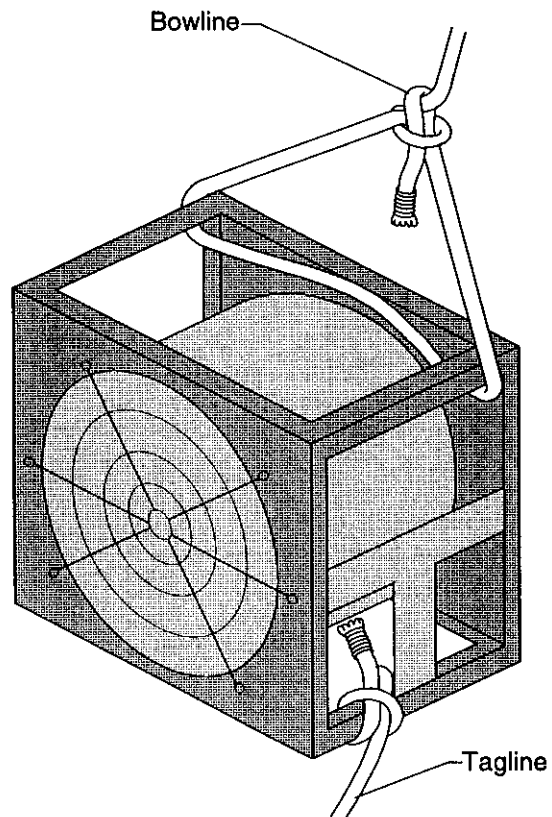


Stokes Litter



Rescue Basket

**ACCESS EVOLUTION - SKETCH #011**  
**Preparing a Victim for Helicopter Evacuation**



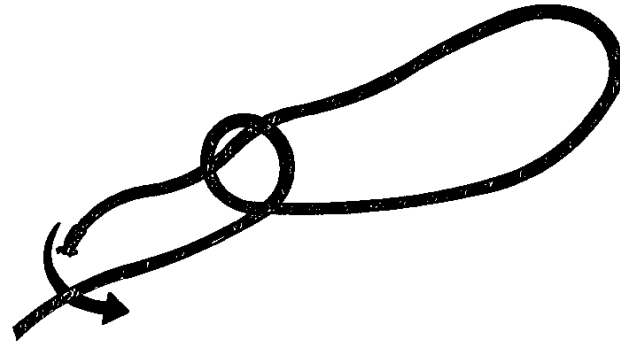
**ACCESS EVOLUTION - SKETCH #012**  
**Example of Hoisting Equipment Using a Bowline and a Clove Hitch**

1



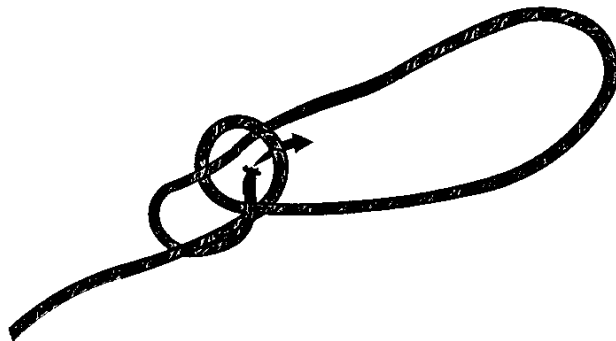
Measure off sufficient rope to form the size of the knot desired and form a loop in the standing part.

2



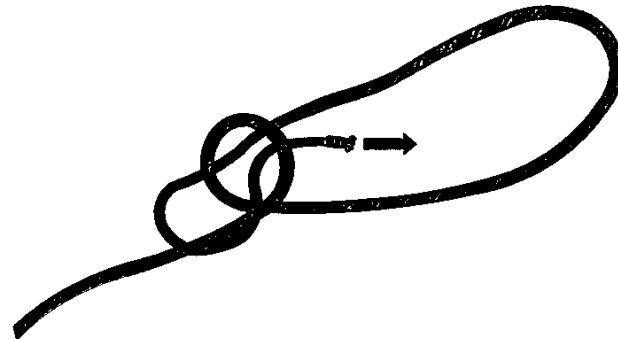
Pass the running part upward through the loop.

3



Pass the running part over the top of the loop under the standing part and bring the end of the running part completely around the standing part and down through the loop.

4

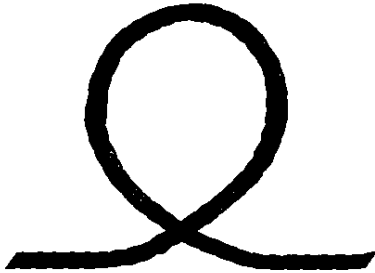


Pull the knot snugly into place, forming an "inside" bowline with the running part of the inside of the loop.

**ACCESS EVOLUTION - SKETCH #013**

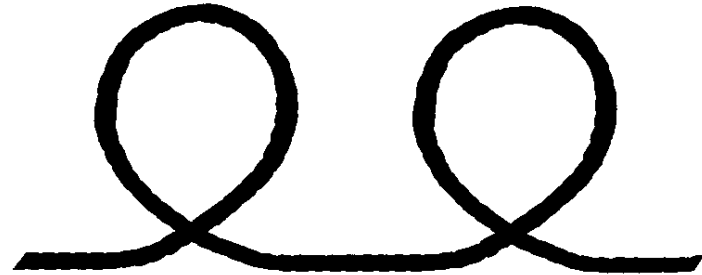
**Bowline Knot - A Good Knot for Forming a Loop that will not Slip Under Strain and May be Easily Untied**

1



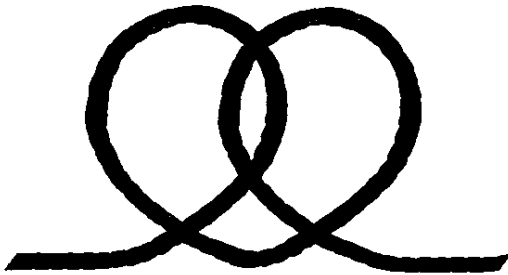
Form a loop in the left hand with the running part to the right crossing under the standing part.

2



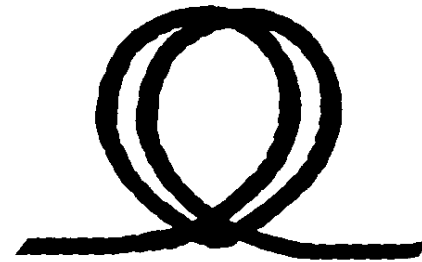
Slide another loop in the right hand again with the running part crossing under the standing part.

3



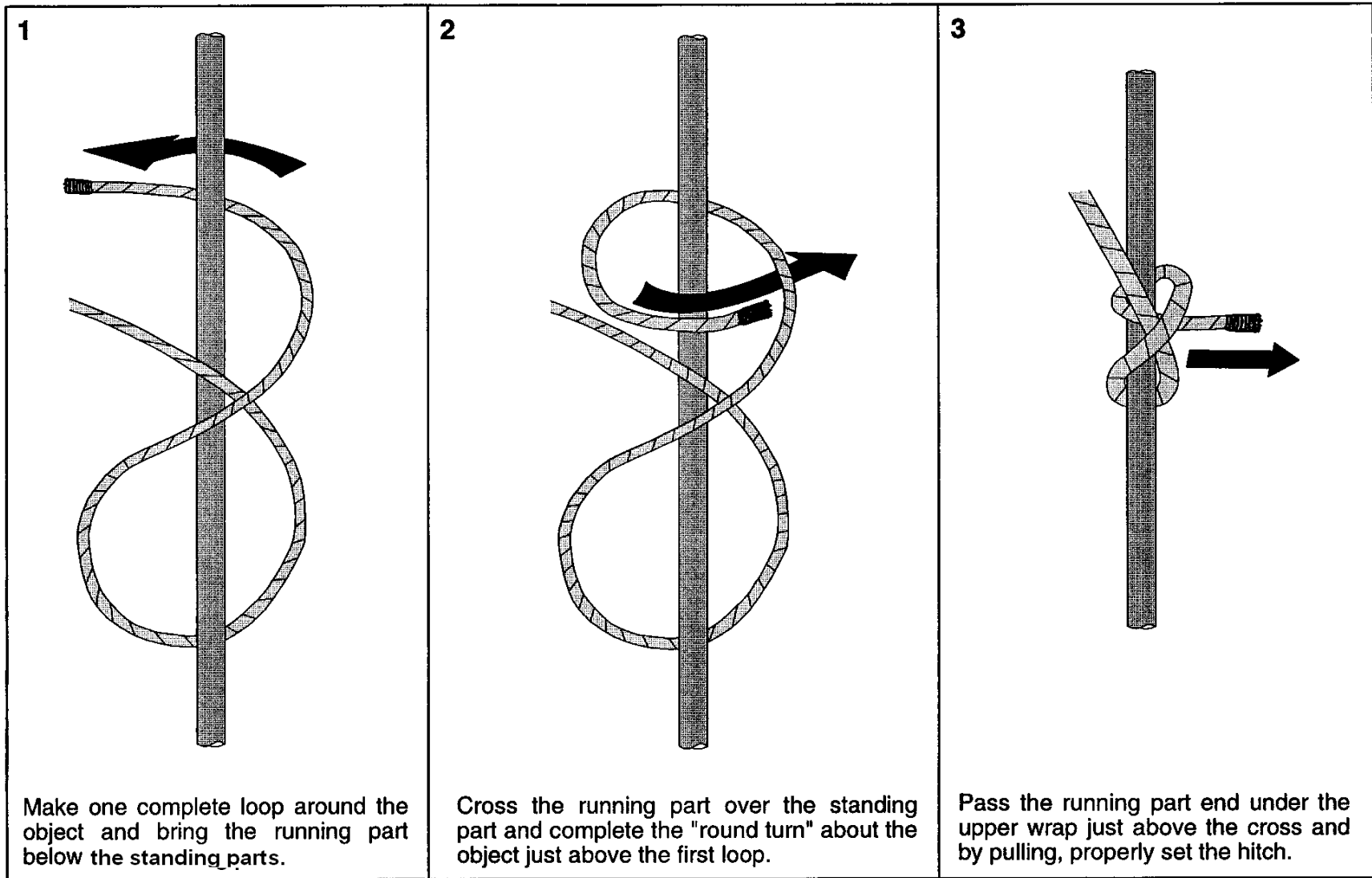
Slide the right hand loop on top of the left hand loop.

4



Hold the two loops together at the rope and thus form the clove hitch. Slip these loops over the object that the knot is to be tied around. Pull the ends in opposite directions to tighten.

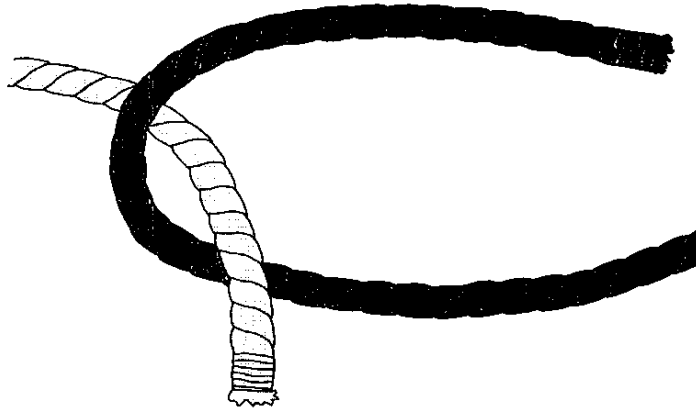
**ACCESS EVOLUTION - SKETCH #014**  
**Clove Hitch Knot - Used for Attaching a Rope to an Object Such as a Pole, Post or Hose**



**ACCESS EVOLUTION - SKETCH #015**  
**Clove Hitch Knot - Tying the Clove Hitch Around an Object**

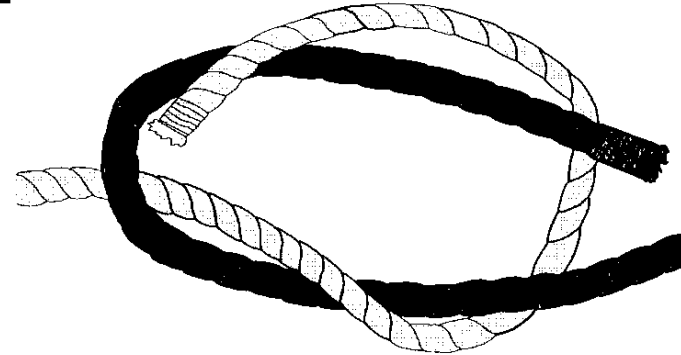


1



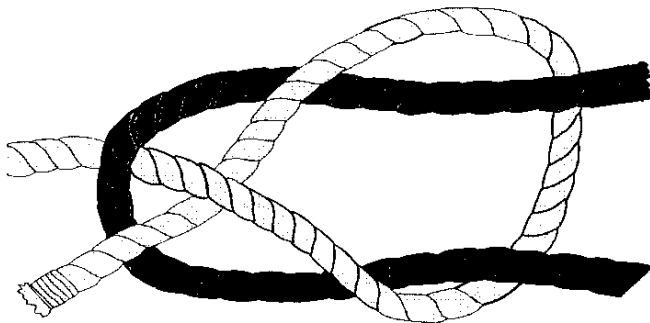
Form a bight in one of the ends to be tied (if two ropes of unequal diameter are being tied, the bight always goes in the larger of the two) and pass the other end through the bight.

2



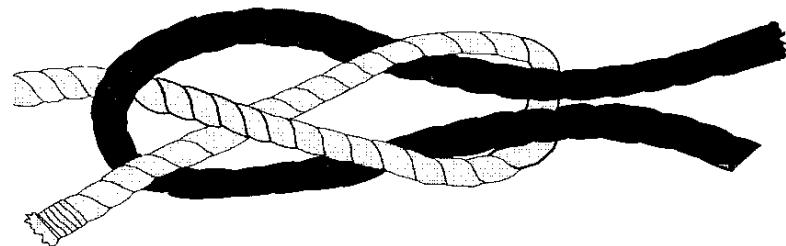
Bring the loose end around both parts of the bight.

3



Tuck this end under its own standing part and over the bight standing part.

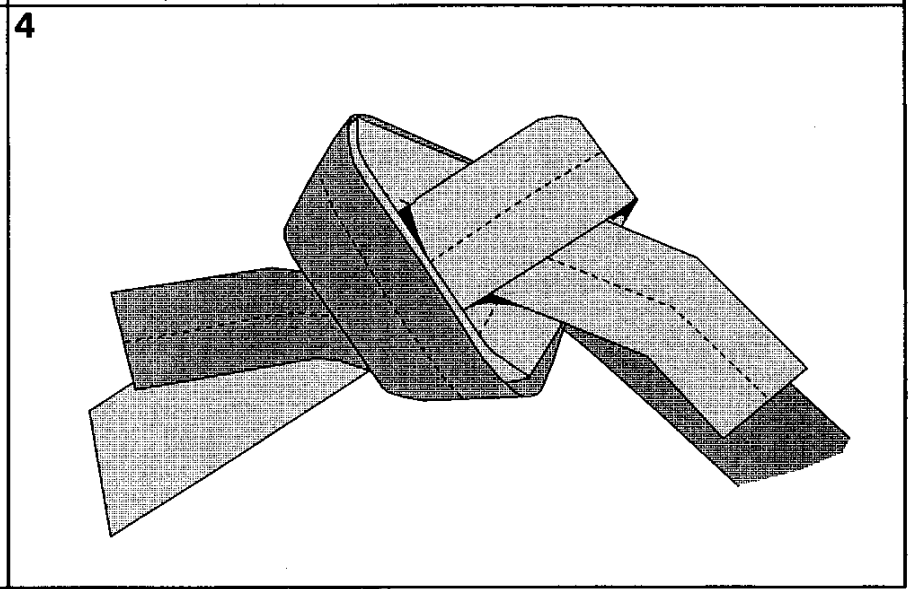
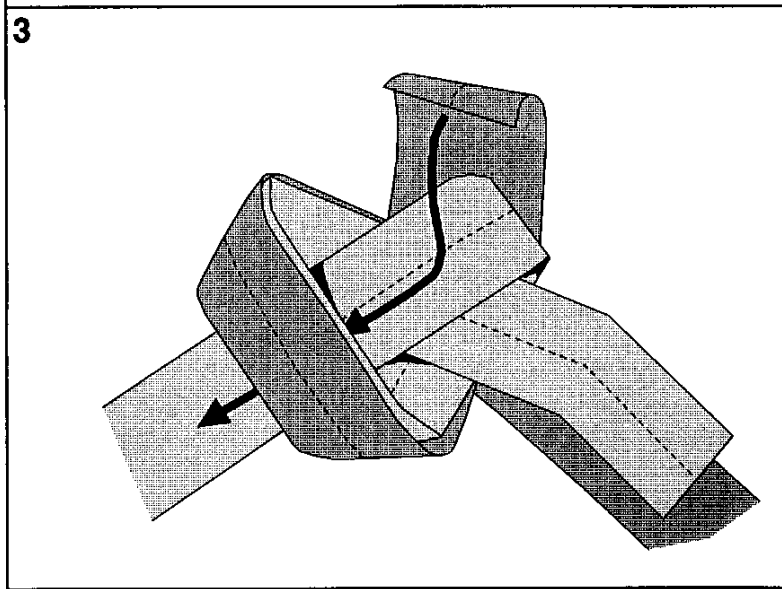
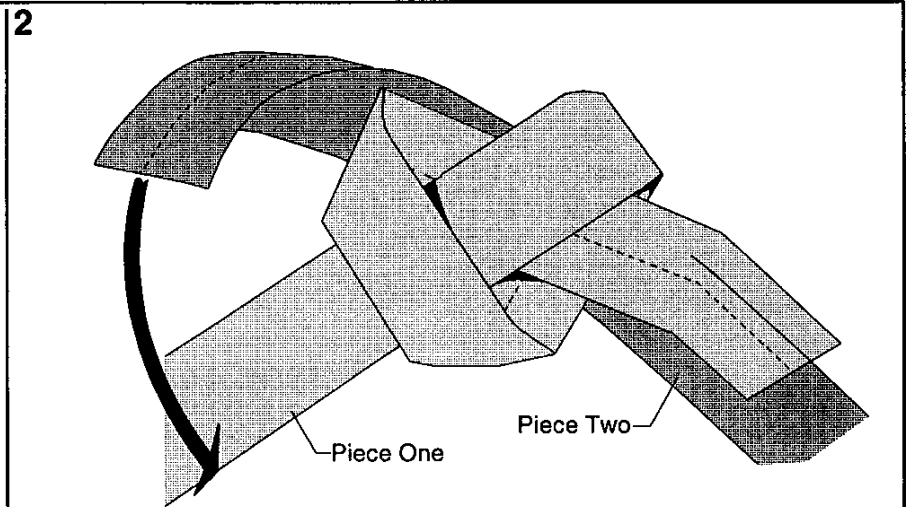
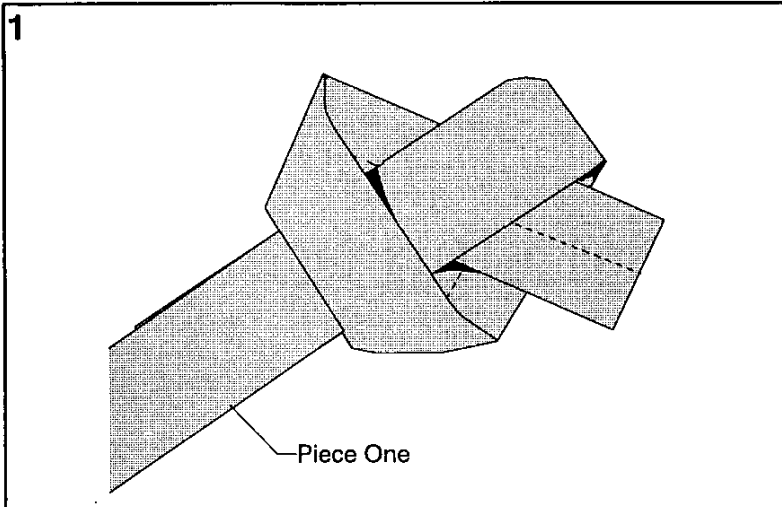
4



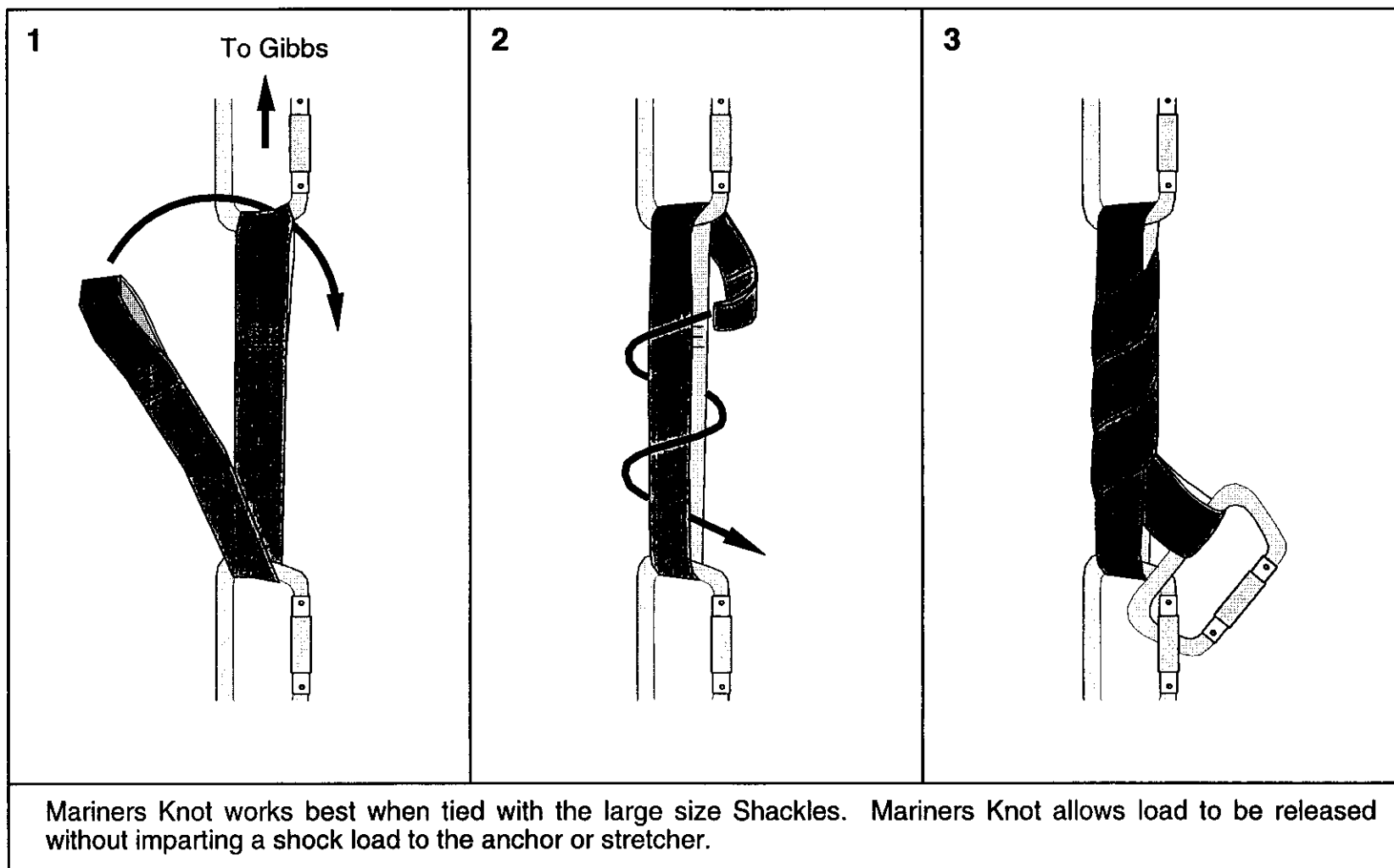
Draw the knot down snug.

**ACCESS EVOLUTION - SKETCH #016**

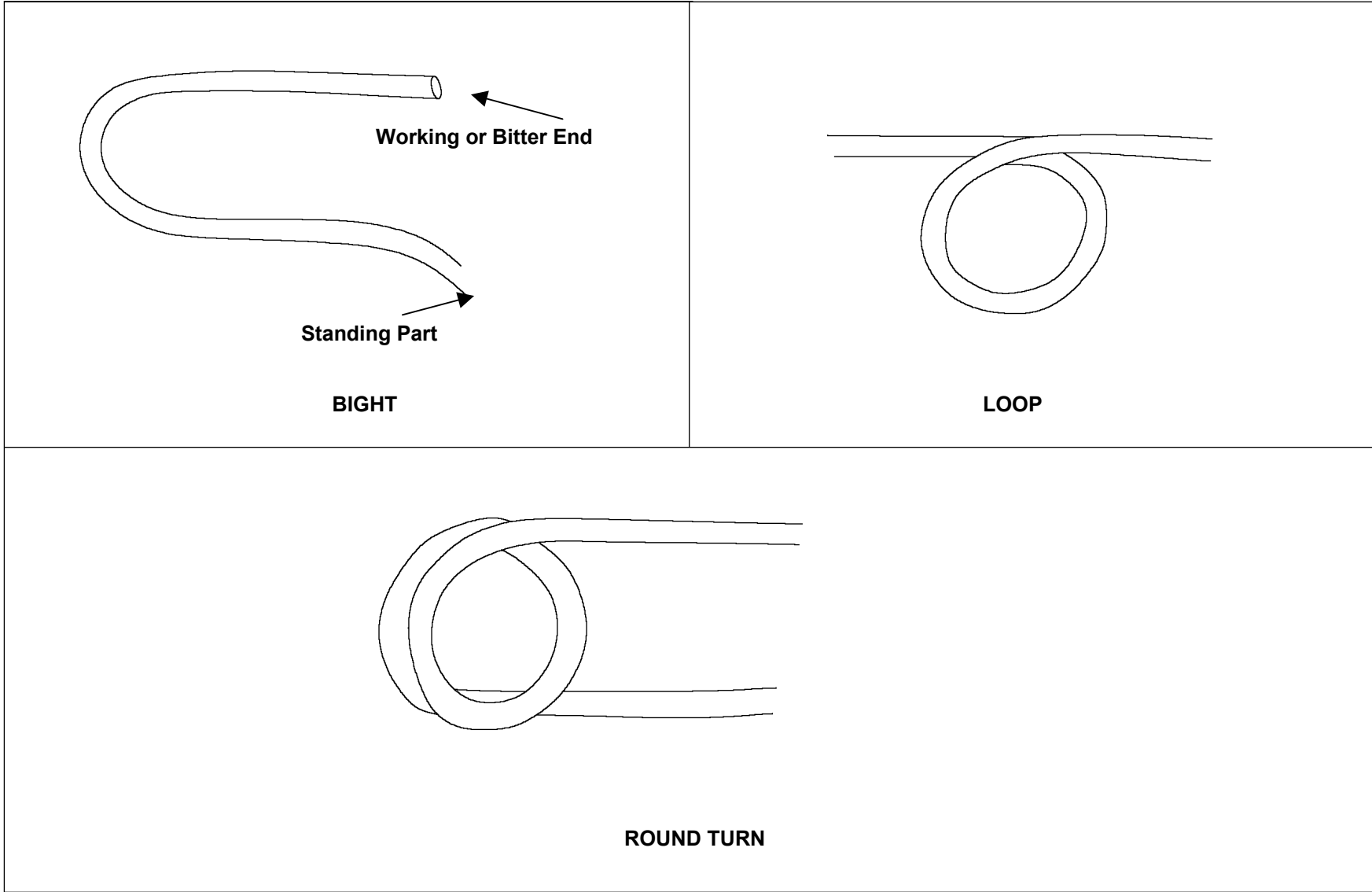
**Becket or Sheet Bend Knot - Used for Joining Two Ropes (Well-Suited for Joining Ropes of Unequal Diameters)**



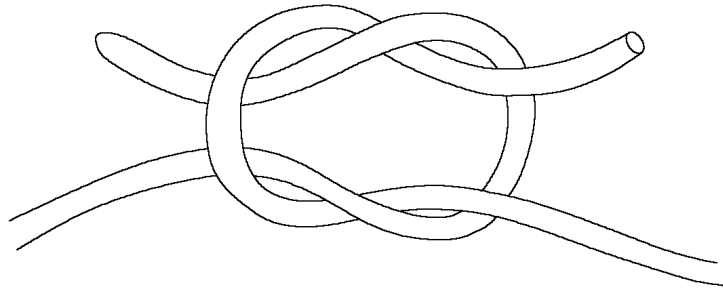
**ACCESS EVOLUTION - SKETCH #017**  
**Water Knot - Used for Joining Two Strips of Canvas or Rope**



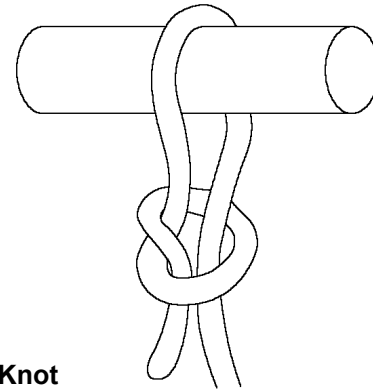
**ACCESS EVOLUTION - SKETCH #018**  
**Mariners Knot - a Knot System that can be Released Under Load**



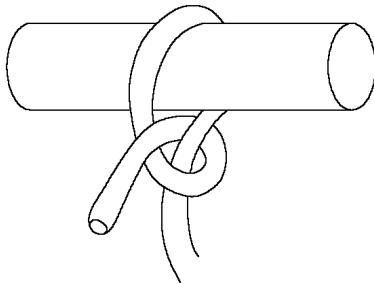
**ACCESS EVOLUTION - SKETCH #019**  
**Terminology Used in Working with Life Lines (Bight, Loop and Round Turn)**



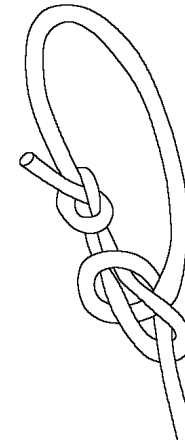
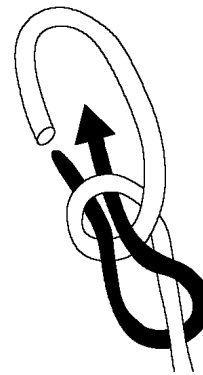
**Square Knot**



**Overhand Knot**

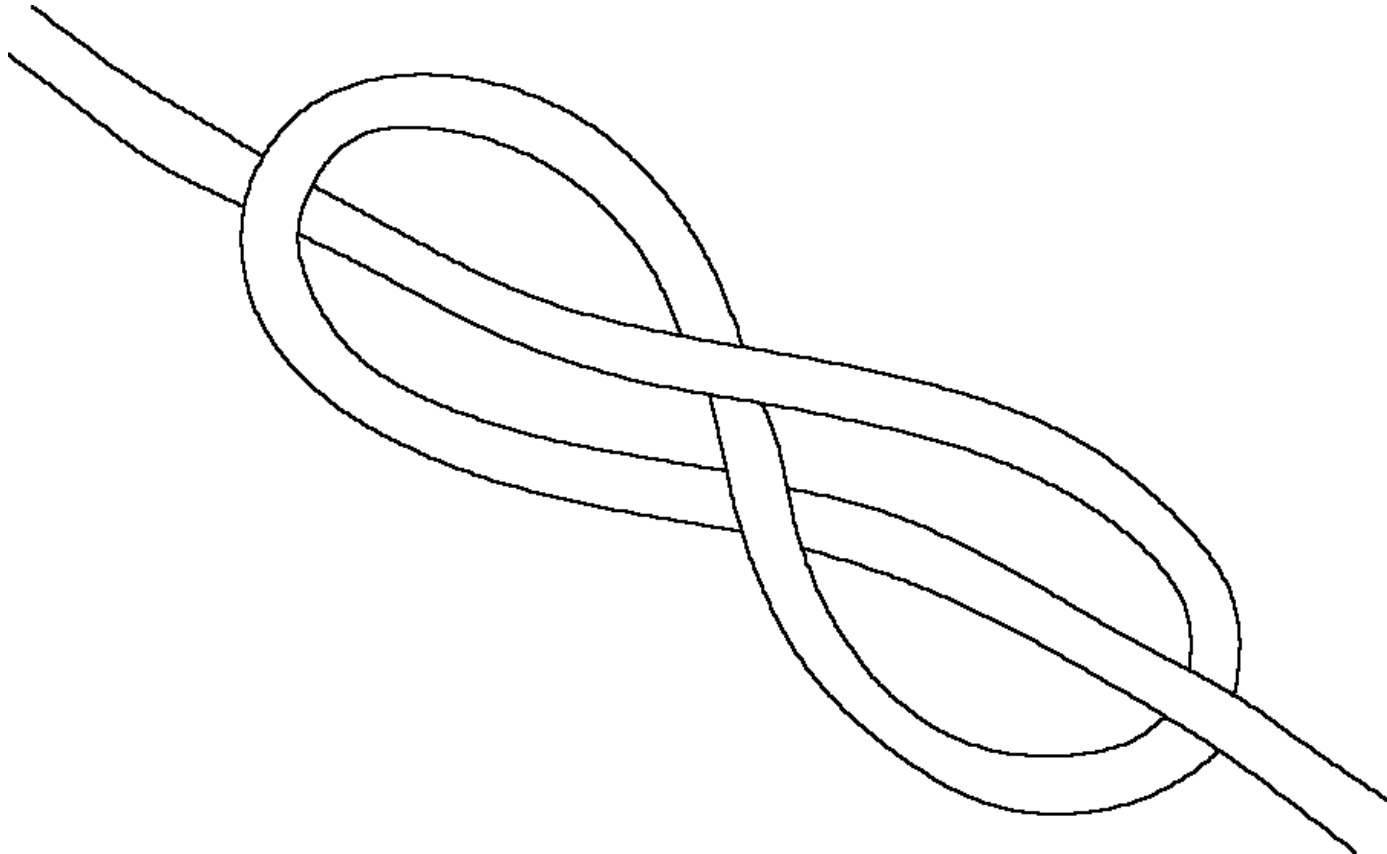


**Half Hitch**

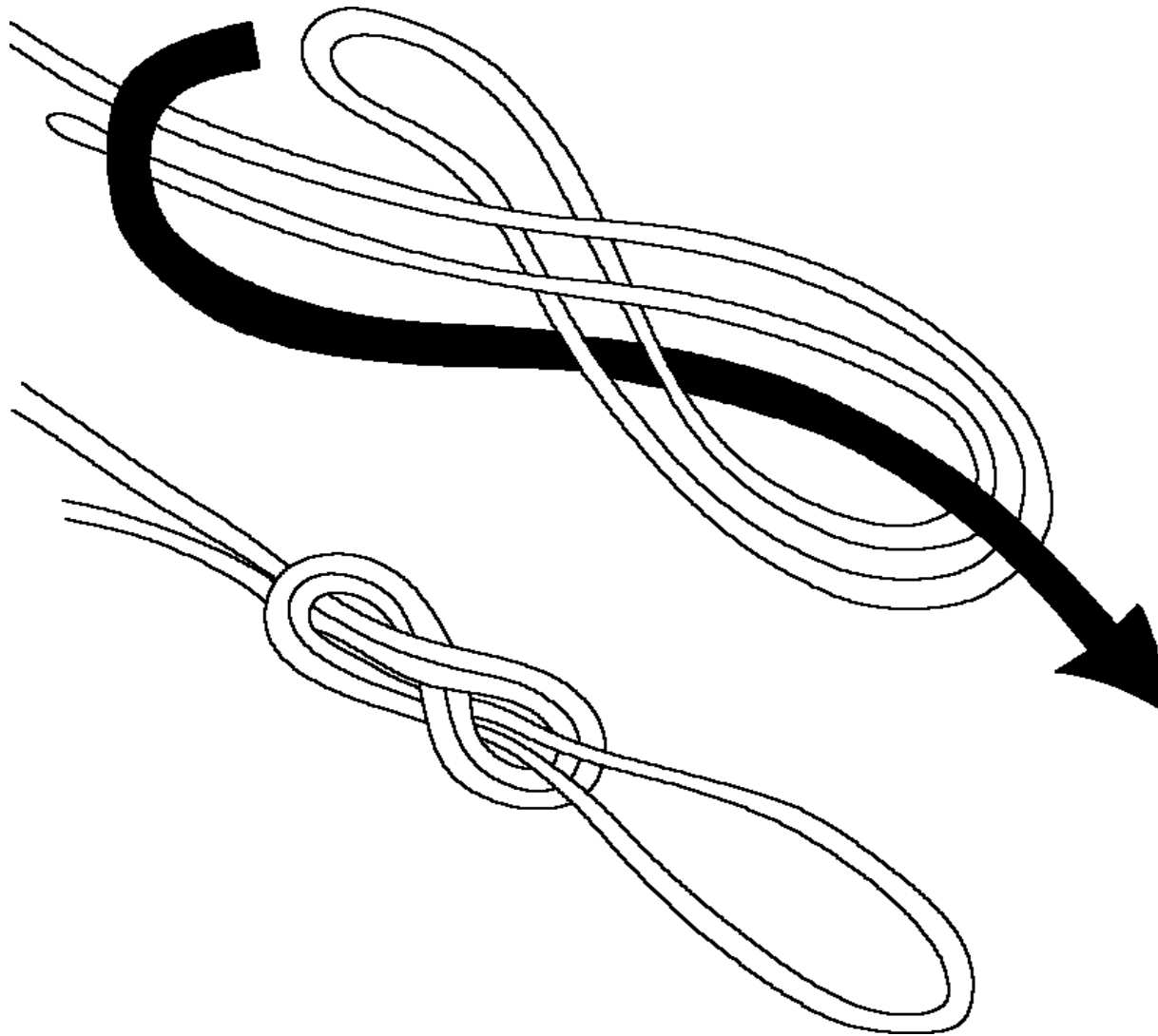


**Bowline with a Safety**

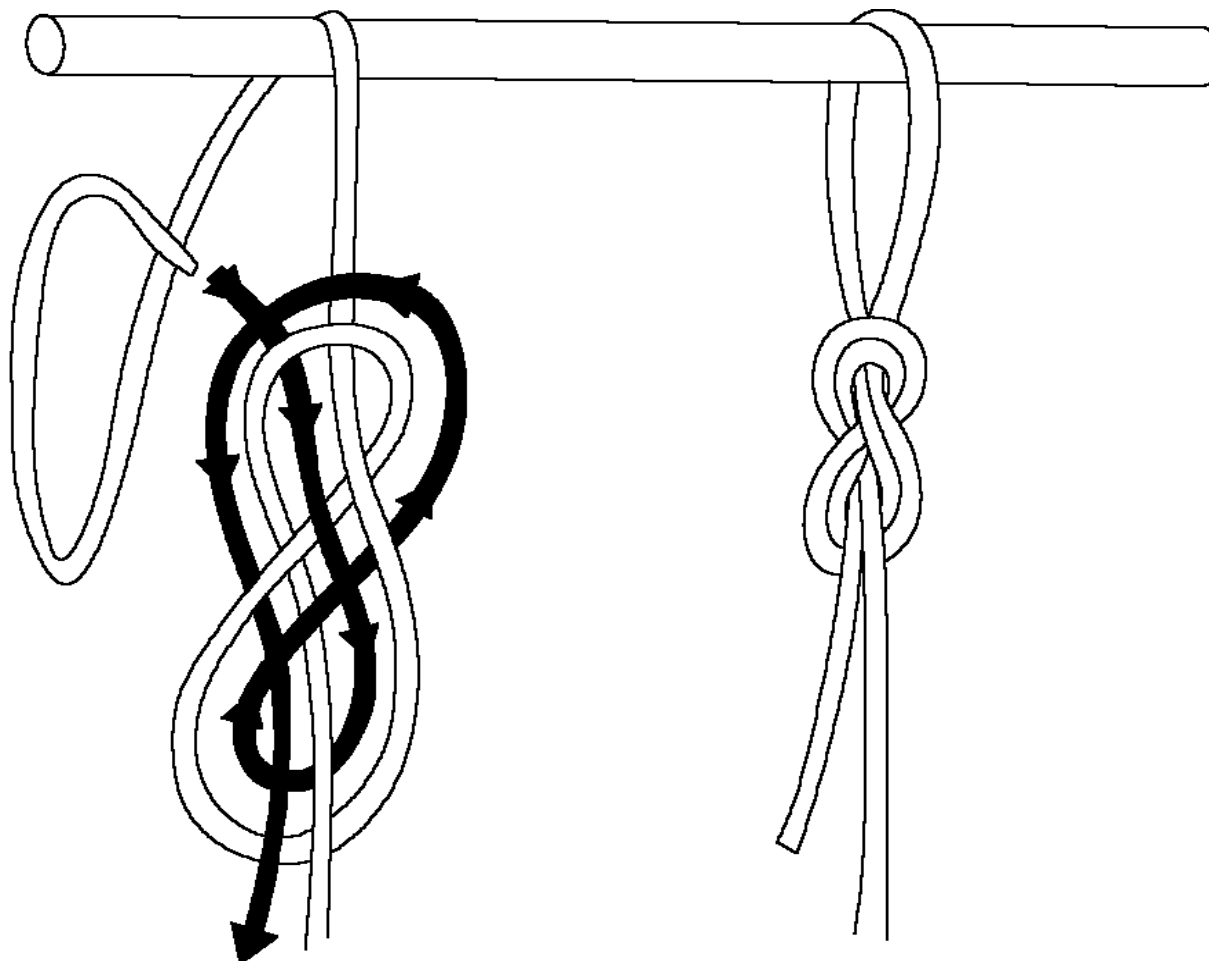
**ACCESS EVOLUTION - SKETCH #020**  
**Some Basic Knots (Square, Overhand, Half Hitch and Bowline with a Safety)**



**ACCESS EVOLUTION - SKETCH #021**  
**Figure Eight Stopper Knot - A Single Figure Eight Knot**

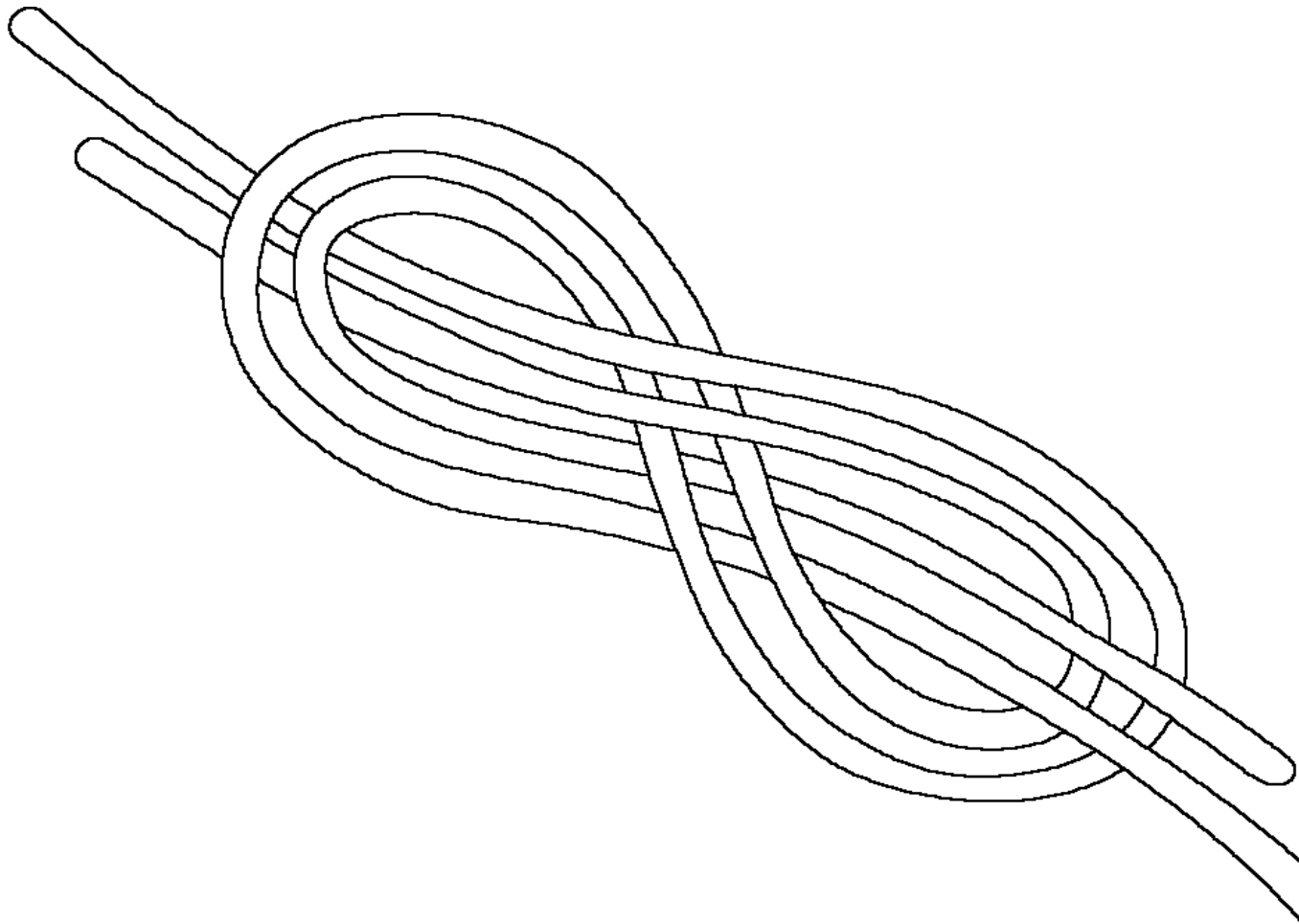


**ACCESS EVOLUTION - SKETCH #022**  
**Figure Eight on a Bight Knot**

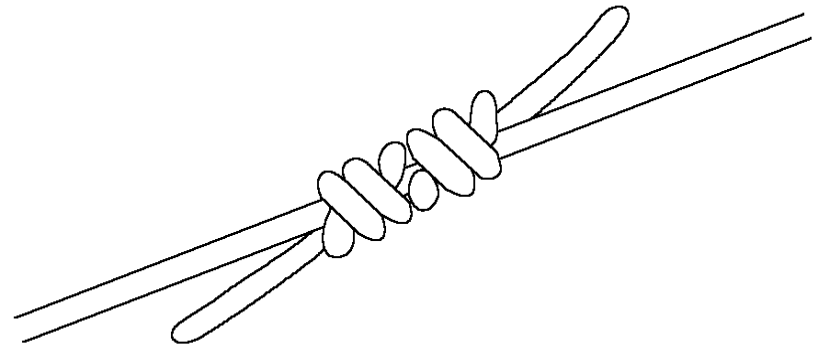
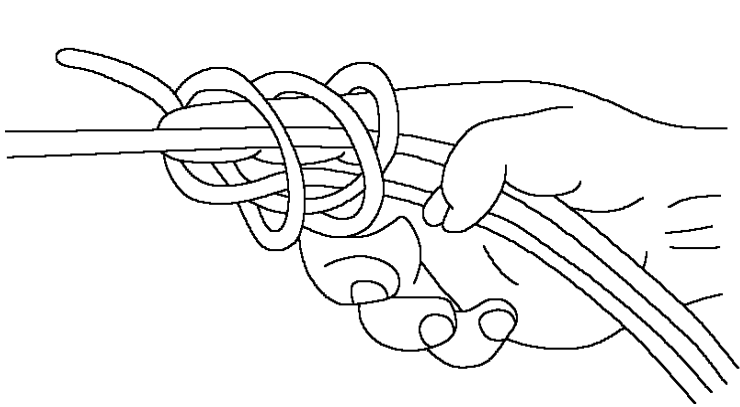
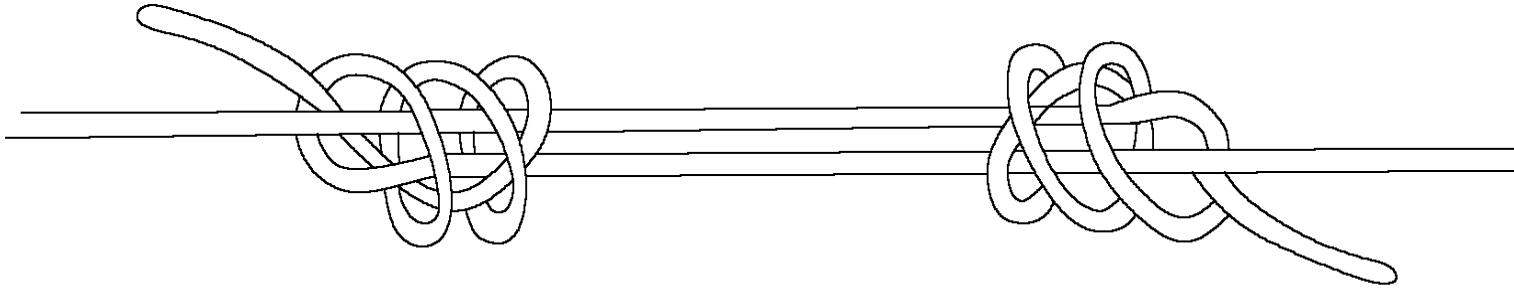


**ACCESS EVOLUTION - SKETCH #023**  
**Figure Eight Follow-Through Knot**

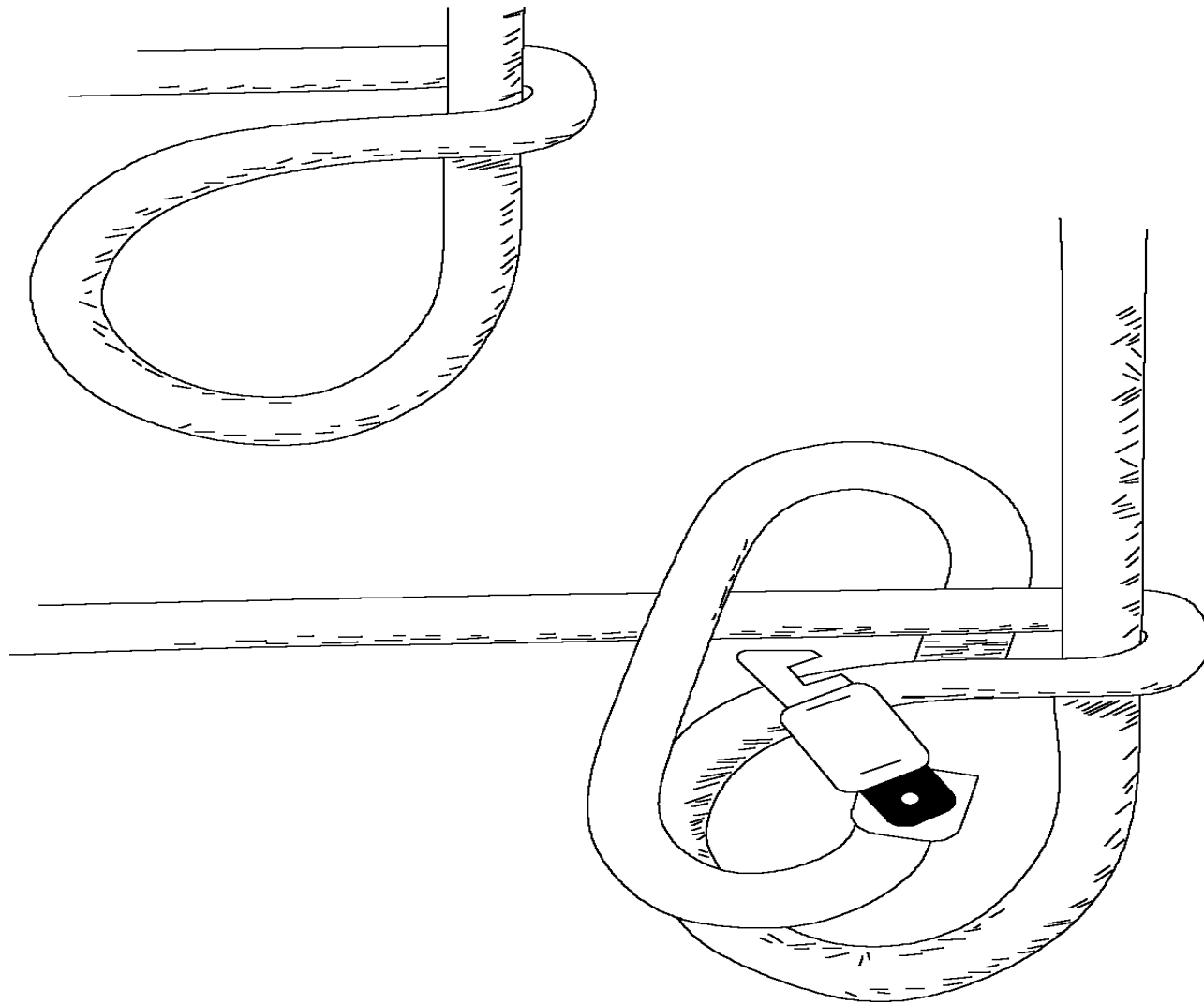




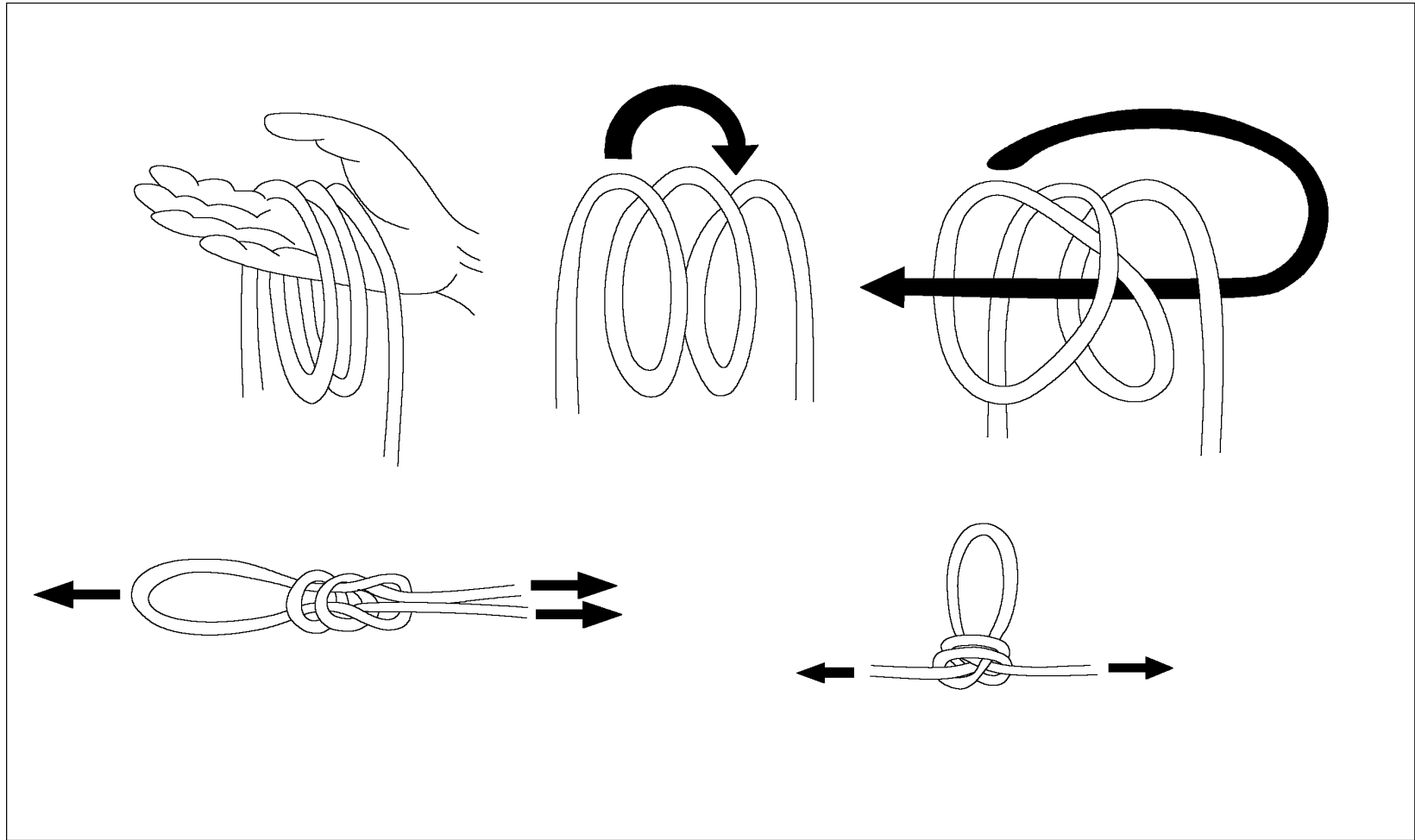
**ACCESS EVOLUTION - SKETCH #024**  
**Figure Eight Bend Knot**



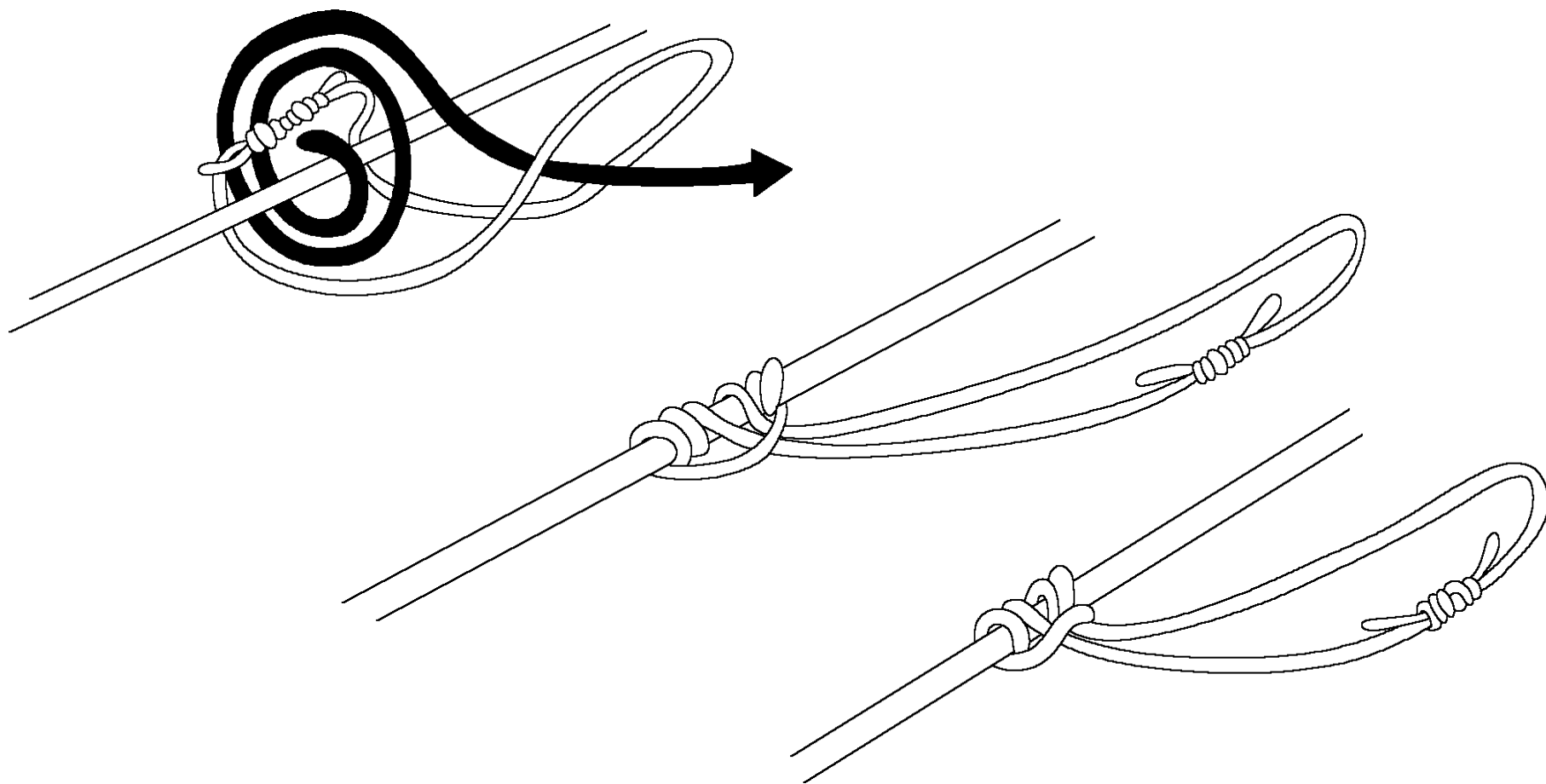
**ACCESS EVOLUTION - SKETCH #025**  
**Double Fisherman's Bend Knot**



**ACCESS EVOLUTION - SKETCH #026**  
**Munter Hitch Knot**



**ACCESS EVOLUTION - SKETCH #027**  
**Butterfly Knot**



**ACCESS EVOLUTION - SKETCH #028**  
**Prusic Hitch Knot with Double and Triple Wrap**