



FOR MODEL NUMBER MSD674 GB / MSD676 GB / MSD678 GB

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# OWNER'S MANUAL

## SENTINEL™ SERIES/ BERRY

### COMPLIANT TACTICAL & SOF

### DRY SUITS

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#### MOBILITY BASED SIZING™

In order to take your measurements correctly and select the appropriate size, please follow the instructions provided on our website at:

[www.mustangsurvival.com/mobility](http://www.mustangsurvival.com/mobility)

## TABLE OF CONTENTS

DESCRIPTION .....	2-3
SIZING GUIDE.....	4
INSTRUCTIONS FOR USE .....	4
CCS™ ADJUSTABLE NECK SEAL .....	4
LATEX WRIST SEAL FITTING.....	5
ATTACHING SUSPENDERS .....	6
DONNING AND DOFFING THE DRY SUIT .....	7-9
CLEANING AND MAINTENANCE .....	10-11
STORING THE DRY SUIT .....	11
FOLDING AND PACKING .....	12
REPAIRS .....	13
RAPID REPAIR TECHNOLOGY .....	14
NECK SEAL.....	16-18
WRIST SEAL.....	19-23
PATCH .....	24-25
SOCK.....	26-32
ACCESSORIES .....	33
WARRANTY INFORMATION .....	34
CONTACT .....	34

## DESCRIPTION

### MSD674 GB, MSD676 GB, AND MSD678 GB SENTINEL™ SERIES / BERRY COMPLIANT TACTICAL & SOF DRY SUITS

WATERPROOF & BREATHABLE CONSTANT WEAR DRY SUITS IDEAL FOR USERS ENGAGED IN MARITIME, LAND, AIRBORNE, SHIPBOARD, AND TRANSITIONAL ENVIRONMENT COMBAT OPERATIONS. THE HIGHLY VAPOUR PERMEABLE MATERIALS KEEP THE OPERATOR DRY AND COMFORTABLE THROUGHOUT HIGHLY ACTIVE MISSIONS IN EXTREME COLD AND WARM ENVIRONMENTS.

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Optimizing fit, comfort and functionality are extremely important, especially when a poorly fitted suit can impede a mission's efficiency and your safety. Validated by DOD, DHS & USAR users & trainers, our Sentinel™ Series is designed to be compatible with all types of equipment used in these environments.

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**WARNING: DRY SUITS ALONE PROVIDE INADEQUATE PROTECTION FOR EXTREME CLIMATE DIFFERENCES. ALL USERS SHOULD WEAR APPROPRIATE UNDERGARMENTS TO PREVENT HYPOTHERMIA (IN COLD CLIMATES) AND HEAT STROKE (IN WARM CLIMATES).**

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**WARNING: DRY SUITS ARE NOT INHERENTLY BUOYANT. ALL USERS SHOULD WEAR**

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The MSD674 GB, MSD676 GB and MSD678 GB were designed with end user feedback from agencies within the DOD, DHS & FEMA USAR teams. The result is a durable, lightweight, well-fitting dry suit with features typically found on industry leading combat and tactical uniforms. The MSD674 GB is designed to have an average operational life-cycle of 5 years, equivalent to 500 hours. The MSD676 GB is designed to have an average operational life-cycle of 3 years, equivalent to 300 hours. The MSD678 GB is designed to have an average operational life-cycle of 1 year, equivalent to 100 hours or being used 10 times.

- MSD674 GB - Military BD6.5 GORE-TEX® waterproof & breathable dry suit fabric
- MSD678 GB - Military LF GORE-TEX® waterproof & breathable dry suit fabric
- MSD676GB - Military BD4.5 GORTEX® waterproof & breathable dry suit fabric
- Mobility Based Sizing™ reduces bulk and increases range of motion, offering a semi-custom size fit without the custom price tag
- Low profile plastic waterproof entry and relief zippers
- Two-point attachment removable suspender system for an improved fit, mobility and comfort
- Patented Closed Comfort System (CCS™) adjustable neck seal
- Rapid Repair Technology™ enables users to self-replace neck, wrist seals, and socks and repair small leaks in an hour or less
- Nylon reinforced elbows, knees, seat and over cuffs
- Flexible molded foam knee pads to help prevent injury and still allow the use of external knee pads
- Back knee tabs to secure knee pads in place
- Sized socks
- Expanding arm pockets with Velcro® closures (MSD674 GB and MSD676 GB covered loop Velcro® for attaching patches)
- Expanding thigh pockets with Velcro® closures
- Expanding calf cargo pockets with Velcro® closures
- Velcro® closures for adjustability on sleeve and pant over cuffs

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The Sentinel™ Series Berry Compliant Tactical & SOF dry suits are easily donned and doffed using a diagonal waterproof entry zipper across the torso and left shoulder. The suit also includes a horizontal relief zipper. Customized fit can be achieved through adjustment of the internal suspenders to modify trunk length for improved range of motion.

Every Sentinel™ Series Berry Compliant Tactical & SOF Dry Suit produced by Mustang is **leak tested** to ensure waterproof integrity prior to leaving our factory. All suits are **100% tested** to ensure the highest level of reliability and performance.

## SENTINEL™ SERIES SIZING GUIDE

Exclusively available for the Sentinel™ Dry Suits, we introduce the industry's newest improved fitting platform designed specifically for dry suit users for tactical, rescue or special operations.

Based on more than two years of extensive anthropometric research, range of motion testing and user evaluations, Mobility Based Sizing™ offers users a semi-custom suit that reduces bulk and increases range of motion without the expensive custom price tags or long lead times.

The **Mobility Based Sizing™** platform is like none other currently in the industry. There are **24 sizes** available. To order a suit that fits you best, please follow the instructions provided on our website at: [www.mustangsurvival.com/mobility](http://www.mustangsurvival.com/mobility).

	EXTRA SMALL	SMALL	MEDIUM	LARGE 1	LARGE 2	EXTRA LARGE	DOUBLE EXTRA LARGE	TRIPLE EXTRA LARGE
SHORT	XSS	SS	MS	L1S	L2S	XLS	XXLS	3XLS
REGULAR	XSR	SR	MR	L1R	L2R	XLR	XXLR	3XLR
LONG	XSL	SL	ML	L1L	L2L	XLL	XXLL	3XLL

## INSTRUCTIONS FOR USE

This manual supplies instructional, maintenance and safety information for the Sentinel™ Series Berry Compliant Tactical & SOF Dry Suits.

### CCS™ ADJUSTABLE NECK SEAL

Mustang's patented Closed Comfort System (CCS™) can be worn loose to provide comfort out of the water and can quickly be drawn tight to keep the water out. The adjustable seal also provides increased durability compared to traditional latex seals and allows the suit to be worn by multiple users without compromising waterproof integrity.

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**CAUTION: THE CLOSED COMFORT SYSTEM NECK SEAL (CCS™) MUST BE FULLY CLOSED TO PREVENT WATER INTAKE.**

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1. The (CCS™) neck seal can be worn loose for comfort, but whenever there is a risk of accidental immersion the neck seal should be closed enough so that there aren't any gaps between the neck seal and the wearer's neck.
2. To close, firmly pull the elastic drawstring away from the neck. For maximum effectiveness the neck seal should be adjusted to be snug, but not uncomfortably tight.

3. Once the neck seal has been drawn tight, the Velcro® tabs can be attached to keep the elastic out of the way.
4. To loosen, insert fingers between the neck and the neck seal while pinching the toggle. Then gently pull on the neck seal with your fingers to loosen.

## LATEX WRIST SEAL FITTING

The Latex Wrist Seals may be trimmed at the initial fitting, but the seals tend to adjust to the wearer after a short period of time. If no excessive seal restriction exists, and seal fit is acceptable to the user, the seals should be left as is. Wrist seals shall fit tightly enough to prevent water entry, but not tight enough to restrict blood flow. If seal sizing is required, proceed as follows:

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**CAUTION: TRIM WRIST SEALS WITH EXTREME CAUTION. A SMOOTH TRIM LINE IS ESSENTIAL. EXCESSIVE OR CARELESS TRIMMING COULD RESULT IN LOOSE SEALS THAT LEAK AND NECESSITATE REPLACEMENT. AVOID NICKING SEAL FABRIC, AS THIS COULD RESULT IN TEARING THE SEALS WHEN DORNING AND DOFFING, AND ALSO COULD RESULT IN SKIN IRRITATION. TRIM ONLY 1 RING AT A TIME. YOU CAN ALWAYS TRIM MORE, BUT YOU CAN'T REPLACE WHAT YOU HAVE CUT OFF.**

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1. If wrist seal trimming is necessary, turn the wrist seal inside-out so you can see the rings running parallel down the gasket around the circumference of the neck seal.
2. Trimming only one ring at a time carefully cut between the rings with a very sharp pair of scissors.

An alternative method is to place the wrist seal inside-out, so the trim rings are facing out, over a metal soup can (10.5 - 15 oz can) and carefully cut between the rings using a very sharp razor blade (x-acto knife or utility knife style).

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**NOTE: VISUALLY INSPECT THE TRIMMED EDGE FOR NICKS. IF THE CUT IS NOT SMOOTH AND STRAIGHT CAREFULLY TRIM OUT ANY NICKS. NICKS CAN CAUSE A TEAR DURING DORNING AND DOFFING**

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3. Check for fit and if necessary repeat steps 1 & 2 until there is a proper fit.
4. After trimming seals, have the user don the suit to determine seal restriction and water-sealing characteristics. Make any additional adjustments to the seal.

## ATTACHING SUSPENDERS

To attach suspenders please follow the instructions below. The removable suspenders should be used to improve fit, increase suit longevity, lower in-water resistance and reduce fatigue. Suspenders can be adjusted to a comfortable and secure position.

1. Completely unzip the entry zipper.
2. Open the suit so that the two attachment points are visible.
3. Thread the end of the nylon strap attached to the suit through the rectangular clip on the suspenders.
4. Once the nylon strap has been threaded, flare the sewn folds on the strap to prevent it from passing back through the rectangular clip.
5. Repeat these steps for the other attachment point.
6. Use the suspender strap ends to adjust for a secure comfortable fit.



## DONNING & DOFFING THE DRY SUIT

Before donning the suit, ensure that appropriate undergarments have been selected for the conditions.

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**CAUTION:** ALWAYS DON THE DRY SUIT ON A CLEAN SURFACE SUCH AS A TOWEL OR TARP TO AVOID ATTRACTING DEBRIS. PEBBLES, SAND, DIRT AND OTHER DEBRIS ON THE GROUND CAN CAUSE DAMAGE TO DRY SUIT SOCK AND COMPROMISE THE SUIT'S INTEGRITY.

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**CAUTION:** USE EXTREME CARE WHEN DONNING THE DRY SUIT. PRIOR TO DONNING, REMOVE ALL RINGS, WATCHES, EARRINGS, NECKLACES AND EYEGASSES THAT WILL CAUSE DAMAGE TO WRIST AND NECK SEALS. FOOTWEAR OTHER THAN SOCKS MUST NOT BE WORN INSIDE THE DRY SUIT.

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## SUIT PREPARATION PRIOR TO DONNING

1. Ensure that the Velcro® wrist covers and ankle covers are unfastened.
2. Ensure that the waterproof entry zipper is fully opened.
3. Ensure the suspenders are pulled out of the suit legs.
4. Apply talcum powder inside wrist seals.

## DONNING & DOFFING THE DRY SUIT (CONT'D)

### DONNING THE SUIT

1. Slide your legs into the suit until your toes reach the end of the socks.
2. Don the suspenders. Ensure they are crossed in back and not twisted.
3. Place the right arm into the right sleeve.
4. Carefully place the right hand into the right cuff by pointing the fingers straight, tucking the thumb underneath and inserting the hand through the seal. Do not make a fist when putting your wrist through the seal.
5. Roll the Velcro® wrist covers back and close to a snug fit.
6. Repeat Steps 3 - 7 for the left arm.
7. Bring the upper portion of the suit over your head, aligning the neck opening with the top of the head. Reach inside the top of the neck seal with fingers and gently pull the seal outward and down as you push your head through. Flatten any folds or rolls of the seal against the skin.
8. Close the waterproof entry zipper. Reach over your left shoulder with your right hand and grasp the zipper toggle. While holding the top of the zipper with your left hand, pull the toggle down until the zipper is completely fastened.
9. Ensure the waterproof relief zipper is completely closed and the slider is fully engaged with the zipper stop. Stow the zipper toggle in the loop located under the zipper cover.

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**WARNING: FAILURE TO COMPLETELY CLOSE THE WATERPROOF ENTRY ZIPPER AND THE RELIEF ZIPPER WILL RESULT IN LEAKAGE OF WATER INSIDE THE SUIT AND REDUCTION OF SURVIVAL TIME WHEN IN THE WATER. HAVE A FELLOW TEAM MEMBER DOUBLE-CHECK EACH SLIDE FASTENER TO ENSURE THEY ARE COMPLETELY CLOSED AGAINST THEIR SEALING PLUGS.**

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10. Tighten the ankle Velcro® covers to a snug fit.
11. Burp the suit before water entry. Cross arms in front and gently slide fingers between the neck seal and your neck, squat down and force excess air through the neck opening.

## DOFFING THE DRY SUIT

1. Remove all equipment worn over the suit.
2. Thoroughly rinse down the exterior of the suit while wearing it, paying special attention to the seals and zippers. Remove all dirt, salt and debris.
3. Loosen Velcro® wrist and ankle adjustment tabs. Completely open the waterproof zipper. If not completely open, the zipper faces the risk of damage to the zipper during doffing.

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**CAUTION: PLACING UNDUE FORCE ON THE ZIPPER MAY DAMAGE THE SEAL AND HARM THE INTEGRITY OF THE SUIT. NEVER FORCEFULLY YANK ON THE ZIPPER.**

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4. Insert fingers between neck seal and neck. Gently stretch the seal outward and upward while pulling neck seal over your head.
5. With an unclenched fist, slowly pull each hand through wrist seals while holding the seal open.

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**CAUTION: PULLING ON THE WRIST SEAL MAY DAMAGE THE SEAL.**

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**NOTE: REMOVE SUSPENDERS PRIOR TO PROCEEDING**

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6. Pull suit down past hips and slide legs from the suit.
7. Follow the cleaning and storage instructions for the suit.

## CLEANING AND MAINTENANCE

### VISUAL INSPECTION

The lighter weight fabric used on the MSD678 GB results in a reduction in the durability of the shell materials when compared to traditional Mustang Survival military dry suits. Before use, visually inspect the inside and the outside of the suit for damage. If the suit appears damaged, it is recommended that the suit be taken out of service for repairs, or discarded if damage is too significant. The MSD678 GB is intended to be worn no more than 100 hours. Depending on the amount and intensity of use, the total number of hours could change +/-.

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**NOTE: BE SURE TO ALSO INSPECT UNDER THE NECK COLLAR, WRIST AND PANT OVERCUFF**

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### CLEANING

1. Thoroughly rinse your dry suit with fresh clean water after every use.

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**CAUTION: DO NOT DRY CLEAN. DO NOT IRON. DO NOT BLEACH.**

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2. Treat stains with a pre-wash treatment such as Shout® or Spray 'n Wash®. Follow the manufacturer's instructions. Rinse well.
3. Machine wash warm (104° F/40° C) on gentle cycle using a gentle powder or liquid detergent. Do not use fabric softener, bleach or wash-in treatments, as they can affect the suit's breathability.

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**CAUTION: USE ONLY A FRONT LOADING WASHING MACHINE OR A TOP LOADING WASHING MACHINE THAT DOES NOT HAVE AN AGITATOR POST. WASHING MACHINES WITH AGITATOR POSTS CAN DAMAGE THE SUIT.**

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4. Tumble-dry using a cool air setting.

## MAINTENANCE

Regular zipper maintenance is recommended to maintain a water-tight seal, inhibit corrosion and keep the zipper gliding freely. These steps are essential to zipper longevity:

1. Clean the zipper of any heavy deposits of mud, sand, salt or foreign substances by gently brushing and rinsing the zipper with fresh water.
2. YKK® zippers need to be lubricated on the docking end approximately every 15-20 days of field use. One package of zipper lubricant is included with your suit. Only use lubricant recommended by Mustang.  
Visit: [www.mustangsurvival.com](http://www.mustangsurvival.com) for information.
  - a. Open the zipper to expose the W-SEAL.
  - b. Open the zipper lubricant by either ripping the package or tearing at the notch cut-out on the plastic tube seal.
  - c. Squeeze the package or tube gently and apply a small amount of lubricant to the W-SEAL as indicated in the image. Only apply to the indicated areas.
  - d. Flip over the zipper end and lubricate the back in the same highlighted areas as the front.
  - e. Close the zipper.
3. Repeat before long term storage.

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**CAUTION: DO NOT lubricate the zipper teeth.**

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**NOTE: DO NOT DISCARD THE BLISTER PACKAGE OR PLASTIC TUBE. THE ZIPPER LUBRICANT CAN BE STORED IN THE ZIPLOCK BAG AND REUSED.**

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FIGURE 5

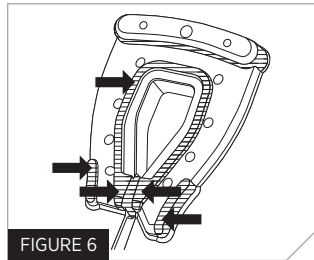


FIGURE 6

## STORING THE DRY SUIT

The suit can be hung with all zippers open temporarily to dry the suit. For long term storage and transportation, the zipper chain should be closed. The closed chain protects the sealing elements from dirt and damage.

Dry Suits should be stored in a climate controlled area. Temperature cycling or extreme heat can cause damage and shorten the life-cycle of the dry suit.

## FOLDING AND PACKING

1. Ensure that the suit is thoroughly clean and dry and that the main entry zipper is in the closed position before folding and packing.
2. Lay the suit flat face down on a clean horizontal surface, allowing the suit to be fully extended with none of the parts overlapping.
3. Fold the left sleeve, from the shoulder, straight across the body of the suit. Fold the right sleeve, from the shoulder, straight across the body of the suit on top of the folded left arm.
4. Fold the socks over top of the legs until they reach crotch level.
5. Fold the legs, from the crotch, up to the chest level, right below the folded sleeves.
6. Fold the suit in half.
7. To pack, roll or fold the suit ensuring that the zippers do not crease.
  - a. Open the Molykote® by ripping the package seal.
  - b. Squeeze the package gently and apply a small amount of lubricant to the W-SEAL as indicated in the image. Only apply to the indicated areas.

## REPAIRS

THE PROTECTION PROVIDED BY THIS DRY SUIT RELIES ON ITS WATERTIGHT CHARACTERISTICS. IT IS EXTREMELY IMPORTANT THAT DAMAGED SUITS ARE HANDLED IN ACCORDANCE WITH REPAIR REQUIREMENTS.

The Sentinel™ Series Berry Compliant Tactical & SOF Dry Suits take advantage of Mustang's Rapid Repair Technology™ which enables users to self-replace neck, wrist seals, and socks and repair small leaks in an hour or less. For detailed information on Mustang's Rapid Repair Technology™ please visit [www.mustangsurvival.com/rapidrepair](http://www.mustangsurvival.com/rapidrepair)

Qualified repair personnel can normally perform minor repairs, with adequate facilities. The manufacturer or a certified repair facility should perform all major repairs. A listing of Mustang's certified repair facilities can be found by visiting [www.mustangsurvival.com/IM](http://www.mustangsurvival.com/IM)

## **RAPID REPAIR TECHNOLOGY™**

THE SENTINEL™ SERIES DRY SUITS TAKE ADVANTAGE OF MUSTANG'S RAPID REPAIR TECHNOLOGY™ WHICH ENABLES USERS TO SELF-REPLACE NECK, WRIST AND SOCK SEALS IN AN HOUR OR LESS, AND REPAIR MINOR LEAKS IN THE DRY SUIT SHELL.

Qualified repair personnel can normally perform minor repairs, with adequate facilities. This guide covers instructions for using Mustang Survival's Rapid Repair Technology to perform the following procedures:

**Neck Seal Replacement**

**Wrist Seal Replacement**

**Minor Leak Repair**

**Sock Replacement**

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**WARNING: THE PROTECTION PROVIDED BY YOUR DRY SUIT RELIES VERY MUCH ON ITS WATERTIGHT CHARACTERISTICS. IT IS EXTREMELY IMPORTANT THAT DAMAGED SUITS ARE HANDLED IN ACCORDANCE WITH REPAIR REQUIREMENTS**

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**NOTE: A MUSTANG SURVIVAL REPAIR FACILITY SHOULD PERFORM ALL MAJOR REPAIRS OUTSIDE THE SCOPE OF THIS MANUAL**

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## **WORK AREA**

The work area where maintenance of the suit is performed should be smooth and flat, where the suit will not snag, tear or otherwise be punctured or damaged and should be clear of all non-essential equipment and materials. The working surface should be free of harmful contaminants such as oil, grease, acids or solvents.

Work areas, which are subjected to wide temperature variations, should be avoided.

## RAPID REPAIR NECK SEAL INSTRUCTIONS

An online video tutorial of this procedure is available for viewing at [mustangsurvival.com](http://mustangsurvival.com). It may be helpful to watch this video in addition to the instructions below.

### ASSEMBLE MATERIALS

Make sure that you have all of the necessary equipment and materials to perform the neck seal replacement correctly.

You will need **ONE** of the following tool kits:

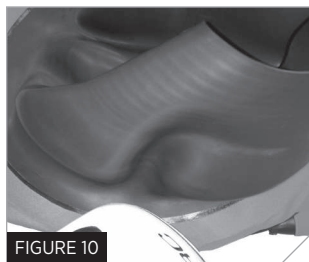
**Rapid Repair Neck, Wrist and Sock Repair Tool Kit  
(Part# RE0001 v02) OR**

**Rapid Repair Neck Seal Repair Tool Kit (Part# RE0002)  
& Rapid Repair Hand Iron (Part# RE0004)**

**Tools and Equipment Supplied by User:** Light work gloves

Additionally you'll need the following Rapid Repair Neck Seal.

COMES STANDARD ATTACHED WITH SUIT SIZE	SEAL DESCRIPTION	SEAL PART
ALL SIZES	RAPID REPAIR ADJUSTABLE NECK SEAL-BERRY COMPLIANT	RE0012VGB



NOTE: The seal type used in above figures are for reference only

## HEAT REMOVE CURRENT NECK SEAL

The neck seal in your current dry suit can be removed by using a simple heating method with a Mustang Hand Iron.

1. Preheat the iron to its maximum temperature, approximately 310 °F.
2. Place the circle jig inside the suit, white side up, in the middle of the neck seal opening. A properly placed jig will make a nice flat surface for the seal to sit against, with the bulk of the suit and collar out of the way. **SEE FIGURE 9.**
3. Flatten out wrinkles around the perimeter of the neck seal attachment area. Make sure there are no materials caught between the circle jig and the neck seal.
4. Pick a point on the neck seal as a starting point and heat until adhesive has softened, approximately 15 seconds. **SEE FIGURE 10.**
5. Grab neck seal and pull the neck seal away from the suit using only light force. The neck seal will separate from the suit in the area that was heated. Gloves may help as the neck seal will be hot where contacted by the iron. **SEE FIGURE 11.**
6. Continue to heat an adjacent section of the neck seal for 15 seconds.
7. Lightly pull the neck seal to detach the adjacent section. **SEE FIGURE 12.**
8. Repeat steps 6-7 until the old neck seal has been removed.

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**CAUTION: STOP PULLING THE NECK SEAL AWAY FROM THE SUIT WHEN RESISTANCE IS ENCOUNTERED.**

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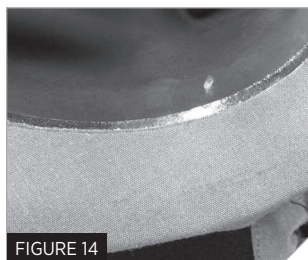


NOTE: The seal type used in above figures are for reference only

## PREPPING THE MATERIALS

Once the existing neck seal is removed, it is time to prepare the materials for the neck seal replacement. Make sure you have all of your tools and materials nearby during the replacement process.

1. With the circle jig still inside the suit, center the jig in the middle of the neck seal opening. You should have about 1" of suit material around the outside of the circle jig. **SEE FIGURE 13.**
2. Peel the backing paper off the replacement heat activated neck seal.
3. Place the replacement neck seal into the opening on the suit. The heat adhesive portion of the neck seal should be inside the suit facing up. There should be a 1/8" ( $\pm 1/16$ " ) edge of adhesive visible around the edge of the suit. **SEE FIGURE 14.**
4. Ensure that there are no wrinkles in the fabric or neck seal. Folding the neck seal in on itself will help to keep its shape and aid in the replacement process. **SEE FIGURE 15.**



NOTE: The seal type used in above figures are for reference only

## ATTACHING A HEAT ACTIVATED NECK SEAL

Once your materials are prepped you are ready to attach your new neck seal.

1. Preheat hand iron to its maximum temperature, approximately 310 °F.
2. Start by heating small sections around the edge of the neck seal for 3–5 seconds to tack and hold the neck seal in place. Continue to check the alignment before heating each spot. **SEE FIGURE 16.**
3. Once the neck seal has been tacked in at least 10 places, lightly heat the entire outside of the neck seal to tack all portions of the seal into place.
4. Cover the neck seal with the non-stick fabric template provided. Carefully use the iron to melt the adhesive on the neck seal. Apply heat to a single section for at least 30 seconds using maximum hand pressure before advancing iron to the next section leaving some overlap with the previously heated section. **SEE FIGURE 17.**
5. Continue around the perimeter of the neck seal applying heat and pressure.
6. Let the neck seal and fabric cool and then remove the circle jig.
7. Inspect for proper adhesion by examining the entire perimeter on both the inside and outside of the suit.
8. Pinhole leaks may be corrected by re-heating the area for an additional 30 seconds using maximum pressure.

## INSPECT REPAIR

After installation is complete the suit should be leak tested before use. If a leak originates from a wrinkle in the fabric, the neck seal should be removed and a fresh neck seal installed. Repeat the leak test.

Once you have verified there are no leaks your new neck seal is now ready to be used.



FIGURE 16



FIGURE 17

NOTE: The seal type used in above figures are for reference only

## RAPID REPAIR WRIST SEAL INSTRUCTIONS

An online video tutorial of this procedure is available for viewing at [mustangsurvival.com](http://mustangsurvival.com). It may be helpful to watch this video in addition to the instructions below.

### ASSEMBLE MATERIALS

Make sure that you have all of the necessary equipment and materials to perform the wrist seal replacement correctly.

You will need **ONE** of the following tool kits:

**Rapid Repair Neck, Wrist and Sock Repair Tool Kit (Part# RE0001 v02)**

*OR*

**Rapid Repair Wrist Seal Tool Kit (Part# RE0003 v02)**

**& Rapid Repair Hand Iron (Part# RE0004)**

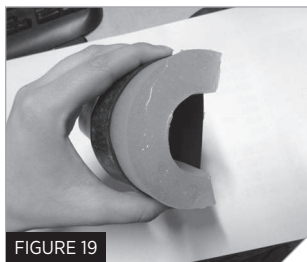
#### Tools and Equipment Supplied by User:

1. Ruler (optional)
2. Light work gloves
3. Sharp scissors (sewing/fabric scissors recommended)

Additionally you'll need the following Rapid Repair Wrist Seal:

COMES STANDARD ATTACHED WITH SUIT SIZE	SEAL DESCRIPTION	SEAL PART#
ALL SIZES	REPLACEMENT RUBBER WRIST SEAL (SINGLE)	RE0008VGB

**NOTE: THE CORRECT ORIENTATION OF WRIST JIG IS SHOWN IN FIGURE 18.**



## HEAT REMOVE CURRENT WRIST SEAL

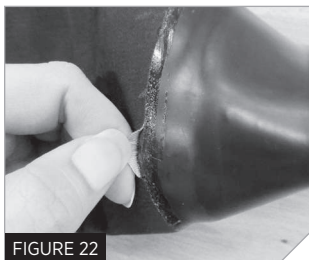
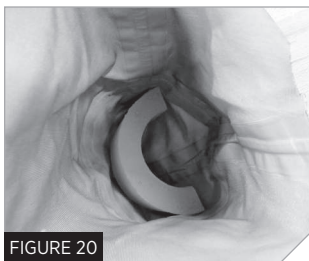
The wrist seal in your current dry suit can be removed by using a simple heating method with a Mustang Hand Iron. All steps should be practiced prior to applications with heat.

1. Preheat the iron to its maximum temperature, approximately 310 °F.
2. Roll the jig to form the smallest possible diameter. **SEE FIGURE 19.**
3. Place the jig inside the suit. **SEE FIGURE 20.**
4. Center the jig about the seal and fabric interface.
5. Flatten out wrinkles around the wrist seal attachment area.
6. Lay the wrist seal flat and place the non-stick fabric sheet on top.
7. Press the iron on the non-stick fabric sheet with moderate pressure for 30 seconds. **SEE FIGURE 21.**
8. Remove the iron from the surface
9. With scissors ready, gently separate the seal from the fabric by lightly peeling. Gloves may help as the wrist seal will be hot where contacted by the iron. **SEE FIGURE 22.**

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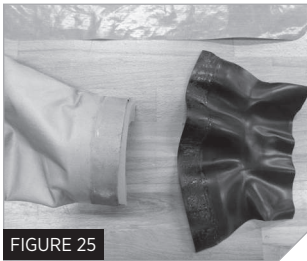
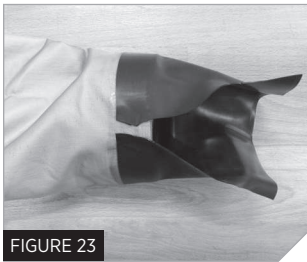
**CAUTION: STOP PULLING THE WRIST SEAL AWAY FROM THE SUIT WHEN RESISTANCE IS ENCOUNTERED.**

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*HEAT REMOVE CURRENT WRIST SEAL (CONT'D)*

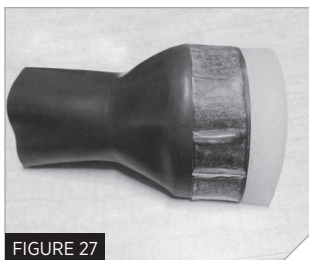
10. Cutting **ONLY** the wrist seal, cut open the wrist seal. **SEE FIGURE 23.**
11. Gently separate one end of the wrist seal from the suit by lightly peeling. Gloves may help as suit will be hot where contacted by iron.
12. Heat adjacent area for 20 seconds, using the non-stick fabric sheet, and continue to pull. **SEE FIGURE 24.**
13. Repeat steps 11 and 12 until seal has been completely separated. **SEE FIGURE 25.**
14. Leave the wrist seal and sleeve to cool prior to completing any further actions.



## ATTACHING A HEAT ACTIVATED WRIST SEAL

The wrist seal in your current dry suit can be applied by using a simple heating method with a Mustang Hand Iron. All steps should be practiced prior to applications with heat.

1. Preheat hand iron to its maximum temperature, approximately 310 °F.
2. Flip the suit right side out.
3. Remove adhesive paper backing from wrist seal.
4. Compress the Wrist Seal replacement jig and place it into the wrist seal.  
**SEE FIGURE 26.**
5. Line up the jig such that approximately 1/2" of the jig is exposed.  
**SEE FIGURE 27.**
6. Insert the jig and wrist seal into the sleeve from the inside. Ensure that dry suit seam lines up with the seam of the wrist seal jig.
7. Ensure the suit arm becomes taut and 1/8" ( $\pm$  1/16") of adhesive protrudes from the cuff end. **SEE FIGURE 28.**
8. Center the jig at the wrist seal and suit interface. **SEE FIGURE 29.**



9. Center the non-stick paper over the wrist seal where the seal and suit meet and press the iron with firm pressure for approximately 30 seconds.

**SEE FIGURE 30.**

10. Leave the non-stick sheet on the seal for approximately 10 seconds before removing.

11. Clean off any adhesive that has attached to the non-stick paper.

**SEE FIGURE 31.**

12. Continue around the circumference of the wrist seal applying heat and pressure to each adjacent section for 30 seconds.



**FIGURE 30**



**FIGURE 31**

## **INSPECT REPAIR**

After installation is complete the suit should be leak tested before use. If a leak originates from a wrinkle in the fabric, the wrist seal should be removed and a fresh wrist seal installed. Repeat the leak test.

Once you have verified there are no leaks your new wrist seal is now ready to be used.

**NOTE:** See latex wrist seal fitting on page 5 if seal is too tight.

## RAPID REPAIR PATCH INSTRUCTIONS

An online video tutorial of this procedure is available for viewing at [mustangsuvival.com](http://mustangsuvival.com). It may be helpful to watch this video in addition to the instructions below.

### LIMITS OF REPAIR

It is recommended that the following guidelines be used in determining potential for repair:

- Pinholes and small slits, cuts and tears less than 1 inch in length may be patched by the heat-sealing method.
- Do not patch the neck or wrist seals or socks.
- The total area of patches should not exceed 10% of the suit. Repair no more than 10% of any one panel.
- Any holes larger than a small slit, cut or tear less than 1 inch in length should be sent to Mustang Survival for repair.

### ASSEMBLE MATERIALS

Make sure that you have all of the necessary equipment and materials to perform the puncture repair correctly. A list is provided below:

**Rapid Repair Dry Suit Patches (Part# RE0010 v02)**

**Rapid Repair Hand Iron (Part# RE0004, also included in RE0001 v02)**

## APPLY PATCH

The puncture in your dry suit can be repaired using a simple heating method with a Mustang Hand Iron. All steps should be practiced prior to applications with heat.

1. Preheat hand iron to its maximum temperature, approximately 310 °F.
2. Turn dry suit inside out.
3. Locate puncture.
4. Lay the dry suit on flat surface such that the inside surface of the suit is facing up.
5. Ensure dry suit material is flat and wrinkle free around the puncture.
6. Ensure area around puncture is both clean and dry.
7. Place the shiny side of the patch downwards so that it is in contact with the inside surface of the dry suit.
8. Ensure the patch is centered over the puncture.
9. Place hot iron on patch and apply pressure perpendicular to the flat surface for approximately 20 – 25 seconds. **SEE FIGURES 32 and 33.**
10. Remove iron and turn off.
11. Allow patch and suit to cool for approximately 5 minutes.



FIGURE 32



FIGURE 33

## INSPECT REPAIR

After repair is complete the suit should be leak tested before use.

It is recommended that a leak test be completed using Mustang Survival's Dry Suit Test Kit (**MUSTANG P/N MA8836**) or equivalent to test the complete integrity of the suit

Once you have verified that there are no leaks your suit is ready to be used.

## RAPID REPAIR SOCK INSTRUCTIONS

An online video tutorial of this procedure is available for viewing at [mustangsuvival.com](http://mustangsuvival.com). It may be helpful to watch this video in addition to the instructions below.

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**NOTE: IT IS HIGHLY RECOMMENDED THAT YOU FULLY READ THROUGH ALL THE INSTRUCTIONS BEFORE STARTING THE RAPID REPAIR PROCESS.**

---

## ASSEMBLE MATERIALS

Before beginning, make sure that you have all the necessary equipment and materials listed below to perform the sock replacement correctly.

You will need **ONE** of the following tool kits:

Rapid Repair Neck, Wrist and Sock Seal Tool Kit (Part# RE0001 v02)

OR

Rapid Repair Sock Jig (Part # RE0015) and Hand Iron (Part# RE0004)

### Tools and Equipment Supplied by User:

1. Ruler (optional)
2. Light work gloves
3. Sharp scissors (sewing/fabric scissors recommended)

Additionally you'll need **ONE** of the following Rapid Repair Socks

COMES STANDARD ATTACHED WITH SUIT SIZE	SOCK DESCRIPTION	SOCK PART#
XS, S	SMALL SENTINEL RAPID REPAIR SOCK (SINGLE RIGHT)	RE0023 - S
M, L1, L2	REGULAR SENTINEL RAPID REPAIR SOCK (SINGLE RIGHT)	RE0023 - R
XL, XXL, 3XL	LARGE SENTINEL RAPID REPAIR SOCK (SINGLE RIGHT)	RE0023 - XL
XS, S	SMALL SENTINEL RAPID REPAIR SOCK (SINGLE LEFT)	RE0024 - S
M, L1, L2	REGULAR SENTINEL RAPID REPAIR SOCK (SINGLE LEFT)	RE0024 - R
XL, XXL, 3XL	LARGE SENTINEL RAPID REPAIR SOCK (SINGLE LEFT)	RE0024 - XL

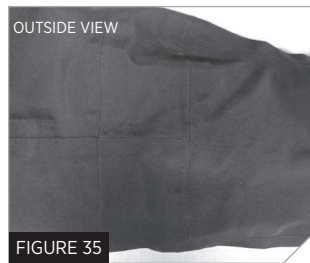
## IDENTIFYING REQUIRED REPAIR METHOD FOR SOCK REMOVAL

The method of sock removal depends on whether your suit has a factory installed sock, or a replacement sock (RE0023 and/or RE0024). By examining the seam attaching the sock to the suit leg, you can identify if your suit has a factory installed sock or a replacement sock.

If the seam attaching the sock to the suit is sewn and taped, as in **FIGURES 34-35**, the suit has a factory installed sock. Follow the instructions for **“Method A: Replacing a Factory Installed Sock.”**

If your suit does not have a sewn and taped seam, but rather an adhesive seam with a label stating “Rapid Repair Socks,” as in **FIGURES 36-37**, follow the instructions for **“Method B: Repeat Sock Replacement.”**

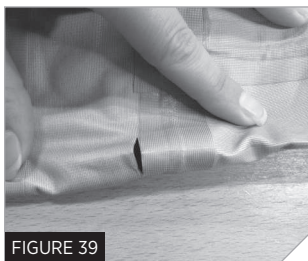
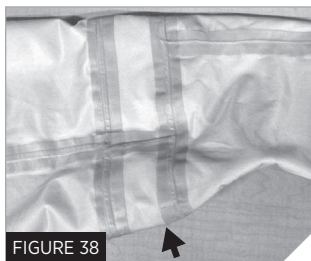
Once you have identified the method of removal appropriate to your sock, please follow the corresponding instructions below.



## METHOD A: FACTORY ORIGINAL SOCK REPLACEMENT

1. Turn the suit inside out so the tape is visible.
2. Identify the seam attaching the sock to the suit. **SEE FIGURE 38.**
3. Once you have identified the seam, make a small cut along the top edge of the tape, just large enough to slide your scissors through. **SEE FIGURE 39.**
4. Carefully cut along the edge of the tape. **SEE FIGURE 40.**

\*See Page 33 for instructions on attaching the new sock to the suit leg.



## METHOD B: REPEAT SOCK REPLACEMENT

The rapid repair sock in your current dry suit can be removed by using a simple heating method with a Mustang Hand Iron. Be mindful of avoiding wrinkles on the suit side of the sock seam. This will help during the sock attachment steps. All steps should be read in full and practiced prior to applications with heat.

1. Preheat the iron to its maximum temperature, approximately 310°F.
2. Ensure the suit is right side out
  - a. If the suit has a gaiter, pull the gaiter back so the sock seam is clearly visible.
3. Trim the sock off a minimum of 1 inch away from the sock seam.  
**SEE FIGURES 41 AND 42.**
4. Compress the jig (provided with the repair kit) to form the smallest possible diameter. **SEE FIGURE 43.**
5. Place the jig inside the suit. **SEE FIGURE 44** for the correct orientation of the jig in relation to the sock.
6. Center the jig above the sock and suit leg interface. **SEE FIGURE 45.**
7. Flatten out wrinkles around the sock attachment area.
8. Place the non-stick fabric sheet (provided with the repair kit) on the fabric.
9. Press the iron on the non-stick fabric sheet with firm pressure for 30 seconds.  
**SEE FIGURE 46.**
10. Remove the iron and non-stick sheet from the surface.
11. Wipe off any adhesive that has attached to the non-stick paper so that you have a clean working surface.
12. With scissors ready, gently separate the sock from the suit leg.  
Cutting **ONLY** the sock fabric. **SEE FIGURES 47, 48 AND 49.**
13. Gently separate one end of the sock from the suit leg by lightly peeling.  
Gloves may help as the sock will be hot where contacted by the iron.
14. Heat the adjacent area for 20 seconds, using the non-stick fabric sheet, and continue to pull. **SEE FIGURE 50.**

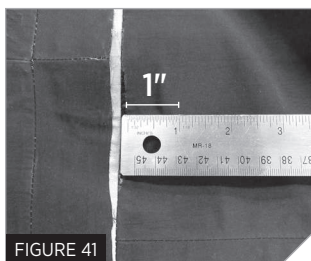


FIGURE 41



FIGURE 42

15. Rotate the sock and repeat steps 8 to 11 until the seal has been completely separated.
16. Leave the sock and suit leg to cool prior to completing any further actions. Gloves may help when handling the items as they may still be hot where contacted by the iron.

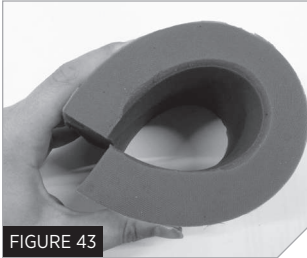


FIGURE 43

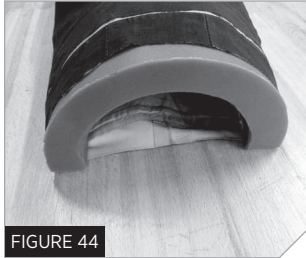


FIGURE 44



FIGURE 45



FIGURE 46

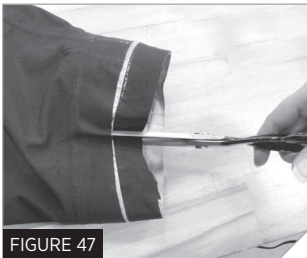


FIGURE 47

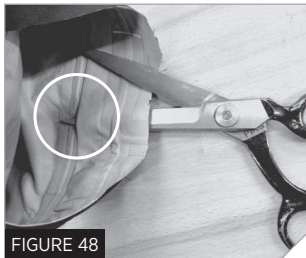


FIGURE 48



FIGURE 49

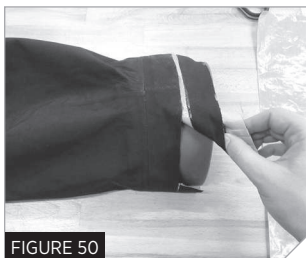


FIGURE 50

## ATTACHING THE NEW SOCK TO THE SUIT LEG

Once you have removed the damaged sock using **Method A** or **Method B** above, the new rapid repair sock can be applied to your dry suit by using a simple heating method with a Mustang Hand Iron. All steps should be read in full and practiced prior to application with heat.

1. Preheat hand iron to its maximum temperature, approximately 310°F.
2. Ensure the suit is right side out.
3. Compress the rapid repair sock replacement jig (provided with the repair kit) and place it into the sock.
4. Line up the jig so that approximately 1" of the jig is exposed around the entire circumference of the top of the sock, as in **FIGURE 51**.
5. Insert the jig and sock into the suit with the toe of the sock facing the bottom of the leg. **FIGURE 52**.
6. Gently push the sock and jig down the leg. Align the inside leg seam with the seam bisecting the grey strip at the top of the rapid repair sock (seam located 1" above the rapid repair sock label). **SEE FIGURES 53 AND 54**.
7. Ensure the suit leg becomes taut and 1/8" ( $\pm 1/16"$ ) of adhesive is visible. **SEE FIGURE 55**.
8. Center the non-stick paper over the replacement sock where the sock and suit meet and press the iron with moderate pressure for approximately 30 seconds. **SEE FIGURE 56**.
9. Leave the non-stick sheet on the suit for approximately 10 seconds before removing.
10. Clean off any adhesive that has attached to the non-stick paper.
11. Continue around the circumference of the suit leg by rotating the jig and applying heat and pressure to each adjacent section for 30 seconds.
12. Let the fabric cool and then remove the jig.
13. Inspect for proper adhesion by examining the entire perimeter on both the inside and outside of the suit.
14. Pinhole leaks may be corrected by re-heating the area for an additional 30 seconds using maximum pressure and the non-stick paper



FIGURE 51



FIGURE 52



FIGURE 53



FIGURE 54

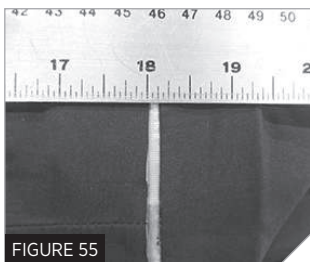


FIGURE 55



FIGURE 56

## INSPECT REPAIR

After installation is complete the suit should be leak tested before use. If a leak originates from a wrinkle in the fabric, the sock should be removed and a fresh sock installed using **Method B**. Repeat the leak test. Once you have verified there are no leaks your repaired dry suit is ready to be used.

## ACCESSORIES

The following Accessories are available for your Sentinel™ Series Berry Compliant Tactical & SOF Dry Suits:

**Neoprene Survival Hood (Part# MA7348)**

**Sentinel™ Dry Suit Liner (Part#MSL600)**

**Sentinel™ Female Dry Suit Liner (Part# MSL601)**

**Midweight Base Layer Top (Part# MSL602)**

**Midweight Base Layer Pant (Part#MSL603)**

**Lightweight Base Layer Top (Part# MSL604)**

**Lightweight Base Layer Pant (Part# MSL605)**

**Base Layer Toque (Part# MSL606)**

**YKK Zipper Lubricant (Part# MA0094)**

**Dry Suit Field Repair Kit (Part# RE0014)**

**Rapid Repair Rubber WS Emergency Repair Tape (Part# RE0020)**

**Sentinel™ Suspenders (Part# MA7649 GB)**

**Sentinel™ Rapid Repair Sock Single Right (Part# RE0023)**

**Sentinel™ Rapid Repair Sock Single Left (Part# RE0024)**

**Rapid Repair Adjustable Neck Seal / Berry Compliant (Part# RE0012vGB)**

**Replacement Rubber Wrist Seal / Berry Compliant (Part# RE0008vGB)**

**Rapid Repair Dry Suit Patch Kit / Berry Compliant (Part# RE0010vGB)**

For more information on these items please visit  
[www.mustangsurvival.com](http://www.mustangsurvival.com)

## WARRANTY INFORMATION

Limited Warranty / Mustang Survival products are warranted to be free from defects in materials and workmanship for a period of three years for MSD674 GB and MSD676 GB, and one year for MSD678 GB, from the date of purchase by the initial purchaser (the Customer End user) under normal and intended conditions and use. Proof of purchase may be required at the discretion of Mustang Survival.

Products, which, in the sole judgment of Mustang Survival, have received excessive or abusive use or have been altered in any way by a dealer, the Customer or any other person, will not be covered by this limited warranty. Mustang Survival requires return of the product (postage or delivery costs prepaid by Customer) for inspection before determining whether the product will be covered under limited warranty.

A return authorization is required before the goods are returned and should be obtained by contacting our Customer Service Department. Once returned, Customer Service, Quality Assurance and Sales Departments inspect the product as required. It is then determined whether the product will be covered under this limited warranty. If the product is deemed to be covered under our warranty policy, it will either be repaired or replaced at the sole discretion of Mustang Survival at no charge to the Customer.

The only obligation or liability of Mustang Survival under this limited warranty is to repair or replace the product and Mustang Survival shall not, under any circumstances be liable for loss of use or any consequential damages sustained by the Customer. All other warranties expressed or implied, and remedies with respect to the condition or use of the product, which might otherwise be provided by law in any jurisdiction, are specifically excluded.

## CONTACT

For further information concerning this manual or the suit, contact Mustang Survival:

**T 1 800 526 0532**

**F 1 888 676 5014**

**E [custserv@mustangsurvival.com](mailto:custserv@mustangsurvival.com)**

# MUSTANG ENGINEERED

For 50 years Mustang Survival has been engineering high-performance marine gear for military, coast guard, and rescue personnel. With a focus on applied research and field-testing, we're committed to the protection and enhancement of those who push themselves to extremes. We build gear that saves lives and fuels exploration.

[www.mustangsurvival.com](http://www.mustangsurvival.com)

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