Fuzing and Airborne Weapons Interoperability
- a hidden challenge-

Richard Clutterbuck
Chair AS-1B6
Background

The best laid plans o' mice an' men
gang aft agley

• Robert Burns
Background

• SAE convened a Technical Assessment Panel during the fall SAE Avionics Systems Division meeting 20-21 October in Nashville Tennessee

• The panel consisted of 23 members from 5 nations (France, Germany, Norway, UK, US) and 21 different government organizations and companies.
• Opportunities exist for standardization of fuze interfaces to increase interoperability and interchangeability
• Standardization will provide growth path for enhanced capabilities
SAE organisation

SAE AS1B
Aircraft Store Integration

- AS1 B1 (other task groups)
- AS1B6 Fuze Systems Taskgroup
- AS1B7 Fuze Mechanical Taskgroup
Definition of Fuze Interface

- For the purposes of this analysis, the fuze interface is defined as the interface to the device that contains the Safe & Arm and initiation functions.
Recommendation Summary

MIL-STD-1760 Fuze Logical Interfaces need to be enhanced

A Fuze Interconnect standard/STANAG should be developed to enhance interoperability

A Fuze Well physical dimensions standard/STANAG should be developed to provide interchangeability of fuzes.
Configurations Considered

[Diagram of configurations with labels:
- Non-Standard Interface to Aircraft
- Non-Standard Interface to Warhead
- Non-Standard Interface to GCU]

[Image of aerospace components]
Initial Efforts

• Define Standard for Fuze Electrical Interface (Connector)
  – Power Requirements
    • Communications (non-arming)
    • Arming Capable
  – Digital Communications (RS-485/ RS-422)
  – Separation Sensing Input

• Update Fuze Control Message in MIL-STD-1760

• Define the “Standard” 3” Fuze Well
Final Vision

• Multinational Components Will Work Together
  – Fuze Developed by British Company
  – Warhead Developed by German Company
  – US Aircraft

• Components meet at Deployment Site and Work together