



ADVANTAC
TECHNOLOGIES



ARM-R™

**ADVANTAC TECHNOLOGIES
ACE ADVANTAGE™ BODY ARMOR MANUAL**

APRIL 2011

**OPERATIONAL AND MAINTENANCE
INSTRUCTIONS FOR
ACE ADVANTAGE™ BODY ARMOR**



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1-1 GENERAL INFORMATION

The ACE ADVANTAGE™* LEVEL IIIA BODY ARMOR Vest was developed for aircrew members and other elite special operations teams who have unique missions and cockpit integration requirements that demand extraordinary consideration. These armor systems have been specifically engineered for extended wear, fully integrating with Air Ace™ load-bearing survival vests, parachute harnesses, chemical warfare ensembles, rescue recovery harnesses, and aircraft utility restraint devices. ACE ADVANTAGE BODY ARMOR offers the highest degree of end-use application and aircrew equipment integration ever developed.

ACE ADVANTAGE BODY ARMOR uses ARM-R Flex™*, a patented Composite Sheet Layering System that provides Level IIIA threat protection yet is lightweight and flexible. ACE ADVANTAGE BODY ARMOR can be worn under or over uniforms, flight clothing, and chemical defense ensembles. It provides a comfortable fit and quick-release through its four-point Snap Track™ adjustment system. Snap Track™ is a revolutionary attachment device that provides 600 knot windblast proven performance, yet offers a quick release design feature for rapid removal. This armor can be worn under the aircrew survival vest, tactical assault vest, running gear, and restraint and load bearing harnesses. The removable and washable body armor covers provide both front and back pockets for Level IV hard armor plates. ACE ADVANTAGE BODY ARMOR also features additional attachment points for adding optional level IIIA armor accessories including attachments for neck, groin, deltoid and kidney protection along with a front trauma pack for additional blunt force protection.

ACE ADVANTAGE is available with a standard cover and MOLLE cover.

ACE ADVANTAGE comes in four sizes: XS/SMALL, MEDIUM, LARGE and XL/XXL

1-2 BASIC INSPECTION

Prior to use, the wearer will inspect the ACE ADVANTAGE BODY ARMOR as follows:

- 1-2.1 Inspect the ACE ADVANTAGE BODY ARMOR cover for cuts, tears, fraying, seam separations and loose stitching. Inspect the general condition of zippers and other hardware. Any damage should warrant additional inspection of the ballistic panel inserts.
- 1-2.2 Inspect to assure that all mission/survival components are installed if wearing ACE ADVANTAGE with MOLLE.

1-3 PERIODIC DETAILED INSPECTIONS

- 1-3.1 A periodic detailed inspection of in-service ACE ADVANTAGE BODY ARMOR shall be accomplished on a 180-day inspection cycle.
- 1-3.2 Inspection for damage, excessive wear or abuse must be conducted. Any vest that appears to be damaged or in obvious poor condition should be removed from service and discarded or returned to the manufacturer to prevent its accidental reuse or re-entry into service.
- 1-3.3 Inspect outer cover for cuts, tears, fraying, seam separations and loose stitching. Inspect the general condition of zippers and other hardware.



FRONT COVER*



BACK COVER*

* Waist and shoulder straps not shown

- 1-3.4 Open cover zippers and remove ballistic panel inserts. Inspect for cuts, tears, or other damage.



FRONT BALLISTIC INSERT PANEL



BACK BALLISTIC INSERT PANEL

- 1-3.5 Update inspection data records and database.

1-4 ACCESSORY ATTACHMENT (FOR ACE ADVANTAGE WITH MOLLE)

NOTE

Components will be attached in accordance with T.O. 14S1-3-51.

- 1-4.1 The manufacturer offers a variety of pockets with MOLLE attachment for ACE ADVANTAGE BODY ARMOR with MOLLE. All pockets contain attachment loops for securing components.



1-5 FITTING

- 1-5.1 Don ACE ADVANTAGE BODY ARMOR.

- 1-5.2 Ensure that SnapTracks™ are properly locked down with the little button snapped through the hole in the tab. SnapTracks™ are located at the shoulders and waist.
NOTE: Once armor hook and loop is properly fitted, SnapTrack™ provides a 2-point quick release for doffing armor.



- 1-5.3 Adjust the hook and loop shoulder straps so that the armor vest fits comfortably around the neck region and does not interfere with movement. There should be no gap or space in between the front and back shoulder flaps. Ensure that the two flaps meet or overlap while adjusting the hook and loop closure.



- 1-5.4 Adjust waist belt strap so fit is snug yet comfortable. An overlap of ballistic material is provided at the sides for maximum protection (recommended 2" minimum overlap). Ensure that the flap on the back cover is closest to the body, and the flap from the front cover goes over the top of the back flap. Adjust hook and loop closures for proper fit.



- 1-5.5 When body armor and additional life support equipment are worn together the following procedures will be used:

- 1-5.5.1 Don body armor.
- 1-5.5.2 Fit LPU-10/P life preservers (when required) over body armor.
- 1-5.5.3 Survival vest is donned and LPU-10/P life preservers are pulled through each armhole to hang over vest.
- 1-5.5.4 Personnel parachute or torso harness is donned last and is adjusted IAW applicable technical order

1-6 CLEANING

NOTE

To retain fire retardant properties, ACE ADVANTAGE BODY ARMOR should **not be washed more than 15 times**. Document washings on applicable forms.

- 1-6.1 The ballistic insert panels should never be submerged in water or machine washed.
- 1-6.2 Soiled ACE ADVANTAGE BODY ARMOR COVERS may be spot cleaned by hand with warm water using mild soap (Ivory or equivalent). Remove ballistic insert panels prior to cleaning. Hang garment up to dry in a well-ventilated area.
- 1-6.3 The ACE ADVANTAGE BODY ARMOR COVERS are machine washable (never dry clean). Remove ballistic insert panels prior to washing. Wash in warm, not hot, water (105F, +/- 5F). Close all zippers and pockets prior to machine washing. Tumble dry on permanent press setting or hang out to dry. Do not bleach.

NOTE

Do not iron or press

1-7 MAINTENANCE

- 1-7.1 Repair of ACE ADVANTAGE BODY ARMOR materials will be limited to sewing of rips, loose stitching, seam separations, patching when necessary with like fabric, and replacing snaps and slide fasteners. ACE ADVANTAGE BODY ARMOR Covers and new ballistic panel inserts can be purchased from AdvanTac Technologies.
- 1-7.2 All repairs requiring sewing will be done with nylon thread conforming to Specification V-T- 295, Type II, Class 1, Size E (NSN 8315-00-616-0079 or equivalent). Stitching shall be in accordance with Type 301, Federal Standard 751, use 8 to 10 stitches per inch. Ends of stitching shall be backstitched not less than 1/2 inch.
- 1-7.3 Hand sewing: Aircrew Flight Equipment may accomplish hand-sewn repairs. Holes and seam separations no larger than 1/2 inch may be repaired by hand sewing. Sew affected area with a double-threaded (V-T-295, Type II, Class 1, Size E) nylon thread.
- 1-7.4 Trim excess thread to 1/2 inch minimum.

1-8 INFORMATION

1-10.1 Please contact manufacturer for additional accessories, replacement items and repair materials at 206-965-9660 or 866-479-7994.

Web: www.AdvanTac.com, Email: govsales@AdvanTac.com

1-10.2 All suggested changes to this user manual should be recommended to AdvanTac Technologies.

PART NUMBERS: GSA Contract GS-07F-0566T

901-0013-001	ACE ADVANTAGE ARMOR, MOLLE, TERRA, XS/SMALL
901-0014-001	ACE ADVANTAGE ARMOR, MOLLE, BLACK, XS/SMALL
1BA-2P/3A-R2-M	ACE ADVANTAGE ARMOR, MOLLE, TERRA, MEDIUM
1BA-2P/3A-R-M	ACE ADVANTAGE ARMOR, MOLLE, BLACK, MEDIUM
901-0015-001	ACE ADVANTAGE ARMOR, MOLLE, TERRA, LARGE
901-0016-001	ACE ADVANTAGE ARMOR, MOLLE, BLACK, LARGE
901-0017-001	ACE ADVANTAGE ARMOR, MOLLE, TERRA, XL/XXL
901-0018-001	ACE ADVANTAGE ARMOR, MOLLE, BLACK, XL/XXL
901-0019-001	ACE ADVANTAGE ARMOR, TERRA, XS/SMALL
901-0020-001	ACE ADVANTAGE ARMOR, BLACK, XS/SMALL
1BA-2P/3A-R2	ACE ADVANTAGE ARMOR, TERRA, MEDIUM
1BA-2P/3A-R	ACE ADVANTAGE ARMOR, BLACK, MEDIUM
901-0021-001	ACE ADVANTAGE ARMOR, TERRA, LARGE
901-0022-001	ACE ADVANTAGE ARMOR, BLACK, LARGE

901-0023-001	ACE ADVANTAGE ARMOR, TERRA, XL/XXL
901-0024-001	ACE ADVANTAGE ARMOR, BLACK, XL/XXL
901-0043-001	ARMOR COVER, MOLLE, TERRA, XS/SMALL
901-0029-001	ARMOR COVER, MOLLE, BLACK, XS/SMALL
901-0026-001	ARMOR COVER, MOLLE, TERRA, MEDIUM
901-0028-001	ARMOR COVER, MOLLE, BLACK, MEDIUM
901-0030-001	ARMOR COVER, MOLLE, TERRA, LARGE
901-0031-001	ARMOR COVER, MOLLE, BLACK, LARGE
901-0032-001	ARMOR COVER, MOLLE, TERRA, XL/XXL
901-0033-001	ARMOR COVER, MOLLE, BLACK, XL/XXL
901-0034-001	ARMOR COVER, TERRA, XS/SMALL
901-0035-001	ARMOR COVER, BLACK, XS/SMALL
901-0025-001	ARMOR COVER, TERRA, MEDIUM
901-0027-001	ARMOR COVER, BLACK, MEDIUM
901-0036-001	ARMOR COVER, TERRA, SIZE LARGE
901-0037-001	ARMOR COVER, BLACK, SIZE LARGE
901-0038-001	ARMOR COVER, TERRA, SIZE XL/XXL
901-0039-001	ARMOR COVER, BLACK, SIZE XL/XXL
901-0040-001	LIIIA PANEL SET - TWO PER SET- XS/SMALL
1BA/PANELSET	LIIIA PANEL SET - TWO PER SET- MEDIUM
901-0041-001	LIIIA PANEL SET - TWO PER SET- LARGE
901-0042-001	LIIIA PANEL SET - TWO PER SET- XL/XXL