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Defence Fire and Rescue Aviation Tactics Techniques & Procedures

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	RN Aircraft Handler	✓	RAF Fire and Rescue	✓
	DFRS LEC	✓	Other FRS Providers ¹	✓
	DFRS (Retained Officers)		DFRS (USVF)	

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¹ Other FRS Providers include Babcock Fire Services, Mitie Fire Service, QinetiQ Fire Service.

VERSION CONTROL HISTORY

Version	Date	Author	Brief Details	Role	Status
V1.0	09/03/2023	D Cain	RAF Akrotiri Positioning	TM/SQAC	Final Draft
V1.1	10/03/2023	P McGuinness	Format, New Cover and Tabbing	CFR Hd of Response	Published
V1.2	05/02/2024	D Cain	Document Review	TM/SQAC	Reviewed
V1.2	12/03/2024	P McGuinness	References added: Ops Instruction 066 Ops Instruction 069	CFR Hd of Response	Reviewed
V1.2	13/03/2024	S Cook	Added: Direct firefighting actions (Monitor or dual application (DP) for engine fire	DFR HQ	Stake Holder Review
V1.2	13/03/2024	P McGuinness	Released for publishing	CFR Hd of Response	Published



AIRCRAFT TACTICS TECHNIQUES PROCEDURES

Puma HC Mk 2

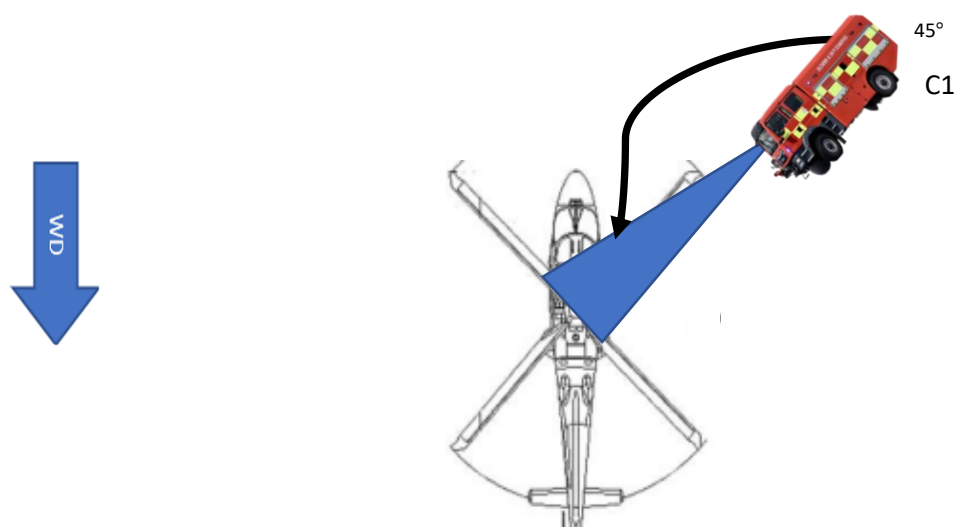
MPRV (Crash 1)

1 X CM, 3 X FFTR

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TTP 1 - Engine Fire

Event Plan - Initial Deployment



Incident Commander Considerations

- Confirm whether countermeasures are present
- Conduct and complete DRA
- Declare Tactical Mode
- Consider required agencies
- Consider implementing MIP
- If external fire only then utilise MPRV Monitor
- Direct firefighting actions (Monitor or consider dual application (DP))
- Consider contacting aircraft commander via ATC or 121.6 if available
- Be aware of PAX exiting aircraft

- Direct BA rescue crew
- Direct all operational control and implement ICS
- Provide M/ETHANE report
- Maintain safe operations and ensure scene safety
- Direct other agencies
- Water consolidation/replenishment.
- Consider aircraft role (cargo, passenger carrying etc.)
- Consider Dangerous Goods
- Maintain contact with ATC and relevant agencies throughout
- Consider preservation of evidence
- Instigate JESIP for multi-agency incident.

Crash 1 - MPRV Actions:

- Deploy vehicle at 45° angle to the aircraft nose taking into consideration Hazards present, wind direction, gradient, passengers and other ARFF vehicle positions
- Deploy main monitor or initiate dual application (DP) at IC's discretion)
- Be aware of PAX exiting the aircraft
- Consider method of entry if PAX remain on board
- Don BA and utilise Initial Deployment Procedures (if required)
- Deploy 1 or 2 x 45mm lengths of hose with Akron branch/dry powder for engine fire at IC's direction
- Consider use of TIC
- Make access to aircraft crew and confirm survivable conditions (if required)
- Confirm/make safe aircraft systems
- Utilise Medics to triage casualties on board if survivable conditions are present
- Aid Medics in extricating casualties.

Specific Aircraft Hazards (Make use of AQRC):

- Flammable liquids
- Pressurised gases
- Rotor blades.
- Armaments / Pyrotechnics
- Composite aircraft materials.

Further Considerations:

- Aircraft position and wreckage
- Leaking fuel
- Passengers
- Other agencies
- Environmental conditions.

Supporting Information:

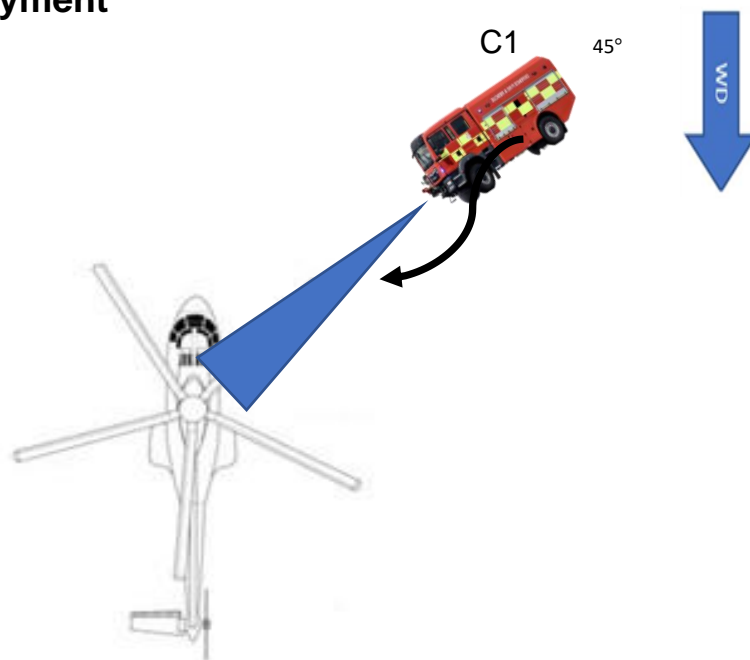
- DFR-OG 009 - Aircraft Fires
- Ops Instruction 001 - Aircraft Incidents
- Ops Instruction 002 - CFR HSE Policy
- Ops Instruction 006 - MPRV ARFF Positioning Deployment & Task
- Ops Instruction 007 - MPRV Vehicle Operations
- Ops Instruction 033 - BA Operations
- Ops Instruction 066 - Fire Contaminants
- Ops Instruction 069 - Polymer-Composites-and-MMMF
- Op Guidance 001 - Aircraft Incidents
- Op Guidance 002 - Incidents involving Rotary Wing Aircraft
- Op Guidance 003 - Aircraft Fuel Fires
- Op Guidance 006 - Aircraft Internal Fires
- op Guidance 007 - Aircraft Engine Fire
- Op Guidance 008 - Aircraft Undercarriage Incidents
- MOD Aircraft Crash Hazards Document Set
- NATO STANAG/TO 00-105E-9-Chapter 13 (revision 16)
- DSA 1000m assessments
- DSA Water assessments
- DSA Response assessments
- AQRC A43.

Training:

- Aircraft familiarization
- Deployment exercise(s)
- Redkite CMS
- Aircraft lecture - 6 monthly lesson.

TTP 2 - Wheel Assembly Fire

Event Plan - Initial Deployment



Incident Commander Considerations:

- Confirm whether countermeasures are present
- Conduct and complete DRA
- Order BA Team to don BA using Rapid Deployment
- Declare Tactical Mode
- Consider required agencies and resources
- Consider implementing Major Incident Plan
- If external fire only then utilise MPRV Monitor
- Consider use of secondary media
- Direct firefighting actions
- Consider contacting aircraft commander via ATC or 121.6 if available
- Be aware of PAX exiting aircraft
- Direct BA rescue crew
- Direct all operational control and implement ICS
- Provide M/ETHANE report
- Maintain safe operations and ensure scene safety
- Direct other agencies
- Consider water consolidation/replenishment.
- Consider aircraft role (cargo, passenger carrying etc.)
- Consider media run-off and water courses on scene.
- Consider preservation of evidence
- Instigate JESIP for multi-agency incident.

Crash 1 - MPRV Actions:

- Deploy vehicle at 45° angle to the aircraft nose taking into consideration Hazards present, wind direction, gradient, passengers and other ARFF vehicle positions
- Consider use of main monitor and extinguish fire
- Consider use of secondary agents
- Be aware of PAX exiting the aircraft
- Consider method of entry if PAX remain on board
- Don BA and utilise Initial Deployment Procedures (if required)
- Deploy 45mm hose as determined by IC DRA (if required)
- Consider use of TIC
- BA team access aircraft and create survivable conditions if required
- Confirm/make safe aircraft systems
- Carry out external airframe cooling as required.
- Utilise Medics to triage casualties on board if survivable conditions are present
- Aid Medics in extricating casualties.

Specific Aircraft Hazards/Procedures:

- Rotors
- Armaments / Pyrotechnics
- Flammable liquids
- Flammable/pressurised gases
- Composite Materials
- Oleo Leg Collapsing

Further Considerations:

- The actions during this incident will be dependent on the following conditions:
 - Is the wheel assembly on fire?
 - Is the fire confined to one area or is escalation likely?

Training

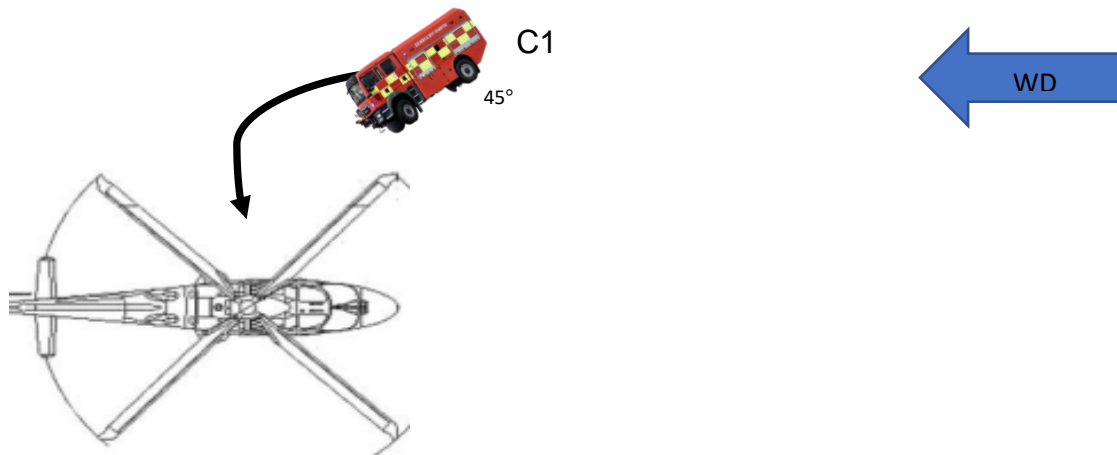
- Aircraft familiarisation
- Deployment exercise(s)
- Redkite CMS
- Aircraft lecture - 6 monthly lesson.

Supporting Information:

- DFR-OG 009 - Aircraft Fires
- Ops Instruction 001 - Aircraft Incidents
- Ops Instruction 002 - CFR HSE Policy
- Ops Instruction 006 - MPRV ARFF Positioning Deployment & Task
- Ops Instruction 007 - MPRV Vehicle Operations
- Ops Instruction 033 - BA Operations
- Ops Instruction 066 - Fire Contaminants
- Ops Instruction 069 - Polymer-Composites-and-MMMF
- Op Guidance 001 - Aircraft Incidents
- Op Guidance 002 - Incidents involving Rotary Wing Aircraft
- Op Guidance 003 - Aircraft Fuel Fires
- Op Guidance 006 - Aircraft Internal Fires
- Op Guidance 007 - Aircraft Engine Fire
- Op Guidance 008 - Aircraft Undercarriage Incidents
- MOD Aircraft Crash Hazards Document Set
- NATO STANAG/TO 00-105E-9-Chapter 13 (revision 16)
- DSA 1000m assessment
- DSA Water assessments
- DSA Response assessments
- AQRC A43.

TTP 3 - Internal Fire

Event Plan – Initial Deployment



Incident Commander Actions:

- Confirm whether countermeasures are present
- Conduct and complete DRA
- Declare Tactical Mode
- Consider required agencies
- Consider implementing MIP
- Direct firefighting actions
- Consider contacting aircraft commander via ATC or 121.6 if available
- Be aware of PAX exiting aircraft
- Direct BA rescue crew
- Consider taking in additional secondary media to extinguish electrical fires.
- Direct all operational control and implement ICS
- Provide M/ETHANE report
- Maintain safe operations and ensure scene safety
- Direct other agencies
- Water consolidation/replenishment.
- Consider aircraft role (cargo, passenger carrying etc.)
- Consider Dangerous Goods
- Maintain contact with ATC and relevant agencies throughout
- Instigate JESIP for multi-agency incident.

Crash1 - MPRV Actions

- Deploy vehicle at 45° angle to the rescue side of aircraft taking into consideration wind direction, gradient, passengers and other ARFF vehicle positions
- Be aware of PAX exiting the aircraft
- Consider method of entry if PAX remain on board
- Don BA and utilise Initial Deployment Procedures (if required)
- Deploy sufficient lengths of hose (45mm) and prepare for entry into aircraft
- Be prepared to deploy main monitor if presence of external fire
- Consider use of TIC
- Make access to aircraft crew and confirm survivable conditions (if required)
- Confirm/make safe aircraft systems
- Utilise Medics to triage casualties on board if survivable conditions are present
- Aid Medics in extricating casualties
- Carry out external airframe cooling
- Maintain contact with IC
- Provide scene safety.

Specific Aircraft Hazards/Procedures:

- Rotors
- Armaments / Pyrotechnics
- Flammable liquids
- Flammable/pressurised gases
- Composite aircraft materials.

Further Considerations:

- Aircraft position and wreckage
- Leaking fuel
- Passengers
- Other agencies
- Environmental conditions.

Training:

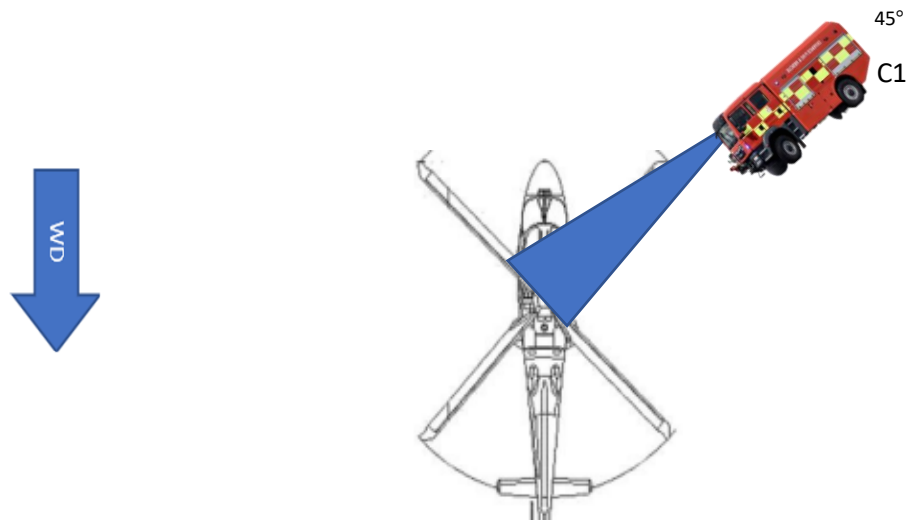
- Aircraft familiarization
- Deployment exercise(s)
- Redkite CMS
- Aircraft lecture - 6 monthly lesson

Supporting Information:

- DFR-OG 009 - Aircraft Fires
- Ops Instruction 001 - Aircraft Incidents
- Ops Instruction 002 - CFR HSE Policy
- Ops Instruction 006 - MPRV ARFF Positioning Deployment & Task
- Ops Instruction 007 - MPRV Vehicle Operations
- Ops Instruction 033 - BA Operations
- Ops Instruction 066 - Fire Contaminants
- Ops Instruction 069 - Polymer-Composites-and-MMMF
- Op Guidance 001 - Aircraft Incidents
- Op Guidance 002 - Incidents involving Rotary Wing Aircraft
- Op Guidance 003 - Aircraft Fuel Fires
- Op Guidance 006 - Aircraft Internal Fires
- Op Guidance 007 - Aircraft Engine Fire
- Op Guidance 008 - Aircraft Undercarriage Incidents
- MOD Aircraft Crash Hazards Document Set
- NATO STANAG/TO 00-105E-9-Chapter 13 (revision 16)
- DSA 1000m assessment
- DSA Water assessments
- DSA Response assessments
- AQRC A43.

TTP 4 - External Fires

Event Plan – Initial Deployment



Incident Commander Actions:

- Confirm whether countermeasures are present
- Conduct and complete DRA
- Declare Tactical Mode
- Consider required agencies
- Consider implementing MIP
- If external fire only then utilise MPRV Monitor
- Direct firefighting actions
- Consider contacting aircraft commander via ATC or 121.6 if available
- Be aware of PAX exiting aircraft
- Direct rescue crew
- Direct all operational control and implement ICS
- Provide M/ETHANE report
- Maintain safe operations and ensure scene safety
- Direct other agencies
- Water consolidation/replenishment.
- Consider aircraft role (cargo, passenger carrying etc.)
- Consider Dangerous Goods
- Maintain contact with ATC and relevant agencies throughout
- Instigate JESIP for multi-agency incident.

Crash 1 - MPRV Actions:

- Deploy vehicle at 45° angle to the aircraft nose taking into consideration Hazards present, wind direction, gradient, passengers and other ARFF vehicle positions
- Deploy main monitor and extinguish fire utilising mass discharge
- Be aware of PAX exiting the aircraft
- Consider method of entry if PAX remain on board
- Don BA and utilise Initial Deployment Procedures (if required)
- Deploy 45mm hose as determined by IC DRA (if required)
- Consider use of TIC
- Make access to aircraft crew and confirm survivable conditions (if required)
- Confirm/make safe aircraft systems
- Utilise Medics to triage casualties on board if survivable conditions are present
- Aid Medics in extricating casualties.
- Carry out external airframe cooling
- Maintain contact with IC
- Provide scene safety.

Specific Aircraft Hazards/Procedures:

- Flammable liquids
- Pressurised gases
- Rotor blades.
- Armaments / Pyrotechnics
- Composite aircraft materials.

Further Considerations:

- Aircraft position and wreckage
- Leaking fuel
- Passengers
- Other agencies
- Environmental conditions.

Training:

- Aircraft familiarization
- Deployment exercise(s)
- Redkite CMS
- Aircraft lecture - 6 monthly lesson/familiarisation presentation.

Supporting Information:

- DFR-OG 009 - Aircraft Fires
- Ops Instruction 001 - Aircraft Incidents
- Ops Instruction 002 - CFR HSE Policy
- Ops Instruction 005 - Low Speed Manoeuvring
- Ops Instruction 006 - MPRV ARFF Positioning Deployment & Task
- Ops Instruction 007 - MPRV Vehicle Operations
- Ops Instruction 033 - BA Operations
- Ops Instruction 066 - Fire Contaminants
- Ops Instruction 069 - Polymer-Composites-and-MMMF
- Op Guidance 003 - Aircraft Fuel Fires
- Op Guidance 006 - Aircraft Internal Fires
- Op Guidance 007 - Aircraft Engine Fires.
- Op Guidance 008 - Aircraft Undercarriage
- MOD Aircraft Crash Hazards Document Set
- NATO STANAG/TO 00-105E-9-Chapter 13 (revision 16).
- DSA 1000m assessments
- DSA Water assessments
- DSA Response assessments
- AQRC-A43-Puma