The Importance of the BATTLEFIELD MISSION in the Small Arms Trials Process - A Personal View

by

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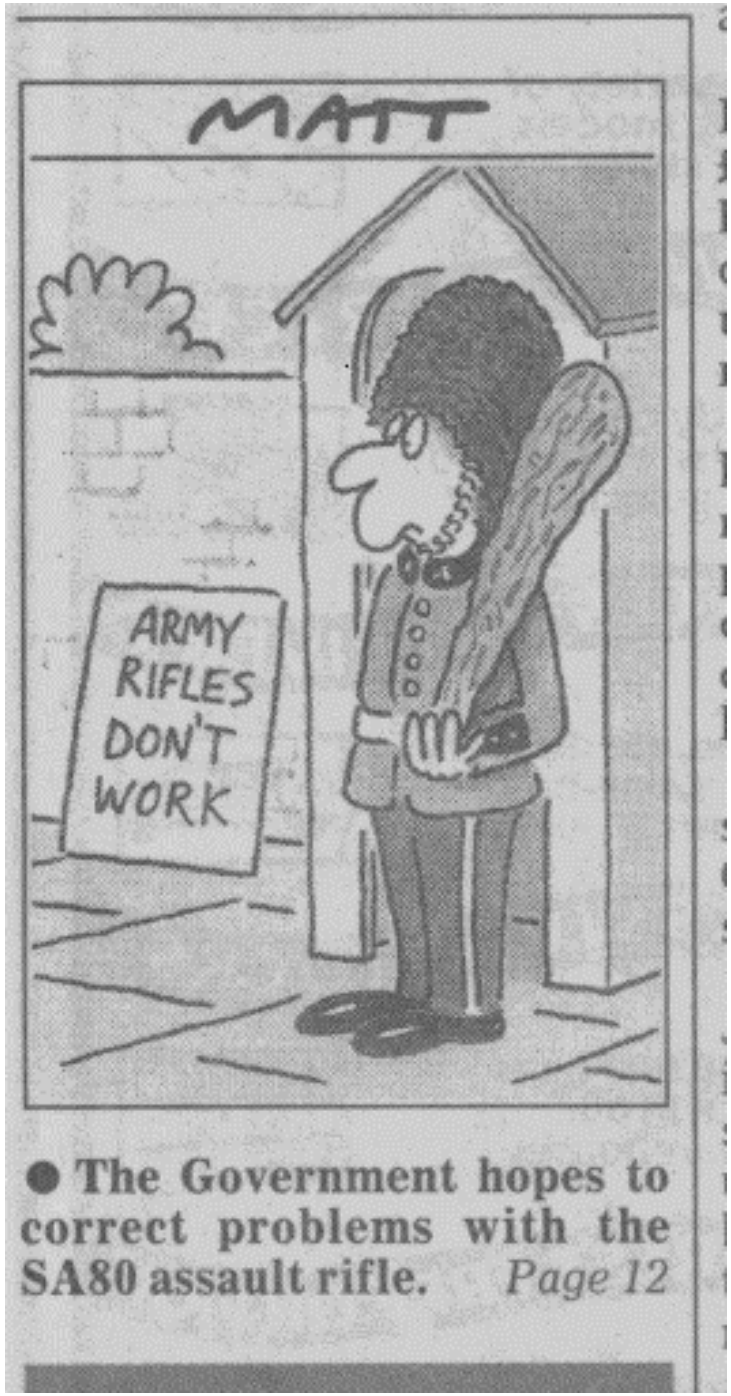
SA80

LSW

- **Fire Team 3 x SA80, I x LSW**
- **2 x Fire Teams per section**
- **3 x Section per Platoon**


MATT
ARMY RIFLES DON'T WORK
● The Government hopes to correct problems with the SA80 assault rifle. Page 12

SA80/LSW

SCOPE

- **Original SA80/LSW (1973) Reliability Requirements**
- **Need to match reliability to a realistic BFM that is tactically correct & matches ammo loads carried by the infantryman**
- **The need for statistically coherent reliability data**
- **Trials results to date and way forward**

Reliability Requirements (1973)

- SA80
  - 120 rounds in 24 hours comprising
    - 80 rounds single shot
    - 40 rounds in short controlled bursts
- LSW
  - 800 rounds in 24 hrs comprising
    - 600 rounds in short controlled bursts
    - 200 rounds single shot
- Using a series of tactical exercises

Problems of Original GSR Requirement

- No time specified between exercises
- Did not confirm high weapon reliability when a large volume of fire is required on the modern battlefield, in particular for the LSW
- All stoppages cleared by the soldier were allowed
- SA80/LSW would not reliably fire NATO ammunition

Reliability

- **Must train for high intensity operations & equipment must match this requirement**
- **Must establish a base line (a battlefield mission)**

Realistic Battlefield Mission

- **Input from:**
  - **OA from previous (incl Gulf & Bosnia) and predicted future scenarios**
  - **HQ Inf (included views from all wpn users)**
  - **Infantry Training Centres**

LSW Battlefield Mission (1998) (Based on Quick Section Attack)

- 60 rpm for 3 mins - Contact, winning the fire fight
- 0 rpm for 1 min - Change position
- 60 rpm for 3 mins - Winning the Fire Fight
- 0 rpm for 2 mins - Reload 5 mags, move
- 60 rpm for 2.5 mins - Winning the Fire Fight
- 0 rpm for 10 mins - Move, reload, receive orders, move

LSW Battlefield Mission (1998)

- **30 rpm for 10 mins - Suppression (single shot)**
- **0 rpm for 2 mins - Move, reload 5 mags**
- **60 rpm for 2.5 mins - Fire in the final assault**

- **TOTAL - 960 rounds in 36 mins**

- **(9 mags of 30 rds (270), 1 x 30 rds from 3 rfn (90), & 4 x 150 bandolier)**

SA80 Battlefield Mission (1998) (Based on Quick Section Attack)

- **30 rpm (single shot) for 40 secs - Winning the firefight/ suppression**
- **10 rpm (single shot) for 6 mins - as above**
- **30 rpm (single shot) for 1 min - as above**
- **Ten 4 round bursts (auto) in 1 min - assault**

- **Total 150 rounds in 8 mins 40 secs**
- **(Infantryman carries 5 x 30 rds mags (1x 30 & 150 bandolier for LSW))**

Trials

- **SA80/LSW did not meet 1998 BFM – statistical data ?**
- **Development contract to H&K to produce a modified SA80/LSW**
- **1998/1999 Modified and unmodified weapons trialled in extremes of climate (Hot +32 deg C, Cold -32 deg C)**
- **Aim - to confirm that modified SA80 has a 95%(LSW 80%) probability with a 95% confidence level of achieving a BFM using NATO 5.56m types of ammo**

Trials – Battlefield
Mission Failure Criteria

- **Battlefield Mission failure if:**
  - **Rectification was beyond the capability of a trained soldier**
  - **For SA80 - more than one stoppage of any kind**

Main SA80/LSW Modifications

- **SA80 - New breech block, gas parts & mag**
- **LSW - New breech block, gas parts, mag and barrel**

SA80/LSW Outline Results Alaska Feb/Mar 99

- **Firing on average 21 BFMs per ammo type ((L2A2/L1A2 Tracer), M855, SS109) for SA80 and 10 BFMs per ammo type for LSW) for a 95% confidence level**
- **SA80**
  - **Unmod - 67% (Prob of a BFM)**
  - **Mod - 96%**
- **LSW**
  - **Unmod - 5%**
  - **Mod - 83%**

Way Forward

- **Decision made for H&K to modify weapons**
- **1st batch of modified weapons ready in early 01**
- **ITDU to conduct trials in climatic extremes in 01 to ensure reliability criteria can be met**
- **Once modified - SA80/LSW will be one of the most reliable weapons in the world today - operationally and statistically proven**

Summary

- **Weapon trials must include a statistically valid reliability assessment (95% confidence level) using a realistic BFM (backed by OA). NATO BFM ?**
- **BFM must match ammo levels carried by the infantryman**
- **To be conducted in climatic extremes as per the requirement**

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