

Rapid Survival System

Model W

User Manual

Emergency Floatation for
Moving Water Self Rescue



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Part 1: Description and Function

The North Water Rapid Survival System Model W (RSS) is a self-rescue aid for Rescue Professionals for use in high risk moving water environments. The RSS is designed to provide substantial emergency floatation in scenarios including body entrapment, large volume, fast, or highly aerated water, long swims or when caught in recirculating hydraulic features.

The RSS is a waist worn pouch on a Quick Release Belt. The pouch contains a self-inflating Rescue Float in the shape of a tapered horseshoe. When activated the Rescue Float quickly inflates providing the user with approximately 150 lbs. of additional floatation. The added buoyancy helps the user lift their upper body well out of the water, allowing them to relax and maintain control in extreme water conditions. The Rescue Float is tethered to a D-Ring on a PFD's Quick Release Chest Harness.

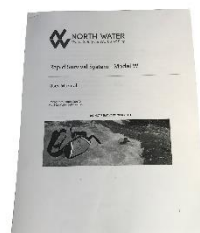
Important:

1. The RSS must be used with a PFD equipped with an integrated Quick Release Chest Harness.
2. The RSS is not a Personal Floatation Device (PFD) or Life Jacket and is not designed to replace one. The RSS is designed to provide increased floatation for the user beyond what is provided by a certified PFD.
3. The RSS - Model W is designed for rescue professionals with the appropriate experience, training and judgment in its use. If you are not familiar with how to use this product, seek professional training from a qualified Swiftwater Rescue instructional organization¹.
4. Due to the inherently hazardous dynamics of moving water environments, significant risk is always present and even with proper use of the RSS, injury or death may occur.
5. It is very important that the user be very familiar with the RSS and how it works. Knowing how to use the RSS when it is needed is essential in its aid to the user. Take the time to read and understand the information provided in this User Manual. Additional instructions and videos for the Rapid Survival System can be found at www.northwater.com/products/rss-model-w.

Part 2: Package Contents

Inspect and confirm that all the components listed are in the box.

- 1 x RSS Pouch
- 1 x RSS Rescue Float (inside RSS Pouch)
- 1 x Quick Release Belt (attached to the RSS Pouch)
- 1 x User Manual
- 1 x Re-arm Kit
 - 2 x Spare CO₂ Cylinders
 - 2 x Spare Service Indicator Clips



1 NFPA Certified Trainers (Qualified and Certified Swiftwater Rescue Organization)

Part 3: Product Orientation

Perform the following in an area with more than 6' (2 m) of clear, clean, dry space.

Open the pouch containing the folded RSS Rescue Float.

Note the orientation of the folded Rescue Float, Inflation Toggle, and the CO₂ Cylinders.

Remember, as the Rescue Float is unfolded the same steps will be reversed when re-folding and packing into the pouch.

Lay out the Rescue Float as shown in the photo below.

1. Rescue Float
2. Pouch
3. Quick Release Belt
4. CO₂ Cylinders
- 5/6. Re-arm Kit
 5. Spare CO₂ Cylinders
 6. Spare Service Indicator Clips
7. Grab Handles
8. Inflation Toggle
9. Tethering Lanyard and D-Ring
10. Manual Inflation Housings



Inset Detail:

1. 2 x CO₂ Cylinders
2. Inflation Toggle
3. Manual Inflator Housings
4. Inflation/Deflation Tube
5. 2 X Manual Inflation Levers (concealed)
6. 2 x Green Service Indicator Clips
7. Spacer Bar



Part 4: Refolding Rescue Float

Video: https://youtu.be/loD_MziOcO8?t=115

Note: After use and prior to folding ensure that:

- All components are clean and dry
- All air is removed from the Rescue Float
- Inflation/Deflation Tube is closed.



A. Turn the rescue float so the CO₂ cylinders are underneath and to the right. The arch opening is centered away from the user.



B. Fold the float in half with the right side over the left.



C. Fold the right-most edge over so it aligns with the long arc of the left edge of the float.



D. Fold the bottom 25% of its length towards the Lanyard Attachment



E. Fold the bottom 20% again towards Lanyard Attachment.



F. Fold again leaving the 2 inches exposed.



G. Turn the unit over to ensure the top edge of the fabric is aligned with the Manual Inflation Housing.



H. Fold each edge under the CO₂ Cylinders.

Part 5: Packing Rescue Float into Pouch

Video: https://youtu.be/loD_MzjOcO8?t=210

Note:

- The RSS Pouch may be worn on the users right or left side.
- When packing, be sure to orient the Inflation Toggle so the ball is coming out at the forward end of the Pouch closest to the user's front and the Lanyard Attachment with the 2" D-ring is extending out the other end.



A. Open the RSS Pouch by separating the hook and loop closure.



B. Place the folded Rescue Float into the pouch with the cylinders facing up.



C. Draw the bottom of the pouch up over the CO₂ cylinders and fold the top over to close along the length of the hook and loop. Be certain that the Rescue Float is fully tucked inside the Pouch.



D. Pass the cut end of the Inflation Toggle through the 1" square ring and carefully pull until the Toggle is flush with the ring.



E. Secure the Inflation Toggle along the hook and loop strip on top of the RSS Pouch.



F. Ensure that the 2" D-ring Lanyard Attachment comes out of the opposite side opening of the pouch.

Part 6: Attaching the RSS Pouch to the RSS Belt

Video: <https://youtu.be/HTOBVRuWFMc?t=39>

The RSS Pouch is designed to be worn on either the left or right side of the waist. Ensure the Inflation Toggle is at the front and the 2" D-ring Lanyard Attachment is towards the back.

Thread the end of the RSS Quick Release Belt through the belt loop on the back of the RSS Pouch closest to the Inflation Toggle. Continue through all three belt loops on the back of the Pouch.

A video detailing this process can be found at www.northwater.com/products/rss-model-w in the media section.



Part 7: Tethering Lanyard and D-Ring Attachment

Video: <https://youtu.be/JLwnSCfWBD8?t=135>

Note: If your PFD is unable to accept a Quick Release Chest Harness you cannot use this product. The RSS - Model W is designed to be tethered to a PFD on the back of a 1.5" or 2" Quick Release Chest Harness.

The Quick Release Chest Harness must be properly seated, adjusted and functioning.

If you do not know how to properly seat and adjust your Quick Release Chest Harness get professional instruction before use.

If your PFD has an Extrication Line, Pig Tail or Cow Tail and its D-ring uses the same chest harness, ensure the tethers don't cross load or wrap around each other or the float may not release properly when the chest harness is released.



Part 8: Attachment Options for the RSS

Video North Water PFD: <https://youtu.be/JLwnSCfWBD8>

Video North Water EDS Belt System: <https://youtu.be/5ESbFuMXE9M>

The RSS Pouch can be attached to a North Water PRO Rescue PFD outfitted with the Quick Draw Deployment Straps, the North Water EDS Belt, the North Water Double Draw Belt or the North Water Quick Draw Belt.

Note: Attachment to the EDS, Double Draw, or the Quick Draw Belt may place the Inflation Toggle too far back to be easily reached. The User may choose to rotate the RSS Pouch closer to the front.

NW Quick Draw Deployment Straps, EDS Belt, Double Draw Belt or the Quick Draw Belt all employ the same belt threading to attach the RSS Pouch to the Belt.

Ensure the Inflation Toggle is facing towards the user's front and within reach as above.

A video detailing this process can be found at www.northwater.com/products/rss-model-w in the media section.



Part 9: Practice Activation

Video: <https://youtu.be/HTOBVRuWFMc?t=329>

1. Make sure you are in an area with 6' (2 m) clear space around you.
2. Put on your Personal Floatation Device (PFD) and secure it according to the manufacturer's instructions.
3. Secure the Quick Release Belt with the RSS Pouch attached firmly around your waist.
4. Grasp the Red Inflation Toggle and firmly pull outwards away from the RSS Pouch. Depending on the ambient temperature, inflation should occur in 3-5 seconds and it should be firm in 6 -12 seconds.
5. Do not touch the CO₂ cylinders as they become very cold on deployment and may cause frost bite.
6. Once the Rescue Float is completely inflated, remove the Quick Release Belt and PFD.
7. Leave the Rescue Float inflated for three hours to ensure that it remains firm. There should be no noticeable leakage over this time.
8. If the RSS needs to be inflated for many hours, it may need to be topped up by the user with the Inflation/Deflation Tube.
9. Deflate the RSS and refold and pack as per parts 4 and 5.

A video detailing this process can be found at www.northwater.com/products/rss-model-w in the media section.

Part 10: Inspection and Re-arming

Video: https://youtu.be/loD_MzjOcO8

Important:

- Due to the critical mission of the RSS, regular inspection, care, and maintenance are essential to its proper function. Failure to do so may result in improper deployment.
- Inspect the RSS each time before and after it is taken into the field regardless of whether the unit has been deployed.
- Inspect the unit every 6 months if it has not been deployed within that time interval.

Inspection Procedure - Before Field Use

1. Open the RSS Pouch so the CO₂ cylinders are visible.
2. Ensure the Manual Inflator Levers are housed within the Manual Inflator Housings and are covered by the Green Service Indicator Clips which are seated firmly in place.
3. Make sure the Manual Inflation Levers have enough space to pivot freely when the Ball Handle is pulled.
4. Remove and weigh each cylinder. Re-arm if cylinders are under their designed weight printed on the cylinder.
5. Ensure that the Inflation/Deflation Tube is closed by twisting the valve end-cap clockwise making the overall length of the tube smaller. If you are turning it the wrong way the tube will lengthen.
6. Repack the Rescue Float into the RSS Pouch.
7. Log each inspection in the RSS Inspection Table which can be found on the Rescue Float.

Inspection Procedure - Semi Annual and After Field Use

1. Perform the following in a clean dry area with more than 6' (2 m) of clear space.
2. Remove the rescue Float from the RSS Pouch and unfold.
3. Ensure that the CO₂ cylinders are properly seated in the Manual Inflator Housings to prevent air loss.
4. Orally inflate the Rescue Float until firm using the Inflation/Deflation Tube.
5. Once inflated, close the Inflation/Deflation Tube.
6. Allow the unit to sit inflated for at least 3 hours at room temperature.
7. If the unit remains firm, visually examine the Rescue Float, RSS Pouch, and Quick Release Belt carefully for any damage or excessive wear.
8. Ensure the unit is armed properly and re-pack.
9. If the Rescue Float has lost any volume, wash the Rescue Float and its components in a 10% solution of fresh water and dish soap. Inspect carefully for bubbling indicating the location of a leak.

10. If a leak is found, contact North Water customer service for instructions.
11. If you have any reason to believe the integrity of the Rescue Float or any of its components have been compromised, retire the unit from use.
12. Log each inspection in the RSS Inspection Table which can be found on the Rescue Float.

Re-Arming

Video: https://youtu.be/loD_MziOcO8

1. Remove the used CO₂ cylinders by rotating in a counterclockwise direction, mark as spent, and discard. Spent cylinders may be recycled with steel and other metals.
Note: Be certain and check that new unused cylinders are being installed.

2. Close Each Manual Inflator Lever within its Inflator Housing and firmly snap the Green Service Indicator Clip into the indents on the Inflator Housing.



3. Inspect the flat face of each CO₂ cylinder ensuring it is smooth with no holes or scratches.

4. If you have any question about the cylinder integrity, weigh it on a small scale. If the weight does not match the weight printed on the cylinder, mark as defective and use another cylinder.



5. Insert the neck of a new CO₂ cylinder through the webbing holder and into one of the Manual Inflator Housings.

6. Rotate the cylinder in a clockwise direction. Ensure that the neck seats firmly to the base of the opening and is not cross-threaded. Do not over-tighten.

7. Install the second cylinder.

8. The Rescue Float is now armed.

9. Check that the two Green Service Indicator Clips are in place before the unit is taken into the field. If they are dislodged or missing, service is required before use.

10. Remove and inspect the cylinder faces regularly to ensure they are not punctured or corroded.

11. Repack the Rescue Float into the RSS Pouch by following Part 5.



Part 11: Cleaning and Maintenance

Cleaning

1. Ensure that both CO₂ cylinders are securely threaded into the Manual Inflation Housings and the Inflation/Deflation Tube is closed to prevent water entering the Rescue Float.
2. Wash with fresh water, mild soap, and a soft cloth.
3. Rinse thoroughly and ensure all grit is removed. Grit and sand abrade and seriously damage the fabric of the Rescue Float.
4. Inspect carefully around the Manual Inflation Housings including above and below the spacer bar to ensure there is no dirt or grit lodged between the components.
5. Drip dry at normal room temperature out of prolonged sunlight.
6. Inspect and re-arm as necessary then fold and re-pack for future use.

Storage

Always store the RSS in a warm dry location out of direct sunlight. Ensure that the storage location is secure from tampering by children or pets. The user needs to be confident that the RSS is ready for use at all times.

CO₂ Cylinder Management in Saltwater Environment

If you are using your RSS in a saltwater environment, the CO₂ cylinders are designed to withstand 100 hours of salt spray corrosion. Conduct a thorough freshwater cleaning after each use.

Recycling Spent CO₂ Cylinders

The CO₂ cylinders are made with low carbon steel and can be recycled with your regular metal recycling or in your normal refuse.

Part 12: Register your RSS

Go to the North Water website to register your product for warranty documentation, future product development, and evolutions as well as reminders about service.
www.northwater.com/pages/rss-registration

Part 13: Spare Parts and Further Information

Re-Arm Kit

Always be prepared for the next deployment. Make sure that each member of your team always has back up sets of Re-Arm Kits at the ready because you never know when you will need your RSS.

www.northwater.com/products/rss-re-arm-kit

Additional instructions and videos for the Rapid Survival System can be found at
www.northwater.com/products/rss-model-w.

For other spare parts and further questions, contact North Water customer service at 604-264-0827, 1-800-567-9283 or www.northwater.com.