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Team and Technology

STRIKER 40mm

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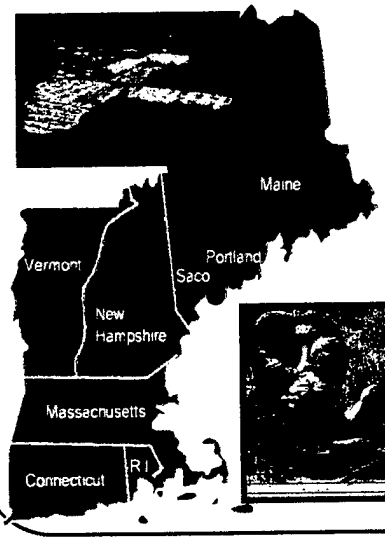
Saco Defense

SacoDefense incorporated



- Established in 1813
- Primary Producer of DOD's Crew Served Weapons since 1962
- DOD's MK19 and .50 Cal Producer
- 400 Employees

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CDC

Computing Devices Canada

- $350M Annual Turnover
- Over 1000 employees
- Core Technologies
  - Vehicle Electronics
  - Flat Panel Displays
  - Fire Control
  - Data Communications
  - Surveillance Systems
  - Software
- Vertically Integrated
- Technology

- CDC Manufactures
  - Fire Control for
    - M1 (A1-A3) & Challenger Tanks
    - Bradley Fighting Vehicles
  - Avionics
    - F14
    - Orison

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Bofors

Celsius
BOFORS CARL GUSTAF

- Established in 1646
- 4000 Employees

- Products
  - AT-4 / Carl Gustaf
  - AC130 Gun Ship Weapon
  - CV 90

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Crew Served Weapons

[redacted]

- Maxim & Gatling Gun — Spanish-American War, World War I
- .50cal Browning — WWII
- MK19 Bursting Munitions — Somalia & Gulf Wars 1968-1992
- STRIKER 40mm AGL Air-Bursting Programmable Ammunition & Weapon — 2000

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The Weapon

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- Lethal
- Smart
- Precise
- Portable
- Cost Effective

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Company Funded Development

*Use of **Computer Modeling** in Design/Development allowed Saco to explore various designs and find the **OPTIMUM** **Crew-Served Weapon Design***

Team Formed with State Department Approval 1995

BOFORS Fields "3P" Air-Burst 40mm Ammunition to Sweden 1993-1995

Alpha Prototype Development 1993-94

CDC Develops Initial LVS Brassboard 1991-1993

Gun Brass Board R&D 1990-1991

SACO Commissions Gene Stonier 1988

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Development & Testing

Ready for IOT&E

Gun-Sight-Ammunition System Integration 1997

Production Designs Verified 1997-1998

Air-Bursting Ammunition Tested 1996

Customer Focus Groups 1996-1997 MANPRINT Focus

Testing 1994-1998

Cookoff

Accuracy & Dispersion

Beta Weapon Prototype Development 1994-96

Endurance

Ammunition Compatibility

Reliability

Extreme Hot & Cold

Sand & Dust

Safety

ATF

BRING US CHALLENGES... ...WE RETURN SOLUTIONS

ARMAMENT TECHNOLOGY FACILITY
COMMERCIAL: 303-724-4ATF
DSN 880-4ATF

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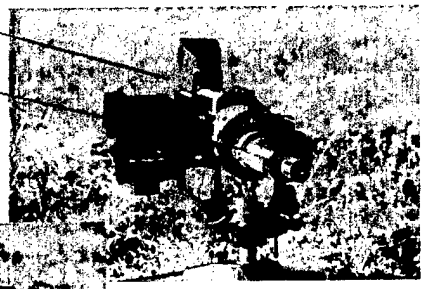
Packed with Technology

Computer Processor
Range Finder & Sensors

Ammunition Programming

Optimized Rate of Fire

Low Dispersion Weapon



Light, Low Recoil Weapon

Lightweight Gun Action Technology

Quick Slew Mount

Fine Adjust

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Soldier Display

Electronic Range Card

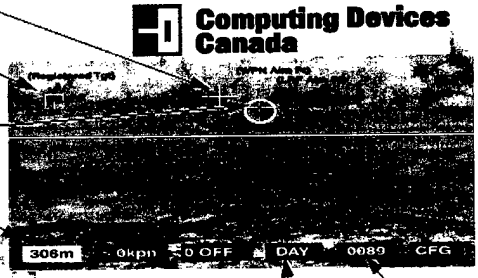
Adjusted Aim Point

Predesignates Targets

Software

Laser Aim Pointer

Range



Day / Night

Azimuth

Soldier Controls

LRF Trigger
Weapon Trigger
Mouse (Toggle)

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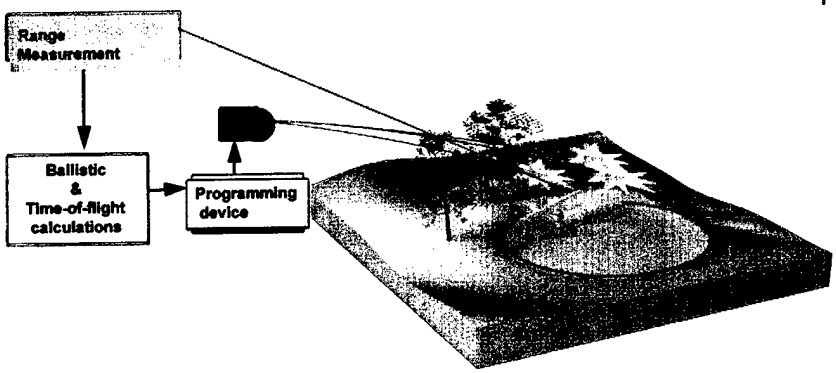
Principle of Air Bursting Ammunition



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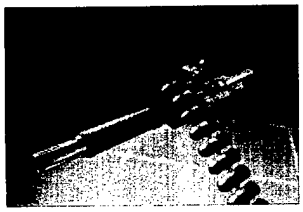
Weapon Design



- **Stability & Low Weight**
  - Recoiling Mass / Total Gun Mass
  - Internal Hydraulic Soft Mount
- **Fires Current DOD and NATO Inventory Ammunition**
- **Built to fire new BOFORS "Programmable" 40mm Ammunition**
- **Embedded Controls**
  - Built for "Soldiers"
- **8 Key Safety Features**
- **Closed Bolt Firing**
  - In Bore Fuzing
  - Lower dispersion

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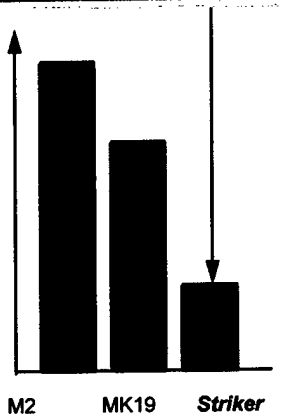
Low Recoil Energy

* Low Recoil Energy = Easy Mounting on Mobility Platforms
* Lower Recoil Energy = Improved Accuracy



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Gun Facts

	STRIKER	MK19
Weight	37 lb.	76 lb.
Barrel Removed	31 lbs	
Rate of Fire	250-300 rpm	325-375 rpm
Length	34.6 in	44.29 in
Quick Detach Barrel	20 in	
Width	7.7 in	8.89
Height	7.7 in	8.19 in
Charge Pull	**55 lbs**	**99 lbs**
% Gun/Recoil Mass	55%	22%

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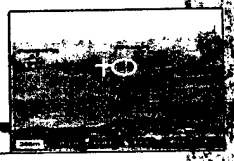
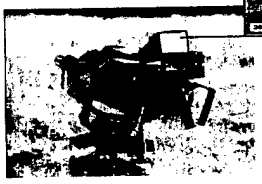
Video Sighting Basics

- **Day/night camera + computer + display**
- **Synchronized Precision electronic mount**
- **Automatic Aimpoint offset**
- **Electronic Range Card**
- **Simplicity for Soldier**
  - **Laze**
  - **Aim**
  - **Shoot**





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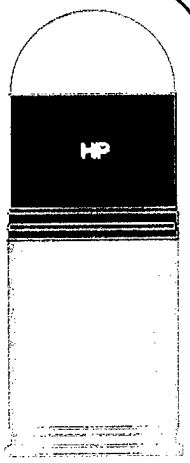
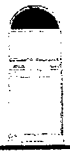
HP Round Features

- Prefragmented - large footprint & high lethality
- Time fuse - electronic, for air burst
- Point Detonating - mechanical
- Self Destruct - electronic
- Safe & arm device - mechanical
  STANAG distances apply
- Tracer - w/wo (IR Tracer Option)
- Propulsion system - off the-shelf
  highly accurate - low muzzle velocity dispersion
- Ballistics - compatible with M430
- HEDP Version - penetration> M430
  + behind armor effect





Multi Spectral Screening "Smoke"
- Will use BOFORS Fuze
- MultSpectral Screen
- Air Burst = Good Screen Material Dispersion
- Other

The HP round leverages "3P" Fuse Technology

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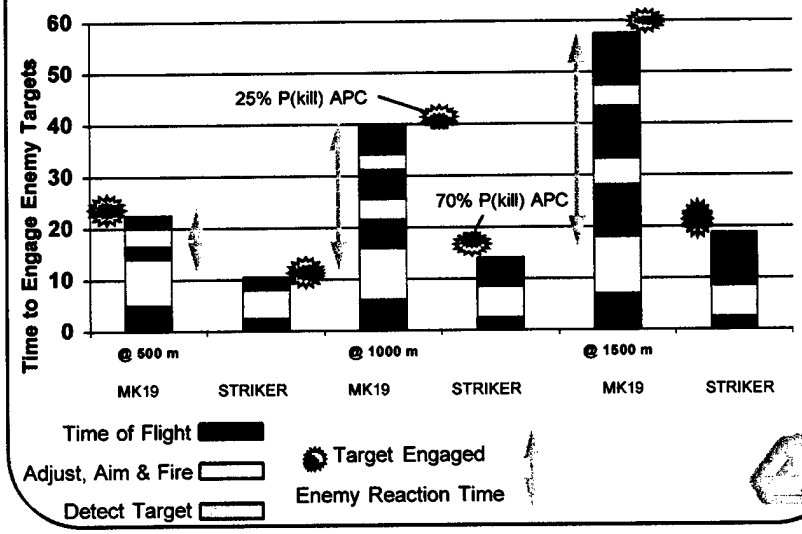
First Burst Destruction



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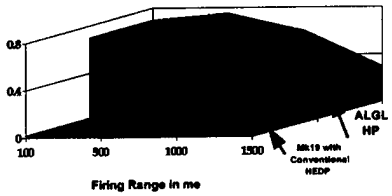
System comparison

$P_{incapacitation/hit}$

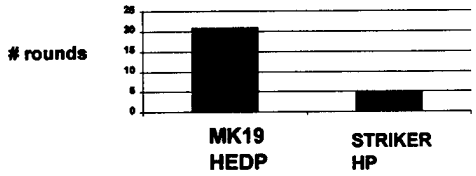


5 Round Burst

Target 10 Standing Soldiers (10 x 20m) area

$P_{incapacitation/hit}$

Mission cost



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Weapon Pay-off

Simplicity
Smart Technology
+ Precision

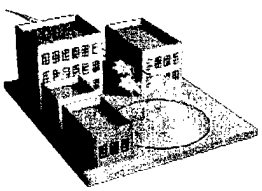
More Firepower with Lighter Loads

More Mission Capability
More Stowage for Fuel, Water, Food
Effective Destruction of Enemy
Better Survivability

= 75% less ammo/mission
= 60% less gun weight
= 1000% Operational Improvement

More Engagements / minute

Lower Costs



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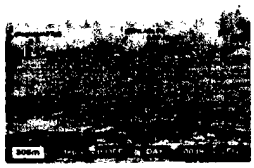
Advanced Weapon & Fire-Control Technology

- **Gun Technology**
  - Lightweight
  - Ready Soldier Controls
  - Recoil Reductions
  - Embedded Fuzing
- **Fire Control**
  - Aids Target Detection
  - Adjusted Aim Point
  - Sets Fuze



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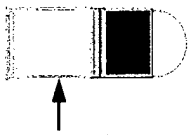
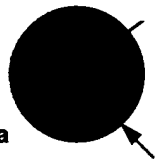


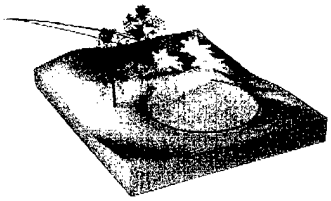
Air-Bursting Fuse Technology

Low Dispersion Propulsion System



Lethality Area of one round
8 vs 100 m²

HP Air Burst Footprint



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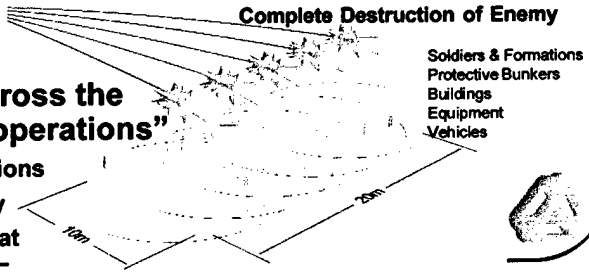
Weapon Missions

- **Firepower for light & mobile units**
- **Protection of Critical Personnel and Mobility Assets**



- **Effective across the "spectrum of operations"**
  - **Special Missions**
  - **Low Intensity**
  - **Heavy Combat**

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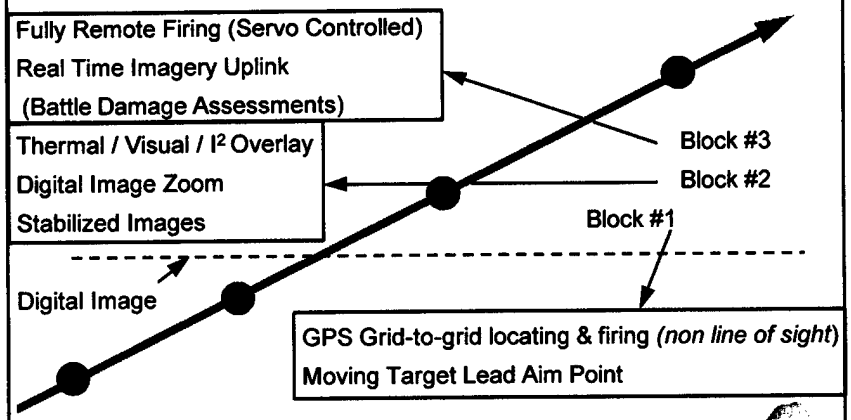
Technological Growth



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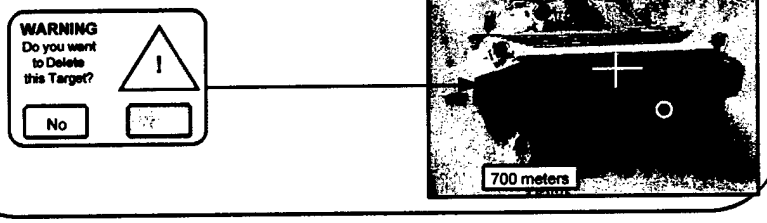
Summary

- **Significant Industry Team Investment**
- **3 New Technologies Vastly Enhance**
  - Lethality & Effectiveness
  - Friendly Survivability
  - Target Detection Capability
  - Mission Capability
  - Mission Flexibility

STRIKER 40mm

Smart Weaponry for Warriors