

∨ RBS - Basic

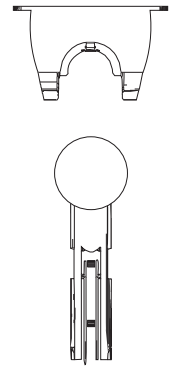


The  
**Future**  
Is Bearing Down >

## Dark Horse has answers...

One of the earliest developments in military ergonomics was the shoulder-carrying sling. The sling enabled the Ground Combatant to distribute the weight of the weapon over the neck, shoulders and back rather than putting it entirely on the arms. A sling also frees the hands to perform other functions. Shoulder slings originated hundreds of years ago, yet they remain in widespread use today.

RBS Basic is significantly easier to use than the current 3-point sling. Getting a sling tight - then loose again - takes effort. Unlike slings, RBS Basic "captures" the weapon tightly into a "Snap-Down" position. RBS Basic has no cords and can never snag up the user. With RBS Basic, separating a rifle from the body is as easy as snapping the Ballstock out of its Socket.



## A Novel Approach

Technological advances in ergonomics are making it possible to provide today's Ground Combatant with new options. RBS Basic is a new fastening mechanism for the Ground Combatant. As a ball-and-socket-based weapon mounting system, RBS Basic is an entirely new type of buttstock for shoulder-fired weapons.

RBS Basic is just two simple parts - a ball and a socket. The Socket securely attaches to the wearer's rigid bodyarmor. The ball-shaped buttstock - or "Ballstock" - adapts to a weapon at one end and mates with a bodyworn receiving Socket on the other.

The Socket is located on the inner shoulder of the Ground Combatant's body armor. RBS Basic contains an Alterable Ergonomic Contact Pad (AEC) on the backside of the Socket. Ground Combatants can be tall or short, with wide or narrow shoulders and long or short necks. Since the anthropometrics of each user will be different, the AEC allows the user to join the Socket to their armor in a position that is right for them.

- "Snap-fit" polymer joint locks tightly into a "Snap-Down" position for non-firing hands-free activity
- When the Ballstock is pressed against the Socket, the Socket's polymer structure flexibly expands to accept the ball element
- Firm and reliable joint rotates with three degrees-of-freedom
- Ballstock easily "snaps" into a smoothly tensioned connection
- Breakaway armor-to-weapon connection for Ground Combatants

RBS Basic is a  
Ball-and-  
Socket  
Weapon  
Mounting  
System

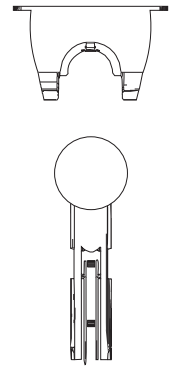


## RBS Basic carries the load...

A major focus of military research has been to reduce the weight burden on the Ground Combatant. Load carriage designers understand that well-designed systems enhance the likelihood of mission accomplishment by reducing localized stress and fatigue.

Researchers have analyzed a number of load carriage fundamentals for Ground Combatants that point to the RBS Basic solution. The research showed that locating the Ground Combatant's load center of mass as close as possible to the body center of mass results in the lowest energy cost. Loads carried in places other than the torso result in higher energy expenditures. Carriage of loads in the hands results in a higher energy cost than carriage on the torso, and produces greater cardiovascular strain.<sup>1</sup>

- RBS Basic reduces burden for the wearer - the weight shifts out his hands and arms and onto the torso
- Joins the rifle stock to bodyarmor and completely replaces the traditional rifle sling as a load carrying technique
- Easily locks into a "Snap-Down" configuration – something slings cannot do
- With the rifle immobilized and pointing downward, the Ground Combatant gains foot agility and stealth - snagging and clanking of slung weapons is eliminated
- "Snap-Fit" weapon stowage facilitates carrying casualties, operating equipment, and negotiating tough terrain



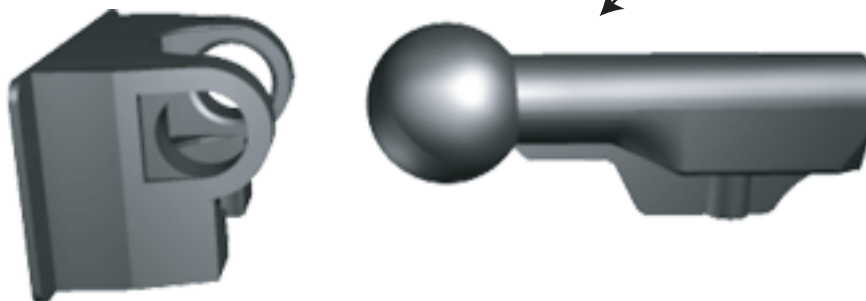
More efficient Load Carriage: the weapon's weight burden shifts out the hands and arms and onto the torso

**BEARING LOAD:** A rugged and advanced polymer joint that holds any modern small arm and is attached in a number of different ways to modern body armor. The flexible mounting bracket adjusts to custom-fit any individual.

**SOCKET:** "Snap-Fit" Socket allows the user to insert the Ballstock, offering three degrees-of-freedom and easy weapons stowage. Cumbersome and awkward slings and straps are replaced.

**BALL:** The ruggedized Ballstock secures a tight shoulder weld to assure the user's true marksmanship fundamentals are not compromised.

**CONNECTIVITY:** Customized to replace the buttstock of any modern small arm. RBS Basic fits the M4, the U.S. Infantry's weapon of choice in the Global War on Terror.

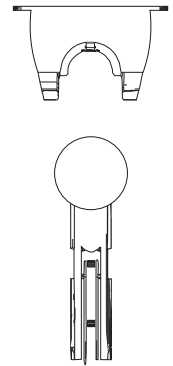


<sup>1</sup> Knapik, Joseph J., "Soldier Load Carriage: Historical, Physiological, Biomechanical & Medical," Military Medicine, 169, 1:45, 2004

# The RBS Basic Revolution...

RBS Basic is human-centric innovation, aimed at solving marksmanship ergonomic problems while becoming a load carriage enabler at the same time.

- Increased shoulder-fired weapon lethality through enhanced shoulder-to-stock stabilization is possible
- Overall individual performance is improved, with less frustration and discomfort bearing the rifle and performing other duties
- Easily retrofitted to existing weapons such as the M4/M16 and M249 Squad Automatic Rifle



## LOAD CARRIAGE ADVANTAGES

- |  |  |                                      |   |
|--|--|--------------------------------------|---|
| Hands Free Operation while Rifle is Tightly Stowed | Weight Burden Shifted from Arms to Torso | No Clanking No Snagging No Hindering | Breakaway Connector Yields Rapid Don/Doff |
|--|--|--------------------------------------|---|

## CLOSE QUARTER BATTLE RIFLE MARKSMANSHIP ADVANTAGE

- |   |  |   |                                       |
|---|--|---|---------------------------------------|
| BRM Fundamental Steady Position Assured | BRM Fundamental Sight Picture Assured                  |   |                                       |
| Armor Plate Squared To Threat           | Low/High Ready & Ready-Up Technique Training Expedited | Alterable Ergonomic Contact Pad Allows Customized Fit | Overcomes Stock-to-Armor Weld Problem |

## SUPPLEMENTARY ADVANTAGES

- |   |   |   |                                |
|---|---|---|--------------------------------|
| Lighter & More Compact than 3-Point Sling | Uniform Weapon Portage- Readiness Projected by all Troops | Compatible with all Shoulder-fired Small Arms | Durable, Reliable & Affordable |
|---|---|---|--------------------------------|

First major change to the buttstock of shoulder-fired weaponry in the 700-year history of long arms