



Ministry
of Defence



Defence Fire and Rescue Tactics Techniques & Procedures

Operational Instruction

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

Technical Approved Defence Fire and Rescue (CFR HQ)
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¹ Other FRS Providers include Babcock Fire Services, Mitie Fire Service, QinetiQ Fire Service.

Defence Fire & Rescue



AIRCRAFT TACTICS TECHNIQUES PROCEDURES (ATTP A42 - Merlin Mk4)

**This TTP refers to the operation of the Merlin Mk4/4A
aircraft utilising 2 MPRV vehicles at H3**

MPRV (Crash1)
1 X CM
1 X DVR
2 x Firefighters

MPRV (Crash 2)
1 X WM (IC)
1 X DVR

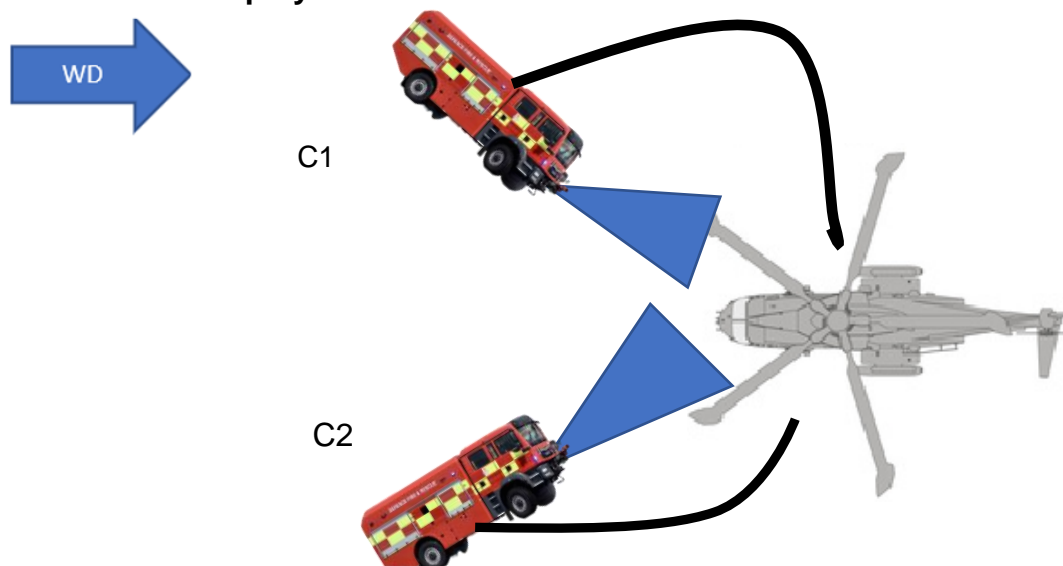
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MERLIN MK 4/4A COMMANDO TROOP CARRIER

TTP 1 – Engine Compartment Fire

Event Plan Initial Deployment:



Incident Commander Considerations:

- Confirm whether armaments and 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
- Direct firefighting actions to create survivable conditions
- Consider contacting aircraft commander via ATC (or 121.6 if available)
- Be aware of PAX exiting aircraft Note: Role of the Merlin Mk 4/4A (Troop Carrier)
 - Rear Access Ramp
- Direct BA rescue crew
- Direct Medical Teams
- Direct all operational control and implement ICS
- Provide M/ETHANE report
- Maintain safe operations and ensure scene safety
- Direct other agencies using JESIP
- Consider water replenishment
- Consider media run-off and water courses on scene.
- Consider preservation of evidence

Crash 1 - MPRV Actions:

- Deploy vehicle at 45 degrees to the aircraft
- Operate monitor and extinguish fire utilising mass discharge if required
- Consider secondary agents
- Deploy 45mm hose and prepare for entry into aircraft
- Don BA and utilise Rapid Deployment Procedures and gain access
- Create survivable conditions
- Confirm/make safe aircraft systems
- Utilise Medics to triage casualties on board if survivable conditions are present
- Aid Medics in extricating casualties
- Consider further media application

Crash 2 - MPRV Actions

- Deploy vehicle at 45 degrees to the aircraft
- Be aware of PAX exiting the aircraft
 - Rear access ramp maybe available
- Operate monitor and extinguish Fire if required
- Deploy sufficient lengths of 45mm hose and extinguish any remaining fire
- Cool Engines and prevent internal fire spread
- Assist BA team.
- Consider use of TIC

Specific Aircraft Hazards:

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

Further Considerations:

- Aircraft position and wreckage
- Leaking fuel
- Aircrew
- Other agencies.

Supporting Information:

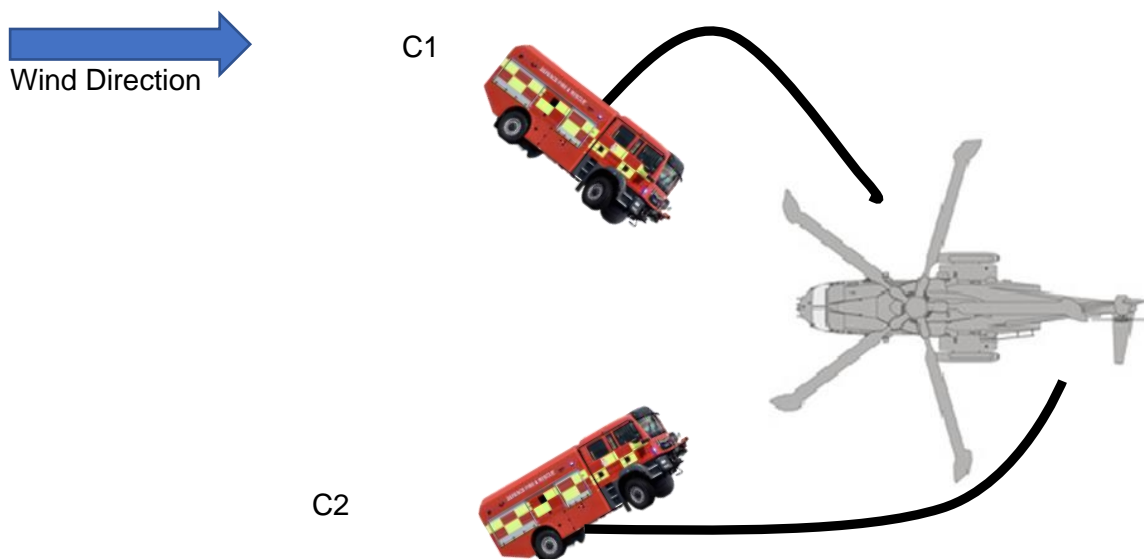
- NOG
- CFR Op Instruction 001 – Aircraft Incidents
- CFR Op Instruction 002 – CFR HSE Policy
- CFR Op Instruction 005 – Low Speed Manoeuvring
- CFR Op Instruction 006 – MPRV ARFF Positioning Deployment & Task
- CFR Op Instruction 007 – MPRV Vehicle Operations
- CFR Op Instruction 033 – BA Operations
- CFR Op Guidance 002 – Incidents Involving Rotary Wing Aircraft
- CFR Op Guidance 003 – Aircraft Fuel Fires
- CFR Op Guidance 007 – Aircraft Engine Fires
- MOD Aircraft Crash Hazards Document Set.

Training:

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

TTP 2 - Internal Fire

Event Plan - Initial Deployment



Incident Commander Considerations:

- Confirm whether armaments and 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
- Direct firefighting actions to create survivable conditions
- Consider contacting aircraft commander via ATC (or 121.6 if available)
- Be aware of PAX exiting aircraft Note: Role of the Merlin Mk 4/4A (Troop Carrier)
 - Rear Access Ramp if available
- Direct BA rescue crew
- Direct Medical Teams
- Direct all operational control and implement ICS
- Provide M/ETHANE report
- Maintain safe operations and ensure scene safety
- Direct other agencies using JESIP
- Consider water replenishment
- Consider media run-off and water courses on scene.
- Consider preservation of evidence

Crash 1 - MPRV Actions:

- Deploy vehicle at 45 degrees to the aircraft
- Operate monitor and extinguish fire utilising mass discharge if required
- Consider secondary agents
- Deploy 45mm hose and prepare for entry into aircraft
- Don BA and utilise Rapid Deployment Procedures and gain access
- Create survivable conditions
- Confirm/make safe aircraft systems
- Utilise Medics to triage casualties on board if survivable conditions are present
- Aid Medics in extricating casualties
- Consider further media application

Crash 2 - MPRV Actions

- Deploy vehicle at 45 degrees to the aircraft
- Be aware of PAX exiting the aircraft - Merlin Mk 4/4A (is a Troop Carrier)
 - Rear access ramp maybe available
- Operate monitor and extinguish Fire if required
- Deploy sufficient lengths of 45mm hose and extinguish any remaining fire
- Cool Engines and prevent internal fire spread
- Assist BA team.
- Consider use of TIC

Specific Aircraft Hazards/Procedures:

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

Further Considerations:

- Aircraft position and wreckage
- Leaking fuel
- Aircrew
- Other agencies.
- Provide scene safety.

Supporting Information:

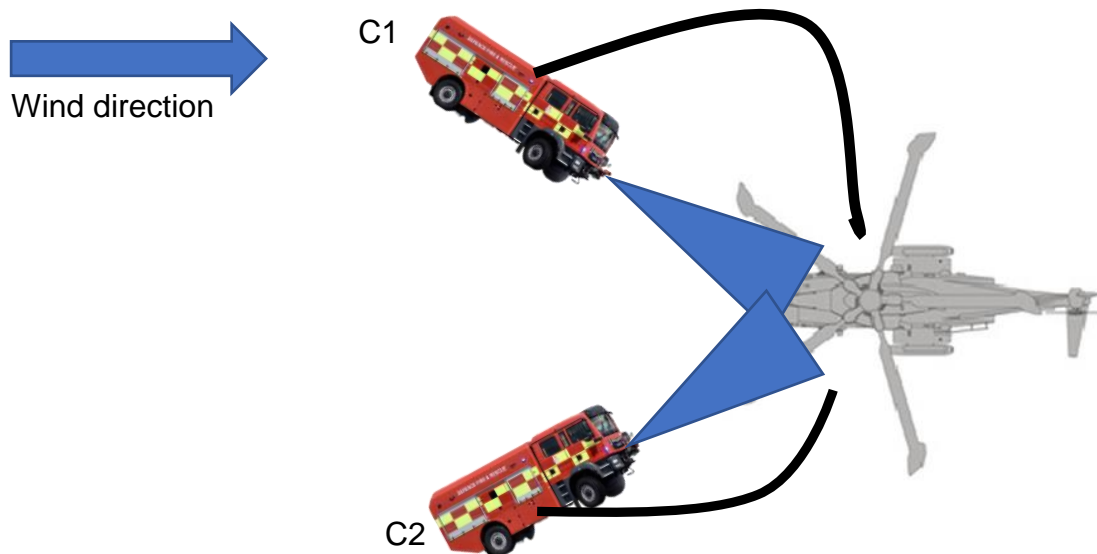
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- CFR Op Guidance 002 – Incidents Involving Rotary Wing Aircraft
- CFR Op Guidance 003 – Aircraft Fuel Fires
- CFR Op Guidance 007 – Aircraft Engine Fires
- MOD Aircraft Crash Hazards Document Set

Training:

- Aircraft familiarisation – Sqn engineers
- Deployment exercise(s)
- Aircraft lecture – 6 monthly lesson / familiarisation presentation
- [Redkite CMS](#).

TTP 3 – External Fire

Event Plan - Initial Deployment



Incident Commander Considerations:

- Confirm whether armaments and 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
- Direct firefighting actions to create survivable conditions
- Consider contacting aircraft commander via ATC or 121.6 if available
- Be aware of PAX exiting aircraft
- Direct BA rescue crew
- Direct Medical Teams
- Direct all operational control and implement ICS
- Provide M/ETHANE report
- Maintain safe operations and ensure scene safety
- Direct other agencies using JESIP
- Consider water replenishment
- Consider media run-off and water courses on scene.
- Consider preservation of evidence
- Consider use of TIC

Crash 1 - MPRV Actions:

- Deploy vehicle to 45 degrees to aircraft depending on wind direction
- Operate monitor and extinguish fire utilising mass discharge if required
- Be aware of PAX exiting the aircraft
- Consider method of entry if PAX remain on board
- Don BA and utilise Rapid Deployment Procedures
- Deploy 45mm hose and prepare to make entry into aircraft
- Create survivable conditions by extinguishing fire & ventilating.
- Utilise Medics to triage casualties on board if survivable conditions are present
- Aid Medics in extricating casualties
- Cool airframe if required.

Crash 2 - MPRV Actions:

- Deploy vehicle at 45 degrees to the aircraft
- Be aware of PAX exiting the aircraft
- Operate monitor and extinguish fire utilising mass discharge
- Deploy sufficient lengths of 45mm hose and extinguish any remaining fire
- Cool airframe if required
- Assist rescue BA team.
- Consider use of TIC

Specific Aircraft Hazards/Procedures:

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

Further Considerations:

- Aircraft position and wreckage
- Leaking fuel
- Aircrew
- Other agencies.

Supporting Information:

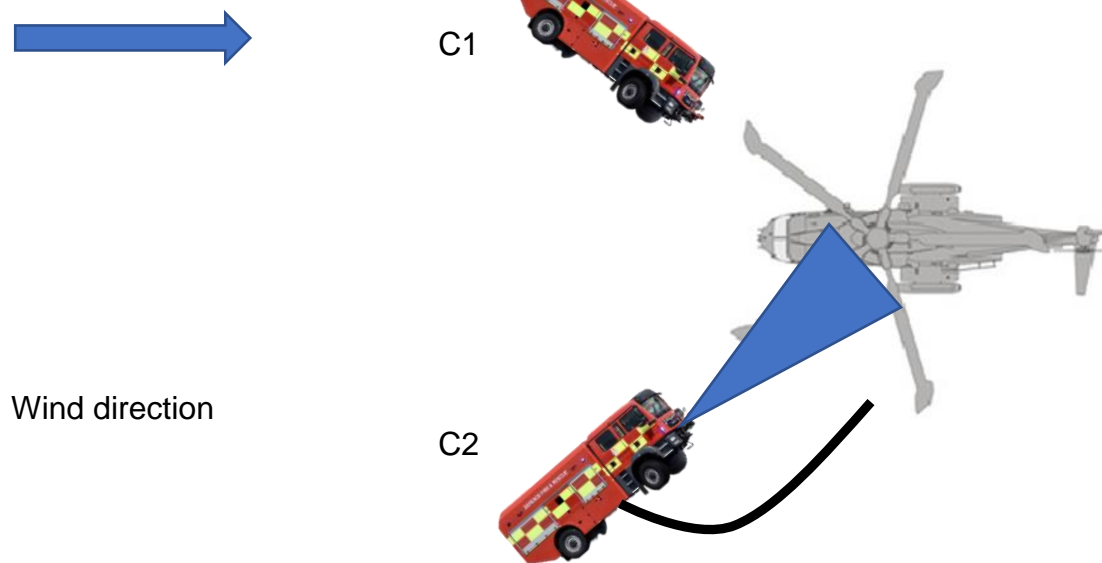
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- CFR Op Instruction 033 – BA Operations
- CFR Op Guidance 002 – Incidents Involving Rotary Wing Aircraft
- CFR Op Guidance 003 – Aircraft Fuel Fires
- CFR Op Guidance 007 – Aircraft Engine Fires
- MOD Aircraft Crash Hazards Document Set.

Training:

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

TTP 4 – Wheel Assembly Fire

Event Plan - Initial Deployment



Incident Commander Considerations:

- Confirm whether armaments and countermeasures are present
- Conduct and complete DRA
- Order BA Team to don BA using Rapid Deployment
- Declare Tactical Mode
- Consider Secondary Agents
- Consider required agencies and resources
- Consider implementing Major Incident Plan
- Direct firefighting actions to create survivable conditions
- Consider contacting aircraft commander via ATC (or 121.6 if available)
- Be aware of PAX exiting aircraft
- Direct BA crew, direct Medical Teams
- Direct all operational control and implement ICS
- Provide M/ETHANE report
- Maintain safe operations and ensure scene safety
- Direct other agencies using JESIP
- Consider water replenishment
- Consider media run-off and water courses on scene.
- Consider preservation of evidence
- Consider use of TIC

Crash 1 - MPRV Actions:

- Deploy vehicle and Firefighters at 45 degrees to the aircraft
- Operate monitor and extinguish fire utilising mass discharge if required to prevent spread to fuselage
- Don BA Rapid Deployment
- Deploy 45mm hose to fight fire from 45-degree angle, consider dual application of water and dry powder
- Create survivable conditions and be aware of PAX exiting airframe
- Confirm/make safe aircraft systems.

- Utilise Medics to triage casualties if required
- Consider further media application to prevent Fire Spread.

Crash 2 - MPRV Actions

- Deploy vehicle at 45 degrees to the aircraft
- Be aware of PAX exiting the aircraft
- Deploy sufficient lengths of 45mm hose if required
- Supply extra Dry Powder as required
- Assist BA team.
- Consider use of TIC

Specific Aircraft Hazards:

- Rotors
- Flammable liquids
- Flammable/pressurised gases
- Composite aircraft materials.
- Pressurised Wheel hub and fusible plugs

Further Considerations:

- Aircraft position and wreckage
- Leaking fuel
- Safe Approach Angle
- Aircrew
- Other agencies.

Supporting Information:

- NOG
- CFR Op Instruction 001 – Aircraft Incidents
- CFR Op Instruction 002 – CFR HSE Policy
- CFR Op Instruction 005 – Low Speed Manoeuvring
- CFR Op Instruction 006 – MPRV ARFF Positioning Deployment & Task
- CFR Op Instruction 007 – MPRV Vehicle Operations
- CFR Op Instruction 033 – BA Operations
- CFR Op Guidance 002 – Incidents Involving Rotary Wing Aircraft
- CFR Op Guidance 003 – Aircraft Fuel Fires
- CFR Op Guidance 007 – Aircraft Engine Fires
- MOD Aircraft Crash Hazards Document Set.

Training:

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

Document Control

Version	Date	Author	Role/Name	Status	Changes
V0.1	20/12/2021	Yeovilton	WM	Initial draft	
V1.0	24/03/2022	A Jones	CPO	For Review	
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V1.2	01/11/2023	P McGuinness	Hd of Ops CFR	Doc Review	Review, CFR Badge