

MUSTANG SURVIVAL



OWNER'S MANUAL

MD3196 & MD3091



Shown with the
MA3090 Harness Assembly

COMPACT TACTICAL LIFE PRESERVERS

WE SAVE LIVES FOR A LIVING

DO NOT REMOVE PRIOR TO SALE

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INTRODUCTION

This manual provides instructions and guidelines for safely using and maintaining Mustang Survival MD3196 and MD3091 Compact Tactical Life Preservers (LPs).

Mustang Survival LPs have been designed specifically for easy integration with body armor and tactical vests, including armor and vests using a Modular Lightweight Load-carrying Equipment (MOLLE) webbing system. The compact design of the LPs provides individuals wearing body armor with flotation capability with minimal bulk and minimal interference.

In-water performance tests with the LPs attached to a typical body armor vest successfully demonstrate the ability of the LPs to self-right and provide effective flotation and buoyancy.

Due to variances in local configuration, full gear in-water testing is recommended to validate performance.

The MD3196 and MD3091 LPs can be worn as stand-alone life preservers when used in conjunction with the MA3090 harness assembly.

The MD3196 LP inflates automatically upon submersion using a hydrostatic inflator that significantly reduces the potential for accidental inflation due to humidity, sea spray, or wet storage. The hydrostatic inflator must be submerged to automatically activate.

The MD3196 LP may be inflated manually, prior to submersion, by pulling the beaded manual inflation handle.

The MD3091 LP is inflated manually by pulling the beaded manual inflation handle.

When worn, used, and serviced according to the instructions in this manual, Mustang Survival MD3196 and MD3091 LPs can greatly increase a user's chance of survival in the water.

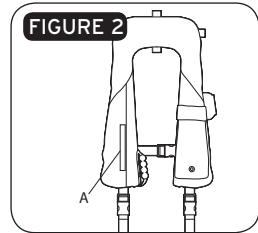
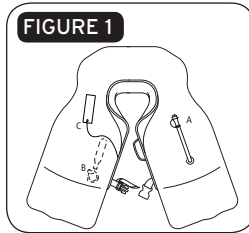
PRODUCT FAMILIARIZATION AND READINESS

MD3196

Figure 1 shows the left lobe (as worn) of the MD3196 LP with the oral inflator tube assembly-A, and the right lobe of the LP with the manual/automatic inflator assembly-B and the orange whistle-C.

To determine the operational status of the inflator examine the status indicator through access point A as shown in Figure 2:

- Green indicates the inflator is armed and the LP is ready for use.
- Red indicates the inflator has been fired and must be re-armed before the LP can be used – see Re-arming.

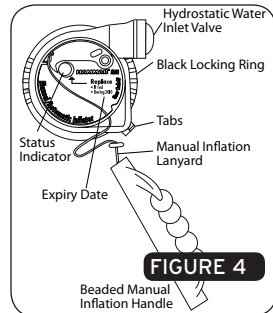
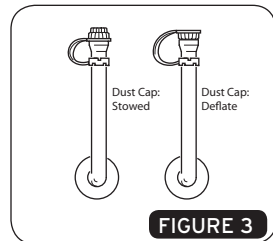


To become more familiar with the LP components:

1. Open both zippers completely, and place the LP on a smooth, flat surface with the oral tube facing the user.
2. Ensure the oral inflator dust cap is in the stowed position (Figure 3).
3. Visually inspect the expiry date on the inflator (Figure 4). If the expiry date has passed, replace the inflator – see Re-arming.

NOTE: If the expiry date has passed, Mustang Survival recommends water testing the LP to become familiar with LP functionality.

4. Repack the LP – see Repacking.



MD3091

The left lobe (as worn) of the MD3091 LP contains the oral inflator tube assembly-A. The right lobe of the LP contains the manual inflator assembly-B and the orange whistle-C. .

To become more familiar with the LP components:

1. Open both zippers completely, and place the LP on a smooth, flat surface with the inflator facing the user.
2. Ensure the oral inflator dust cap is in the stowed position.
3. Ensure the status pin and the CO₂ cylinder are intact, and the lever is in the up and ready position (Figure 6).
4. If the cylinder is not intact, and/or if the status pin is missing or broken, re-arm the cylinder and replace the status pin – see Re-arming (Figure 7).
5. Repack the LP – see Repacking.

Prior to Use

Visually inspect the LP prior to use to:

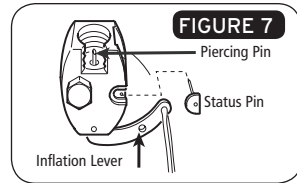
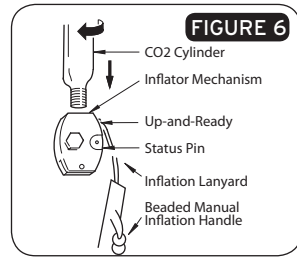
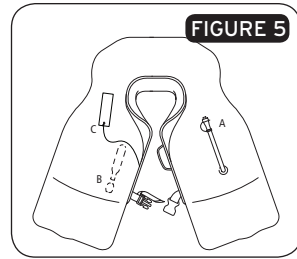
- ensure the LP is properly armed
- ensure the LP is free of rips, tears, or holes and all seams are securely sewn
- ensure the fabric, straps, and hardware are free from any defects

READINESS CHECKLIST (MD3196 & MD3091)

When all applicable boxes are checked, the LP is ready for use:

- Beaded manual inflation handle is fastened.
- No rips, tears, or holes, and all seams securely sewn.
- Fabric, straps, and hardware free from defects.
- All zippers, Velcro™, and chest buckle securely fastened.
- MD3196 only: Status indicator is green.
- MD3196 only: Inflator expiry date has not passed.
- MD3091 only: Status pin and cylinder intact, and manual inflation lever in the up and ready position.

NOTE: If there are any concerns about the readiness of the MD3196 or MD3091, contact the Mustang Survival dealer.



WEARING

NOTE: The LP provides 35 lbs of flotation, and is designed for users weighing more than 80 lbs and with a chest size of 30-52 inches.

The LP must be properly adjusted to fit the individual wearing it. Incorrect fit, or improper fastening of attachments can impede LP effectiveness.

- To avoid injury to the user or damage to the LP, the LP should never be worn under clothing or anything else that could restrict inflation.
- Belts and straps should be adjusted for secure, comfortable fit. When the LP is integrated with MOLLE webbing system and body armor vest, ensure all connections are securely fastened – see Integrating PALS with a MOLLE Vest.
- When the LP is used in conjunction with the MA3090 harness assembly, the waist belt should fit securely – see Attaching the MA3090 Harness.

INFLATING

WARNING: The MD3091 LP must be manually activated by the user; it does not automatically inflate upon submersion.

NOTE: When using the MD3196 LP in temperatures below freezing, fully discharging the CO₂ cylinder may not provide adequate inflation; use the oral inflator to top-up the LP.

Manual Inflation

Manually activate the inflation mechanism for either LP by jerking firmly downward on the beaded manual inflation handle. The LP should fully inflate within five seconds.

Auto-Inflation - MD3196

CAUTION: If the MD3196 LP has been manually inflated, CO₂ inflation could over-pressurize and damage it.

When the inflator is submerged more than approximately four inches in water the hydrostatic water inlet valve opens letting water contact the water-sensitive element. The element releases a stainless steel coil spring, driving a needle into the end of the gas cylinder, puncturing it and allowing the gas to fill the LP. The LP should fully inflate within five seconds.

Special Considerations

Auto-inflation of the MD3196 LP could create a risk of damage under the following circumstances:

- Double inflation – CO₂ cylinder inflation after full oral inflation.
- Inflation while stored in a tight space.
- Inflation while in an awkward place or position.

Oral Inflation

A properly armed LP will inflate correctly. However, when top-up inflation, or total inflation in a non-emergency situation is required, the LP can be inflated by mouth.

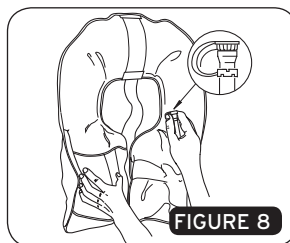
When fully inflated automatically the carbon dioxide (CO₂ gas) used to auto-inflate the LP slowly escapes through the fabric over time. A slight reduction of pressure is apparent several hours after inflation. Therefore, oral top-up inflation may be required during prolonged immersion. To orally inflate the LP:

1. Disengage both zippers completely and open the left lobe of the LP.
2. Locate the oral inflator tube, and remove the dust cap from the end of the tube.
3. Blow into the tube until the LP is fully inflated.
4. Replace the dust cap in the stowed position.

DEFLATING

CAUTION: Deflating the LP by any means other than by inverting the oral inflator dust cap may damage the oral inflator valve.

1. To deflate the LP, remove the oral inflator dust cap from the oral inflator tube, reverse the dust cap and reinsert it into the tube. The dust cap does not lock and must be held in place (Figure 8).
2. Gently squeeze the LP until fully deflated, ensuring all air or gas is removed from the LP. To avoid damage, do not wring or twist the LP or the cell.
3. Replace the dust cap in the stowed position.
4. Visually inspect the inflator status. The status indicator on the MD3196 LP must be green, and the status pin on the MD3091 LP must be in place before repacking the LP. If those conditions are not met, the LP inflator has been fired and must be re-armed – see Re-arming.
5. Repack the LP – see Repacking.

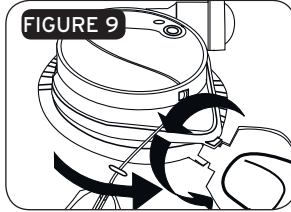


RE-ARMING THE MD3196

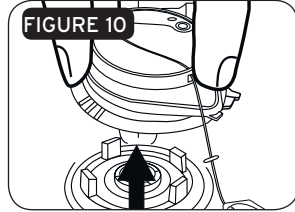
CAUTION: The LP must be deflated before being re-armed.

NOTE: An MA7214-10 re-arming kit is required for this procedure.

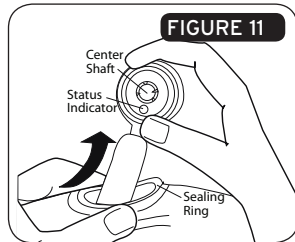
1. Open both zippers, wipe off any water, and place the LP on a smooth, flat surface with the inflator facing the user.



2. Reach under the cover and carefully pull the manual/automatic inflator assembly out from under the cover fabric.

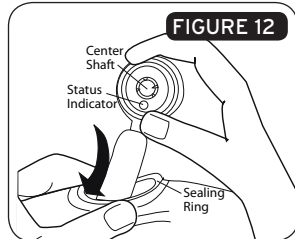


3. Hold the CO₂ cylinder through the fabric, insert the metal key between the black locking ring and inflator cap, and turn the key counter-clockwise (Figure 9).



4. Turn the black locking ring counter-clockwise, and lift off (and discard) the yellow inflator cap (Figure 10).

5. Elongate the sealing ring by squeezing it, and remove (and discard) the inflator body through the ring (Figure 11).

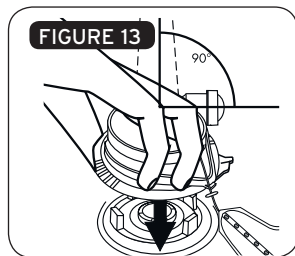


6. Visually inspect the sealing ring for cracks, debris, or other damage. If damage is present, remove the LP from active service for further assessment.

7. Ensure that the status indicator on the new inflator body is green, and the expiry date has not passed (Figure 12). If the status indicator is red, or the expiry date has passed, acquire a new inflator body.

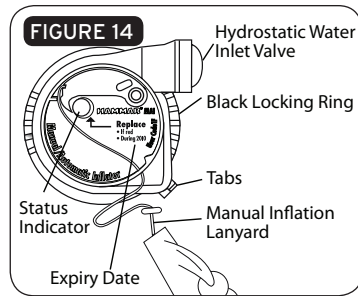
CAUTION: Do not turn the small center shaft of the inflator body.

8. Insert the new inflator body, with the CO₂ cylinder pointing upward, inside the LP (Figure 12), and let the sealing ring rest on the adapter around the four lugs.



9. Hold the CO₂ cylinder through the fabric of the LP, and position the new inflator cap with the valve pointing to the right ensuring the cap is properly seated on the inflator body and sealing ring (Figure 13).

10. While pressing firmly onto the inflator body, turn the black locking ring clockwise to the locked position, and pull on the inflator cap to ensure it is locked onto the inflator body (Figure 14).
11. Ensure that the status indicator on the new inflator cap is green, the pull-to-inflate lanyard is present, and the locking ring is locked.
12. To test for leakage, inflate the LP using the oral inflator tube – see Inflating. To avoid damage to the LP do not use a compressor (the maximum pressure should not exceed 2 psi). After two hours there should be no noticeable drop in pressure in the LP.
13. Deflate and repack the LP – see Deflating, and Repacking.



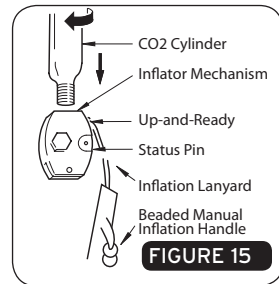
RE-ARMING THE MD3091

CAUTION: The LP must be deflated before being re-armed.

NOTE: An MA7170 re-arming kit is required for this procedure.

CAUTION: Follow the steps below in the exact sequence described.

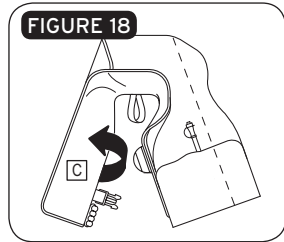
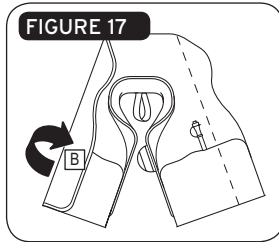
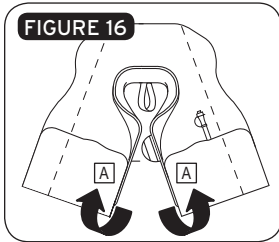
1. Unscrew and discard the CO₂ cylinder (Figure 15).
2. Ensure the manual lever is in the up and ready position and the manual inflator mechanism status pin is properly installed. If missing or damaged, replace the status pin (Figure 15).
3. To install the new CO₂ cylinder, screw it into the top of the inflator and hand-tighten. To avoid damage to the internal gasket, do not over-tighten (Figure 15).
4. To test for leakage, inflate the LP using the oral inflator tube – see Inflating. To avoid damage to the LP do not use a compressor (the maximum pressure should not exceed 2 psi). After two hours there should be no noticeable drop in pressure in the LP.
5. Deflate and repack the LP – see Deflating, and Repacking.



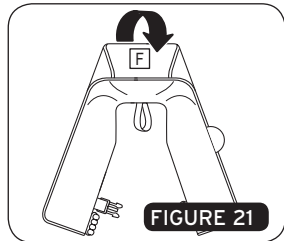
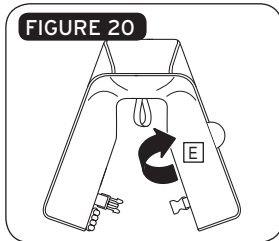
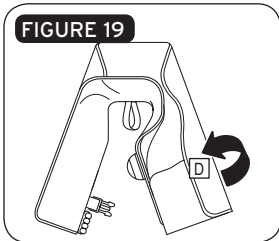
REPACKING

WARNING: After each field use inflation, LPs must be rearmed, leak tested, and fully deflated before repacking - see Re-arming, and Deflating.

Folding

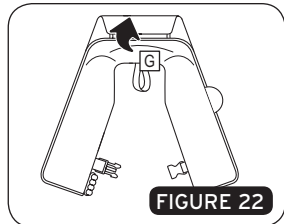


1. Lay the LP flat on a clean surface, inflation cell up, and fold the bottom portion-A of each side of the inflation cell up (Figure 16).
2. Fold side-B over along the full length of the dotted line (Figure 17).
3. Fold side-C over side-B (Figure 18).



4. Fold side-D over along the full length of the dotted line (Figure 19).
5. Fold side-E over side-D (Figure 20).
6. Fold over the top side-F (Figure 21) and cover-G (Figure 22).

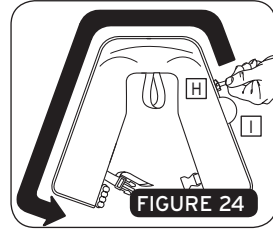
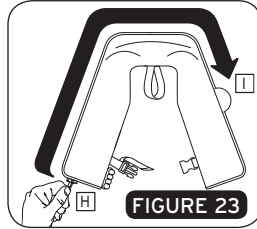
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Closing Zipper 1 - Long Zipper

NOTE: Mustang Survival uses advanced SecureZip™ 2-step zippers.

1. Reset zipper 1 by pulling zipper pull-H around the top of the LP to Velcro™ tab-I (Figure 23).

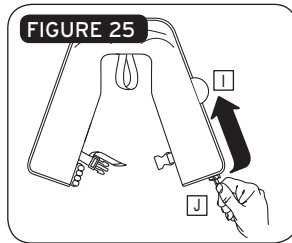


2. Close zipper 1 by pulling zipper pull-H back to the beginning of the zipper tape end, and fasten Velcro™ tabs-I to keep the zipper closed (Figure 24).

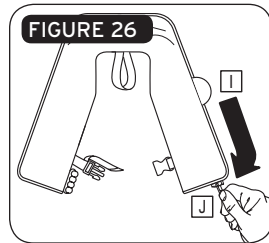
CAUTION: Ensure the inflation cell does not get caught in the zipper.

Closing Zipper 2 - Short Zipper

1. Reset zipper 2 by pulling zipper pull-J to Velcro™ tab-I (Figure 25).



2. Close zipper 2 by pulling zipper pull-J back to the beginning of the zipper tape end (Figure 26).

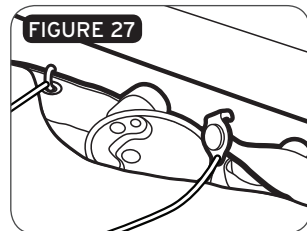


CAUTION: Ensure the inflation cell does not get caught in the zipper.

3. Push the zipper tape ends into the openings at the bottom of the packed LP, and fasten the beaded manual inflation handle to the LP.

Stowing the Manual Conversion Cap (MD3196 Only)

An interior pocket is provided for stowing a manual conversion cap (MA7219) (Figure 27). If used, the cap should be attached by lanyard through the eyelet located within the front slash entry (see AUTO/MANUAL CONVERSION). When repacking, tuck the cap into the pocket (Figure 27) located below the inflator and inside the front slash entry. Close the front slash entry with the hook and loop tape over the inflator.

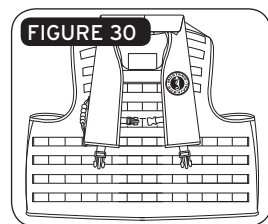
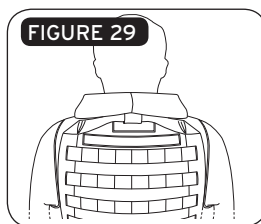
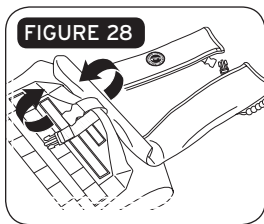


INTEGRATING POUCH ATTACHMENT LADDER SYSTEM AND MOLLE VEST

WARNING: Suitable anchor points must be used as outlined below.

The LP is intended to be secured to a MOLLE vest using the provided buckles. The attachment points secure the LP to the front and back of the MOLLE vest.

The female buckle is designed to mount to the MOLLE vest allowing easy removal of the LP to reconfigure for different mission profiles and allow proper operation of breakaway vests. Ensure the attachment points are accessible, do not interfere with other mounted equipment, and provide a secure fit ensuring the LP is attached as close to the torso as possible.

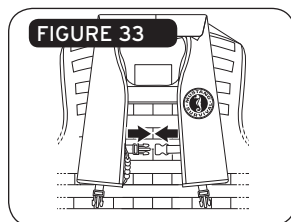
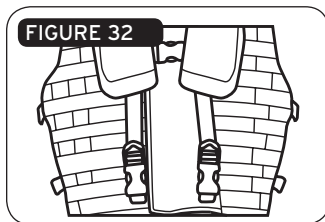
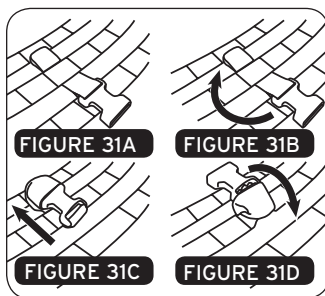


1. Lay the MOLLE vest down on a clean flat surface with the back of the vest facing up.
2. Lift up the emergency extraction strap or other anchor point on the back of the vest. Loop the back attachment of the MD3196 LP around the extraction strap or, if no extraction strap is available, around the PALS webbing (Figure 28).
3. Use the buckle to secure and tighten the back attachment strap. The collar of the LP should be located near the neckline (Figure 29).
4. With the LP attached, turn the vest over and lay it flat, with the front of the vest facing up.
5. Position the two front lobes of the LP perpendicular to the webbing across the vest (Figure 30).

WARNING: For optimal flotation, the LP must be secured tightly against the vest.

6. On the left-hand side of the vest, feed the female buckle attachment webbing under a row of Pouch Attachment Ladder System (PALS) webbing.
7. Insert the female buckle under the upper row of vest webbing (Figure 31A).

8. Pull the buckle attachment webbing through the vest webbing. (Figure 31B).
9. Pass the female buckle through the buckle attachment webbing (Figure 31C) leaving the female buckle clip flush with the vest (Figure 31D).
10. Repeat steps 7-9 on the right-hand side of the vest.
11. Clip the left-hand male buckle (attached to the LP) into the female buckle attachment (attached to the vest), (Figure 32). Repeat on the right-hand side of the vest.
12. Fasten the buckle that connects the left- and right-hand lobes in front of the chest section of the vest (Figure 33). Cinch by pulling on the loose end of the webbing.
13. Ensure all buckles are securely fastened under the webbing, and all webbing adjustments are tight.
14. Secure excess webbing with Velcro™ straps



Quick-Release Features

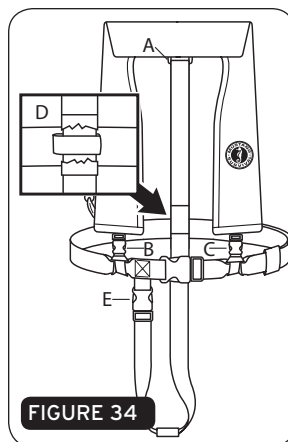
NOTE: Found on some body armor (for example, IOTV).

1. Release the LP by pressing the side release buckles below each side of the LP and the chest buckle. This will completely release the LP from the front of the MOLLE vest.
2. Using the appropriate release mechanism, release the vest so it can be removed.

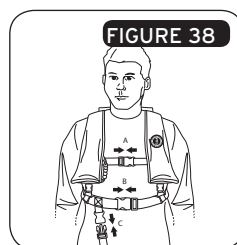
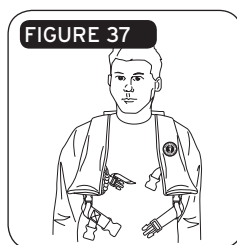
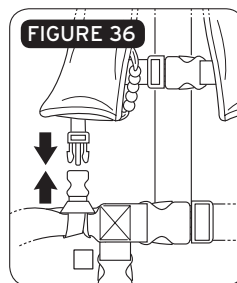
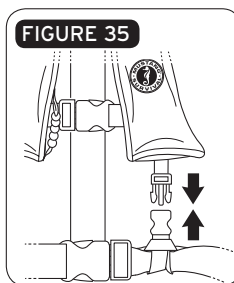
ATTACHING THE MA3090 HARNESS

1. Lay out the MA3090 harness assembly as shown (Figure 34):
 - A. T-tab junction buckle
 - B. Right-hand buckle (as worn)
 - C. Left-hand buckle (as worn)
 - D. Looploc
 - E. Crotch strap buckle

2. Insert the short side of the webbing attachment on the back of the MD3196 LP through Looploc D on the back strap of the chest belt accessory. Securely fasten the snap.
3. Locate the T-tab junction buckle at the top of the crotch strap and thread through the lower back chest belt loop D. Secure the T-tab with the snap, and turn the snapped portion so it is positioned inside the chest belt loop away from the body (Figure 34).
4. Attach male buckle C to the corresponding female buckle on the left side of the chest belt (Figure 35).
5. Repeat step 4 on the right side of the chest belt (Figure 36).



6. Unfasten the crotch strap buckle E, and put the LP on as shown (Figure 37).
7. Buckle the chest buckle connecting the left- and right-hand lobes of the LP (Figure 38).
8. Buckle the waist belt (Figure 38).
9. Bring the crotch strap buckle to the front between the legs and securely buckle it to the chest strap (Figure 38).



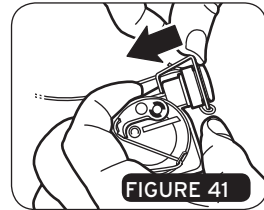
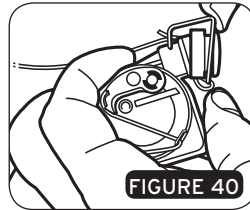
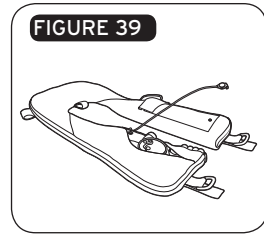
AUTO/MANUAL CONVERSION

Under special circumstances, such as wading or at other times when complete manual control of inflation of the LP is required, the MD3196 LP can be converted from manual/automatic inflation to manual-only inflation.

The LP may be changed back to manual/automatic inflation by removing the conversion cap.

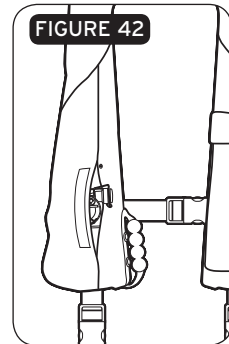
NOTE: This procedure requires an armed MD3196 LP and an MA7219 conversion cap.

1. Tie the conversion cap lanyard through the eyelet located within the front slash entry (Figure 39). Allow enough length such that the manual cap can be stowed in the interior pocket located below the inflator inside the slash entry (Figure 39).
2. Position the conversion cap over the hydrostatic water inlet valve (Figure 40).
3. Secure the conversion cap to the hydrostatic water inlet by applying pressure to the cap at the metal clip until it locks in place (Figure 41).



Reversing the Conversion

1. To remove the conversion cap, open the front slash entry.
2. Reach above the inflator to find the conversion cap lanyard. Follow the lanyard to the conversion cap.
3. Push the fabric of the slash entry behind the water inlet valve (Figure 42).
4. Firmly pull the conversion cap lanyard horizontally across the chest.
5. Place the conversion cap in the manual conversion cap pocket located inside the front slash entry when not in use.
6. Visually confirm the conversion cap has been removed from the valve opening.



CARE AND MAINTENANCE

Before each use, review the Readiness Checklist.

CAUTION: After each inflation, re-arm the LP - see Re-arming.

After each use, deflate, re-arm, and repack the LP – see:

- Deflating
- Re-arming
- Repacking

Visually inspect the LP prior to use to ensure:

- LP is properly armed

- LP is free of rips, tears, or holes
- LP seams are securely sewn
- LP fabric, straps, and hardware are free from any defects

Perform the following tests every 180 days, or more frequently if exposed to potential damage or used in extreme conditions.

Testing for Leaks

1. Orally inflate the LP until it is firm to the touch, and let it stand for two hours—a leaking LP will not hold its firmness.
2. If the LP is leaking, take it to a service department for evaluation and/or servicing.

Testing the Oral Inflation Valve

1. Fully inflate the LP using the oral inflator, then hold the valve under water.
2. If bubbles appear, deflate and retest. If the leak persists, take the LP to a Mustang dealer for evaluation and/or servicing.

CAUTION: To avoid accidental inflation, do not allow water to contact the hydrostatic inflator.

General Tests and Inspections

Record the following tests in permanent ink in the Date Maintained column on the Care and Storage label.

After each test or inspection, repack the LP – see Repacking.

Perform the following tests and inspections annually, after each inflation, or whenever the integrity of the LP is in doubt.

- Visually inspect all components for dirt or corrosion, and clean or replace as necessary – see Readiness Checklist.
- Visually inspect the LP for damage or excessive abrasion, wear, fabric tears, or contamination. Particular attention must be paid to the stitching, straps, and hardware.
- Test for leaks.
- Test the oral inflation valve.
- On the MD3196, ensure the inflator expiry date has not passed. If it has, replace the inflator – see Re-arming.
- Ensure the status indicator is green – see Product Familiarization.

Testing the Manual Inflator

NOTE: A fully armed LP and an approved re-arming kit are required for this test.

1. Don either LP and manually inflate it by jerking firmly downward on the beaded manual inflation handle. The LP should fully inflate within five seconds.
2. Enter water of an appropriate depth to keep the head above the surface.
3. Ensure the LP floats the user in a prone position, or just slightly back of vertical in a relaxed position with the mouth well above the surface of the water, and experiment with different leg positions to become familiar with changes in buoyancy and/or flotation characteristics.
4. Exit the water, remove the LP, and completely deflate it – see Deflating.
5. Let the LP dry thoroughly, then re-arm and repack it – see Re-arming, and Repacking.

Testing the Automatic Inflator

NOTE: a fully armed MD3196 LP is required for this test.

1. Don the MD3196.
2. Enter water of an appropriate depth to keep the head above the surface.
3. When the inflator is submerged under approximately four inches of water, the MD3196 should fully inflate automatically within five seconds.
4. Ensure the LP floats the user in a prone position, or just slightly back of vertical in a relaxed position with the mouth well above the surface of the water, and experiment with different leg positions to become familiar with changes in buoyancy and/or flotation characteristics.
5. Exit the water, remove the MD3196.
6. Completely deflate the MD3196 – see Deflating.
7. Let the MD3196 dry thoroughly, then re-arm and repack it – see Re-arming, and Repacking.

WARNING: If in doubt about the self inspection and servicing of the LP in accordance with these instructions, or of any test or inspection results, take the LP in for professional servicing.

CLEANING AND STORAGE

NOTE: To avoid accidental auto-inflation when cleaning the MD3196 LP, do not submerge it in water or spray liquid on the inflator.

CAUTION: Do not dry clean the LP

1. Hand wash or sponge down the LP in warm, soapy water.
2. Rinse the LP and inflator with clean water, using a clean cloth.
3. Hang the LP to dry on a plastic coat hanger.
4. Always store the LP in a warm, dry place out of direct sunlight.

ACCESSORIES

MA7214-10	Re-Arm Kit: 33 gram CO ₂ replacement cylinder and inflator cap for the MD3196
MA7170	Re-Arm Kit: 33 gram CO ₂ replacement cylinder for the MD3091
MA3090	Harness Assembly
MA7219	Auto/Manual Conversion Cap for MD3196

GLOSSARY

Term	Definition
CO ₂	Carbon dioxide
IOTV	Improved Outer Tactical Vest
LP	Life preserver
MOLLE	Modular Lightweight Load-carrying Equipment
PALS	Pouch Attachment Ladder System

**DO NOT REMOVE
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