

Modular Combat Body Armour System (MCBAS)

Operator Manual



Disclaimer

This manual is designed to be used in conjunction with the specified ADF training for the MCBAS to be performed prior to use. ADA can not anticipate or control the conditions under which this information may be used, so the user must ensure that they have conducted the requisite ADF training for the MCBAS prior to use in operations.

This manual does not provide any tactics or procedures in relation to ADF operations while using MCBAS.

This manual does not provide instruction as to the requisite configuration of the MCBAS for specific operational conditions these instructions will be provided to the user by their commanding officer.

Introduction

The ADA Modular Combat Body Armour System (MCBAS) is designed to allow a variety of ballistic protection configurations for specific operational environments to the upper torso, lower torso, neck, upper limbs and lower limbs.

There are up to 48 separate components that make up the System allowing the Commander to vary the level of ballistic protection according to prevailing circumstances. In addition to the various levels of body coverage the system allows for a variety of threat levels ranging from armour piercing bullets fired from high-powered rifles to protection from knife attack or fragmentation.

When you receive your MCBAS it will not be assembled. This will give you an opportunity to check all of the components of the system and give you a chance to become familiar with the system by assembling it, especially the potentially life saving Emergency Quick Release System. The instructions for assembling the Emergency Quick Release are contained within this manual and on the label under the rear flap.

Note: Throughout this manual the operator is wearing a different DP to the MCBAS. This has been done to help you differentiate between the system and clothing in the photographs.

Purpose

The purpose of this manual is to provide you with the requisite knowledge to correctly use and maintain the MCBAS in conjunction with the appropriate ADF training.

The manual describes the correct procedure to inspect, assemble, fit, don, remove, care for and maintain the MCBAS.

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Product Description

Modular Design

The ADA Modular Combat Body Armour System (MCBAS) is designed to enable a variety of ballistic protection configurations that can be adapted for specific operational environments.

The system is modular in its design to provide a range of protection levels based on the coverage configurations (the components that are worn by the user) and the use of Handgun, Fragmentation, Stab/Spike and High Velocity Hard Armour Plates.

MCBAS Features

The MCBAS system has a number of design features to increase the ease of use and comfort of the user, including:

- waist adjustment mechanism at rear of vest for sizing of the vest to each user's body shape
- innovative waist band design to spread weight and increase comfort
- air flow panels at high pressure points on wearer side of vest Covers to aid breathability and increase comfort
- MOLLE system does not compromise the disruptive pattern or NIR effect
- drag handles for emergency evacuation
- colour coded inserts:
 - o Handgun inserts – Green
 - o Fragmentation inserts – Black
 - o Stab/Spike inserts – Grey

Emergency Quick Release

- the vest has an Emergency Quick Release System that when activated splits the vest at the shoulder and sides to rapidly jettison the MCBAS from the user.
- the Emergency Quick Release System can be operated with either one or two hands and has a safety cover to prevent inadvertent activation.
- the neck, groin and limb pieces of the system have been designed not to interfere with the Emergency Quick Release System so that it can be activated by the user regardless of the level of protection the MCBAS is configured to.
- after the Emergency Quick Release System has been activated, the vest is easily re-assembled.

Product Diagram



Component List

The MCBAS has the following components:

1. Carry Bag
2. Torso Cover (front)
3. Torso Cover (back)
4. Neck Covers (front and rear)
5. Groin Protector Cover
6. Buttock Protector Cover
7. Upper Arm Covers
8. Epaulette
9. Lower Arm Covers
10. Upper Leg Covers
11. Lower Leg Covers
12. Stab/Spike Inserts
13. Fragmentation Inserts
14. Handgun Inserts
15. Hard Armour Plates
16. Side Plate Covers
17. Emergency Quick Release Cable

1. Carry Bag

- Carry Bag for transportation
- padded pockets for Hard Armour Plates



2. Torso Cover (front)

- to hold Handgun and Stab/Spike inserts
- with internal pocket for Hard Armour Plates
- hook and pile system for shoulder and waist adjustment.
- hook and pile system to attach Neck and Groin protection
- Side Plate Cover sub-components
- MOLLE system at front and sides
- security cover over shoulder adjustment straps
- Emergency Quick Release System toggle
- air flow panels at pressure points



3. Torso Cover (Back)

- to hold Handgun and Stab/Spike inserts, with internal pocket for Hard Armour Plates
- hook and pile system for shoulder and waist adjustment
- hook and pile system to attach Neck and Buttock panels waist adjustment flap with hook and pile
- waist band security cover over adjustment straps and Emergency Quick Release System
- air flow panels at pressure points
- side and central drag handles



4. Neck Covers (front and rear)

- to hold Handgun inserts
- is removable with adjustable ergonomic curving at centre front and centre back
- fans out to accommodate extreme forward/back positions of the head
- attaches to top of Torso Covers (front and rear) via hook and pile



5. Groin Protector Cover

- to hold Handgun insert
- attaches to Torso Cover (front) via hook and pile.
- can be hooked to MOLLE system when required (eg. sitting)



6. Buttock Protector Cover

- to hold Handgun insert
- attaches to Torso Cover (back) via hook and pile.



7. Upper Arm Covers

- to hold Fragmentation inserts
- connected to Torso Cover (front) to provide extended ballistic coverage
- adjustable fitting by webbing, hook and pile, elastic and quick release buckles
- provision to attach badges



8. Epaulette

- used to display rank insignia
- utilises MOLLE system to attach to Torso Cover (front)



9. Lower Arm Covers

- to hold Fragmentation inserts
- extended coverage for elbows and forearms. Lower Arm Covers attached to Upper Arm Covers by quick release buckles at two points
- adjustable fitting by hook and pile, webbing and elastic



10. Upper Leg Covers

- to hold Fragmentation Insert
- Upper Leg Covers are secured to trouser belt via webbing loop and are secured to the leg via quick release buckles
- incorporates MOLLE system
- adjustable fitting by hook and pile, webbing and elastic



11. Lower Leg Covers

- to hold Fragmentation inserts
- adjustable fitting by hook and pile, elastic and quick release buckle extended coverage for knees and shins
- ergonomic shaping at base for integration with combat boots



12. Stab/Spike Inserts

- Stab/Spike inserts for Torso (front) and Torso (back)
- fixed to Handgun inserts via hook and pile
- colour coded grey



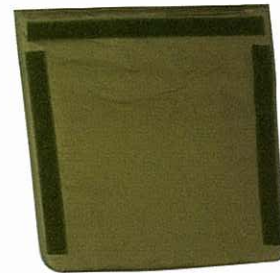
13. Fragmentation Inserts

- Fragmentation inserts for upper and lower limbs
- secured into covers via hook and pile
- colour coded black



14. Handgun Inserts

- Handgun inserts for Torso, Groin, Buttock and Neck
- secured into covers via hook and pile
- colour coded green



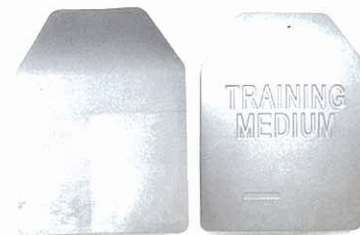
15. Hard Armour Plates

- double curvature Hard Armour Plates are inserted into the internal plate pockets within the Torso Cover (front) and the Torso Cover (back)



Training (to be used for training activities only)

- non ballistic, double curvature aluminium plates
- simulated weight of operational Hard Armour Plates
- for use in training environment to avoid damage to operational Hard Armour Plates



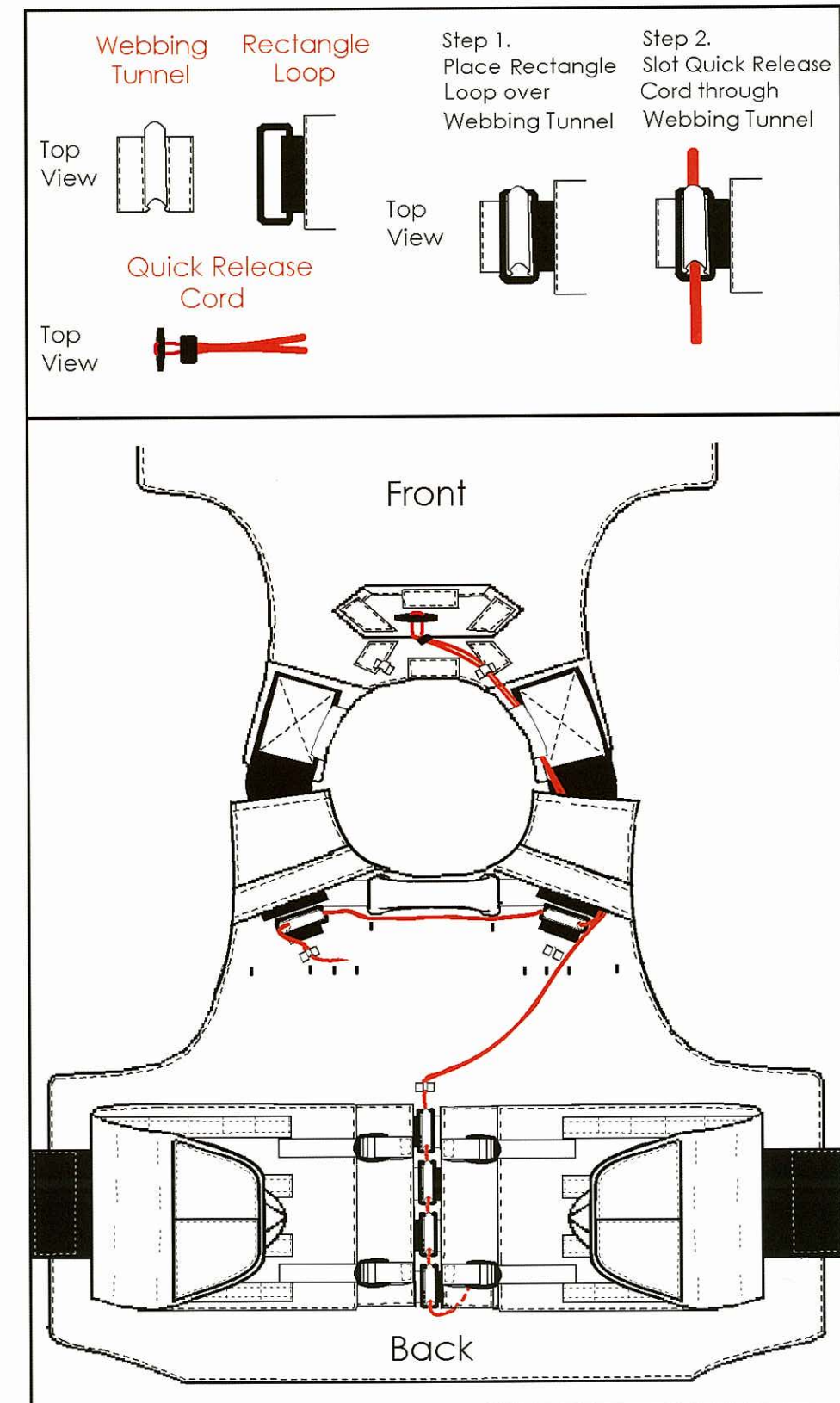
16. Side Plate Covers

- holds a Hard Armour Side Plate, (when issued)
- attaches to Torso Cover (front) via MOLLE



Assembly

Installing the Emergency Quick Release System by attaching the torso Cover (front) and torso Cover (back) utilising the cord to assemble the vest into an operational configuration. The same process is followed for re-assembly.



Action

1. Place Torso Cover (front) and Torso Cover (back) on floor with air flow panels facing downwards and shoulder to shoulder



2. Undo hook and pile security tabs on Torso Cover (back) and raise security flap



3. Align waist adjustment straps to corresponding Emergency Quick Release tabs



4. Insert both Emergency Quick Release cables through retaining tube on either shoulder of the Torso Cover (front)



5. Align shoulder adjustment strap to Emergency Quick Release tab



6. Align opposite shoulder adjustment strap to Emergency Quick Release tab



7. Feed shorter Emergency Quick Release cable through shoulder adjustment strap quick release tab



8. Feed Emergency Quick Release cable under Emergency Drag Handle Cover



9. Feed Emergency Quick Release cable through shoulder adjustment tab



10. Ensure Emergency Quick Release cable is fed back into the cable retaining tube



11. Feed longer Emergency Quick Release cable through shoulder adjustment strap



12. Feed longer Emergency Quick Release cable under drag handle Cover



13. Feed Emergency Quick Release cable under back flap securing panel



14. Feed Emergency Quick Release cable through waist adjustment strap quick release tabs



15. Ensure Emergency Quick Release cable is back fed into the cable retaining tube



16. Lower back flap securing panel and secure hook and pile tabs



17. Re-secure shoulder adjustment straps to front panel



18. Secure shoulder adjustment strap hook and pile tabs on shoulders over Emergency Quick Release System



19. Fold spare retaining tube over and secure under the hook and pile



20. Secure shoulder adjustment strap hook and pile tabs on shoulder



11. Feed longer Emergency Quick Release cable through shoulder adjustment strap



12. Feed longer Emergency Quick Release cable under drag handle Cover



13. Feed Emergency Quick Release cable under back flap securing panel



14. Feed Emergency Quick Release cable through waist adjustment strap quick release tabs



15. Ensure Emergency Quick Release cable is back fed into the cable retaining tube



16. Lower back flap securing panel and secure hook and pile tabs



17. Re-secure shoulder adjustment straps to front panel



18. Secure shoulder adjustment strap hook and pile tabs on shoulders over Emergency Quick Release System



19. Fold spare retaining tube over and secure under the hook and pile



20. Secure shoulder adjustment strap hook and pile tabs on shoulder



21. Align Emergency Quick Release cable toggle under securing hook and pile



22. Re-secure Emergency Quick Release cable hook and pile



Fitting/Adjustment

Undergarments

The undergarments consist of Standard issue DPCU or DPDU uniform.

Undergarments are worn to reduce the effects of chafing and to provide wicking material for body moisture which assists in prevention of metabolic heat build-up.

Adjustment Process (best fit)

Consult the size chart below as a guide to your MCBAS size.

Adjust each component so it fits without discomfort. If necessary, select an alternate size to ensure snug fit.

Assemble the MCBAS and adjust where necessary to ensure all components fit comfortably.

NOTE: This is only a guide.

Size	User Chest /Bust
XS	less than 90
S	91-95
M	96-100
L	101-105
XL	greater than 110

Initial Fitting

1. Loosen rear waist strap adjustments



2. Place vest overhead



3. Secure waist strap hook and pile on both sides



4. Have partner raise Emergency Quick Release Cover to tighten waist adjustment straps to snug fit.

Re-secure Emergency Quick Release Cover



5. Undo waist strap hook and pile on both sides



6. Secure waist band using hook and pile



7. Re-secure waist adjustment straps on both sides



The vest is now properly fitted to the individual.

Considerations

Adjusting shoulder straps

After initial fitting, the shoulder straps may need to be adjusted to ensure correct fitting.



Incorrect fitting



Correct fitting

Side overlap

After initial fitting, the ballistic material on the sides, under the arms, must overlap slightly. This can be varied through vest size and shoulder adjustment

Adjustment of Emergency Quick Release Toggle

It is important to ensure that the Emergency Quick Release toggle is secured in the correct position to facilitate activation.

1. Slowly pull the Emergency Quick Release toggle down to meet the Emergency Quick Release Cover flap



2. Hold Emergency Quick Release toggle in position with both thumbs



3. Secure hook and pile over Emergency Quick Release toggle



Adjustment of Vest

In order to ensure that the Torso Cover (front) and Torso Cover (back) are joined together appropriately

1. Lift the Torso Cover (front) with both hands, so that the MCBAS is level with the oesophagus
2. Pull down waist adjustment straps on the Torso Cover (back) with both hands to ensure a snug fit



Incorrect fitting



Correct fitting



Correct fitting

Configuration

The MCBAS can be configured in different levels of protection by adding additional MCBAS components. The appropriate configuration will be determined by your Commander. There are a number of factors which will influence the configuration.

Components	High Velocity Rifle Protection	Handgun Protection	Fragmentation Protection	Stab/Spike (as instructed)
Torso front		X		X
Torso back		X		X
Hard armour plate (front)	X			
Hard armour plate (back)	X			
Neck protection		X		
Groin protection		X		
Buttock protection		X		
Upper arm			X	
Lower arm			X	
Upper leg			X	
Lower leg			X	