

# **HANDBOOK OF DEFENCE LAND RANGES SAFETY**

## **VOLUME III**

### **PART 1**

**USE OF FIXED WING AIRCRAFT AND HELICOPTER MOUNTED WEAPON  
SYSTEMS, AND UNMANNED AIRCRAFT SYSTEMS ON LAND RANGES**

### **PART 2**

**USE OF SURFACE TO AIR WEAPON SYSTEMS ON LAND RANGES**

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**BY COMMAND OF  
THE DEFENCE COUNCIL**

**MINISTRY OF DEFENCE**

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# HANDBOOK OF DEFENCE LAND RANGES SAFETY

## VOLUME III

### RECORD OF CHANGES

CHANGE NUMBER	DATE OF CHANGE
ONE	Feb 04
TWO	Jul 06
THREE	Jan 08

**Joint Service Publication 403** - Handbook of Defence Land Ranges Safety (Volumes I - V).

**Volume I:** Range management - policy, responsibilities, authorisation, use, maintenance and inspection of land ranges.

**Volume II:** Design, construction and maintenance of small arms, infantry and 30mm weapon systems ranges.

**Volume III:** **Part 1** - Use of fixed wing aircraft and helicopter mounted weapon systems, and unmanned aircraft systems, on land ranges.

**Part 2** - Use of surface to air weapon systems on land ranges.

**Volume IV:** Glossary of terms and definitions.

**Volume V:** Demolitions, ordnance disposal and battle simulation.

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## ASSOCIATED PUBLICATIONS

Where an associated publication is referred to in this volume or any other volume of JSP 403 it is to be taken as the authoritative MOD document on the subject.

<b>Reference</b>	<b>Code</b>	<b>Title</b>
A1	JSP 403 Volume 1	Handbook of Defence Land Ranges Safety Volume I - Range Management – Policy, Responsibilities, Authorisation, Use, Maintenance and Inspection of Land Ranges.
A2	JSP 403 Volume 2	Handbook of Defence Land Ranges Safety Volume II -- Design, Construction and Maintenance of Small Arms, Infantry and 30mm Weapon System Ranges.
A4	JSP 403 Volume 4	Handbook of Defence Land Ranges Safety Volume IV -- Glossary of Terms and Definitions.
A5	JSP 403 Volume 5	Handbook of Defence Land Ranges Safety Volume V -- Demolitions, Ordnance Disposal and Battle Simulation.
B	Army Code No. 71751	Infantry Training, Volume IV, Ranges, Pamphlet No. 21, Regulations for the Planning, Conduct and Supervision of Firing and Training with Infantry Weapon Systems and Pyrotechnics.
C1	Army Code No. 71795	Army Operational Shooting Volume 1 - Personal Weapons.
C2	Army Code No. 71643	Army Operational Shooting Volume 2 – Individual Weapons.
C3	Army Code No. 71789	Army Operational Shooting Volume 3 – Support Weapons.
D	JSP 315	Service Accommodation Code.
E	JSP 375	MOD Health and Safety Handbook.
F	JSP 362	Defence Lands Handbook.
G	JSP 434	Defence Construction in the Built Environment.
H	JSP 482	Explosives Regulations

I	JSP 462	Financial Management Policy Manual.
J	JSP 390	Military Laser Safety.
K	Army Code 71670	Military Engineering Volume II, Field Engineering Pamphlet No. 4, Demolitions.
L	Army Code 71461(01)	Royal Armoured Corps Training Volume III, Armaments, Pamphlet No. 1, Planning Control and Safety for Live Firing Practices.
M	Army Code 71035	Artillery Training Volume III, Field Artillery, Pamphlet No. 19, Regulations for Planning, Control, Conduct and Safety for Firing Practices.
N	Army Code 71687	Helicopter Training Volume III, Ranges, Pamphlet No. 300, Regulations for the Planning, Conduct and Supervision of Firing (Helicopter Weapons).
O	JSP 418	Environment Manual
Q	JSP 550	Military Aviation Policy Regulation and Directives.
R	JSP 551	Military Flight Safety Regulations; Volume I – Flight Safety.
S	JSP552	Military Air Traffic Service Regulations.
T	JSP553	Military Airworthiness Regulations. (See Annex B for UAVs).
U	JSP554	Military Aviation Aerodrome Standards and Criteria.

V	JSP 751	Tri Service Casualty and Compassionate Procedures.
W	Army Code 71053	Infantry Training Volume IV, Ranges, Pamphlet No. 22, Range Construction and Regulations (All Arms), 1976 ( <b>for historical reference only</b> ).
X	Army Code 62230	Limitations in the Use of Missiles and Ammunition for Training (LUMAT), Volume 2, Ammunition other than Field Artillery Natures.
Y	STCAWEWRO	Strike Command Air Weapon and Electronic Warfare Range Orders
Z	Def STAN 00-55	Environmental Handbook for Defence Materiel
AA	Def STAN 00-56	Safety Management Requirements for Defence Systems.
AB	Def STAN 00-58	HAZOPS in Software Control Systems.
AC	STANAG 2402	Use of UAVs on Land Ranges.
AD	STANAG 4404	Design of Software.
AE	BR 1043	RN Gunnery and Guided-Weapon Practices User Instructions (Safety)
AF	AvP 67	Flying Orders to Contractors.
AG	UK AIP	The UK Air Information Pilot
AH	CAP 658	CAA Regulations for Model Aircraft.
AI	Infantry Training, Volume II: Skill at Arms (Personal Weapons) Army Code No 71807	Pamphlet 5.
AJ	Infantry Training, Volume II: Skill at Arms (Personal Weapons) Army Code No 71811	Pamphlet 8.
AK	Infantry Training, Volume III: Skill at Arms (Section and Platoon Weapons) Army Code No 71058	Pamphlet 17.

AL	Infantry Training, Volume X: Vehicle and Vehicle Mounted Weapons Army Code No 71628	Pamphlet 52.
AM	Artillery Training Volume IV, Pamphlet 8 Army Code No 71812	Instructions for Planning, Control, Conduct and Safety of GBAD Firing Practices.

## ABBREVIATIONS

The full list of abbreviations is contained in JSP 403 Volume IV. In Part I of this Volume there is a terminology matrix for air to surface common terms and phrases that are in use by the individual Services and where there is some dispute over the exact meaning of the phrase between the Services.

The following abbreviations are used in Part 2 of this Volume:

**AAD** - Area Air Defence  
**ACN** - Airspace Co-ordination Notice  
**ADA** - Air Danger Area  
**ADRP** - Airworthiness, Design Requirements & Procedures  
**ADRM** – Air Defence Range Manorbier  
**AESP** - Army Equipment Support Publication  
**AINC** - Army Accident and Incident Notification Centre  
**ALTG** - Air Land Technology Group  
**ALARP** - As Low As Reasonably Practicable  
**AOA** - Aircraft Operating Authority  
**ATC** - Air Traffic Control  
**AUS** - Airspace Utilisation Section  
**AvP** - Aviation Publication

**BATUS** – British Army Training Unit Suffield

**CAA** - Civil Aviation Authority  
**CAD** - Close Air Defence  
**CADWS** - Close Air Defence Weapon System  
**CAP** - Civil Aviation Publication

**DA** - Danger Area  
**DAP** - Directorate of Airspace Policy  
**DE&S** - Defence Equipment and Support  
**DOP** - Director of Practice  
**DOSG** - Defence Ordnance Safety Group  
**DTE** - Defence Training Estate

**FFA** - Field Firing Area  
**FGA** - Fighter Ground Attack  
**FPSO** - Firing Point Safety Officer  
**FMECA** - Failure Modes Effects and Criticality Analysis  
**FT** - Fault Tree

**HQ DAAvn** – Headquarters Director Army Aviation  
**HQ DRA** – Headquarters Director Royal Artillery  
**HQ Air** – Headquarters Air Command  
**HVM** - High Velocity Missile

**IPT** - Integrated Project Team  
**IFF** - Identification Friend or Foe

**JSATO** - Joint Senior Ammunition Technical Officer  
**Jt GBAD HQ** - Joint Ground Based Air Defence Headquarters

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**LASO** - Launch Area Safety Officer

**LLAD** - Low Level Air Defence

**MAR** - Military Aircraft Release

**MDI** - Miss Distance Indicator

**MOU** - Memorandum of Understanding

**NOTAM** - Notice to Airmen

**PfP** - Partnership for Peace

**QE** - Quadrant Elevation

**QWI** - Qualified Weapons Instructor

**RAO** - Range Authorising Officer

**RCO** - Range Conducting Officer

**RC** - Range Controller

**RDA/Z** - Range Danger Area/Zone

**RLO** - Range Liaison Officer

**RNAS** - Royal Naval Air Station

**RSO** - Range Safety Officer

**RSO(ATC)** - Range Safety Officer(Air Traffic Control)

**RTS** - Release to Service

**SAF** - Safety and Assessment Facility

**SAM** - Surface to Air Missile

**SAME** - Safety Assessment & Monitoring Equipment

**SAWI** - Surface to Air Weapons Instructor

**SDA** - Sea Danger Area

**SMS** - Safety Management System

**SOP** - Standing Operating Procedures

**SO** - Standing Orders

**STID** - Synthetic Target Injection Device

**TEA** - Total Energy Area

**TEZ** - Total Energy Zone

**TERP** - Trials Evaluation Research and Proof

**TER** - Temporary Exercise Range

**TESD** - Test and Evaluation Support Division

**TEST** - Trials, Evaluation Services and Targets

**UAA** - Unusual Aerial Activity

**UAS** - Unmanned Aircraft System

**UAVs** - Unmanned Aerial Vehicles

**UCAS** - Unmanned Combat Aircraft System

**UCAV** - Unmanned Combat Aerial Vehicle

**UKDAUG** - UK Danger Area Users Group

**VFSO** - Visual Flight Safety Officer

**VSHORAD** - Very Short Range Air Defence

**WDA** - Weapon Danger Area