



Ministry  
of Defence



## Defence Fire and Rescue Tactics Techniques & Procedures

<b>Document No:</b>	ATTP-A42		
<b>Title:</b>	<b>ATTP-A42-Merlin-Mk2 V1.1</b>		
<b>Date Issued:</b>	23 Jan 2024		
<b>Supersedes:</b>	28 Jun 2022		
<b>Review Date:</b>	01 Feb 2029		
<b>Stakeholders:</b>	DFR HQ	✓ Capita Fire and Rescue	✓
	RN Aircraft Handler	✓ RAF Fire and Rescue	✓
	DFRS LEC	✓ Other FRS Providers <sup>1</sup>	✓
	DFRS (Retained Officers)	DFRS (USVF)	
<b>Technical Approved</b>	Defence Fire and Rescue (CFR HQ) Operations Committee		
<b>Sponsor Details:</b>	Head of Operational Capability & Development Defence Fire & Rescue (DFR) Headquarters Sedgemoor Building, Marlborough Lines, Monoton Road, Andover, Hampshire, SP11 8HT		
<b>Contact:</b>	<a href="mailto:DFR-HQOCD@mod.gov.uk">DFR-HQOCD@mod.gov.uk</a>		

### Conditions of Release

1. This information is Crown Copyright and the intellectual property rights for this publication belong exclusively to the Ministry of Defence (MOD). No material or information contained in this publication should be reproduced, stored in a retrieval system, or transmitted in any form outside MOD establishments except as authorised by both the sponsor and the MOD where appropriate.
2. This information is released by the United Kingdom Government to a recipient Government for defence purposes only. It may be disclosed only within the Defence Department of a recipient Government, except as otherwise authorised by the MOD.
3. This information may be subject to privately owned rights.

<sup>1</sup> Other FRS Providers include Babcock Fire Services, Mitie Fire Service, QinetiQ Fire Service.

## Document Control

Version	Date	Author	Role/Name	Status	Changes
V 1.0	31/01/2022	D Slesser CU FTM	WM	Initial	
V1.0	17/03/2022	Lt Cdr Stevenson	SO2 Assurance	Approved	
V1.0	24/03/2022	A Jones	CPO	For Review	
V1.0	13/06/2022	G Tiley	AM DFR HQ	Reviewed	
V1.0	07/07/2022	P McGuinness	Hd of Ops CFR	Issued	
V1.1	23/01/2024	M Williams	POA (AH) Trg Mgr	Review	No Change



## Defence Fire and Recue

### AIRCRAFT TACTICS TECHNIQUES PROCEDURES (ATTP/A42)

This TTP refers to the operation of the Merlin Mk2 utilising 2 MPRV vehicles at H3/5

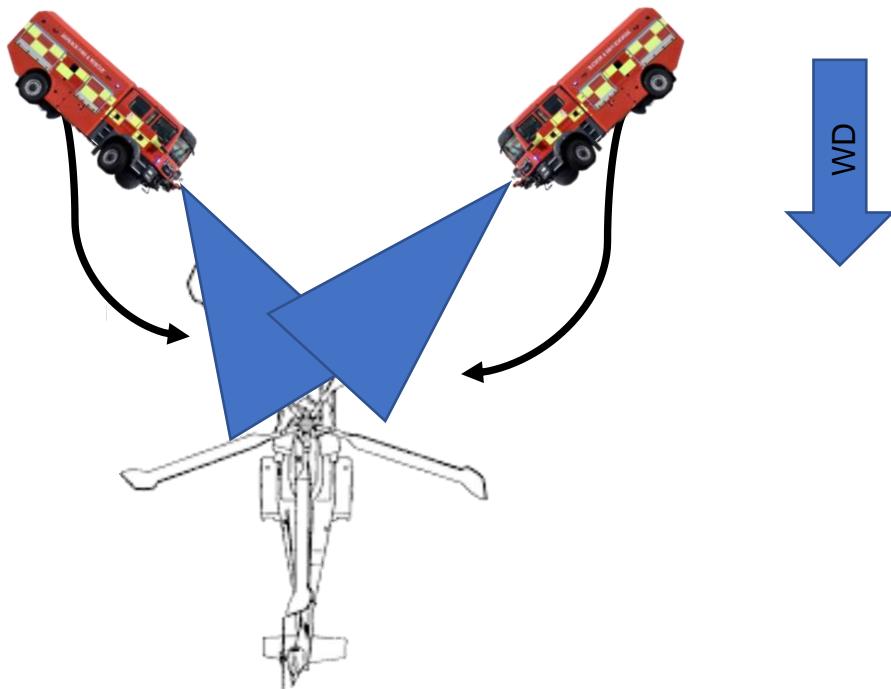
MPRV (Crash1)  
1X CM  
1X DVR  
2X BA

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

Document Control	Page 2
TTP 1 - External Fire	Page 3
TTP 2 - Internal Fire	Page 6
TTP 3 - Engine Compartment Fire	Page 8
TTP 4 - Wheel Assembly Fire	Page 10

#### TTP 1 - External Fire

##### Event Plan - Initial Deployment



## **Crash 2 - 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

## **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

## **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.

## **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:**

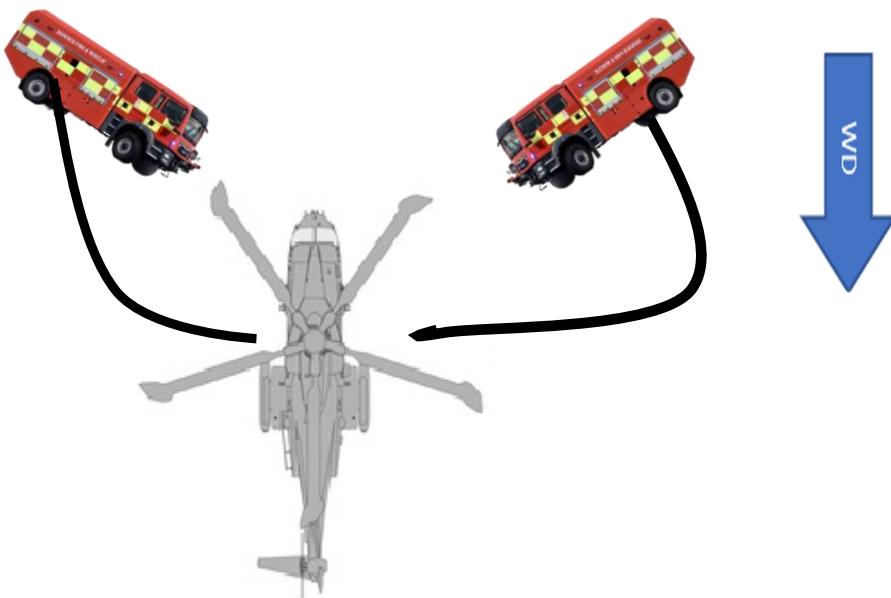
- NOG
- DFR BA Operations
- CFR Ops Instruction 001 – Aircraft Incidents
- CFR Ops Instruction 002 – CFR HSE Policy
- CFR Ops Instruction 005 – Low Speed Manoeuvring
- CFR Ops Instruction 006 – MPRV ARFF Positioning Deployment & Task
- CFR Ops Instruction 007 – MPRV Vehicle Operations
- CFR Ops Instruction 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



### Crash 2 - 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 from rear 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 to 45 degrees to aircraft depending on wind direction
- 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.
- Consider using secondary agents
- Remove any casualties from immediate danger
- Utilise Medics to triage casualties on board if survivable conditions are present
- Aid Medics in extricating casualties
- Cool airframe if required to prevent fire spread

## **Crash 2 - MPRV Actions**

- Deploy vehicle to 45 degrees to aircraft depending on wind direction.
- Prepare to Operate Monitor if Fire Spreads Externally
- Be aware of PAX exiting the aircraft
- Deploy 45mm hose to prevent external fire spread
- Assist rescue BA team
- Consider use of TIC

## **Specific Aircraft Hazards:**

- Rotors
- Flammable liquids
- Flammable/pressurised gases
- Composite aircraft materials.
- Electrical Radar Components
- Sonobuoys

## **Further Considerations:**

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

## **Supporting Information:**

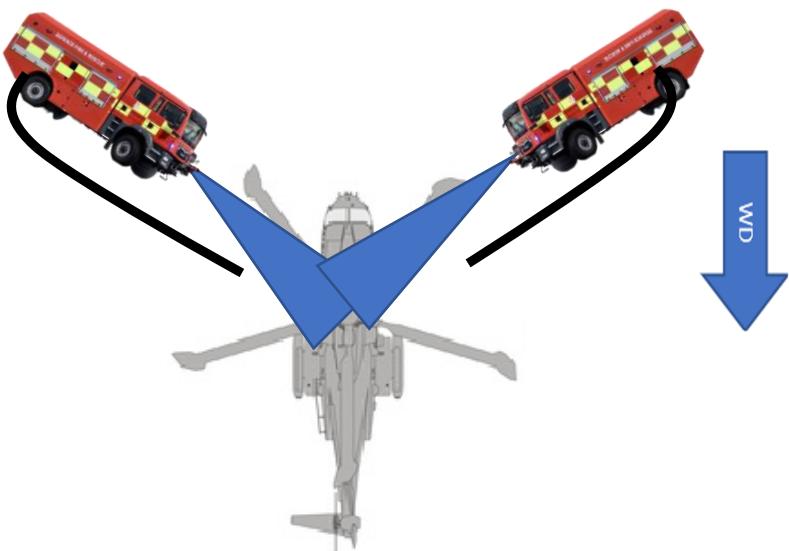
- NOG
- DFR BA Operations
- CFR Ops Instruction 001 – Aircraft Incidents
- CFR Ops Instruction 002 – CFR HSE Policy
- CFR Ops Instruction 005 – Low Speed Manoeuvring
- CFR Ops Instruction 006 – MPRV ARFF Positioning Deployment & Task
- CFR Ops Instruction 007 – MPRV Vehicle Operations
- CFR Ops Instruction 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 3 – 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
- 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
- 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.
- Sonobuoys

## **Further Considerations:**

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

## **Supporting Information:**

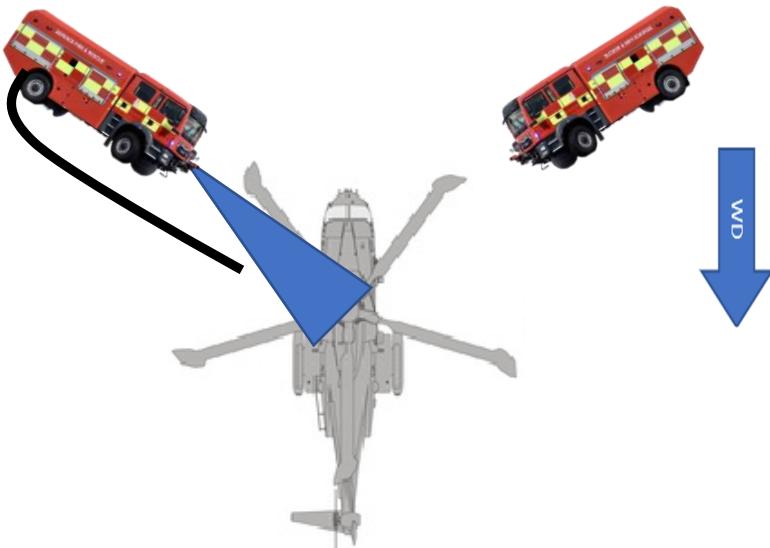
- NOG
- DFR BA Operations
- CFR Ops Instruction 001 – Aircraft Incidents
- CFR Ops Instruction 002 – CFR HSE Policy
- CFR Ops Instruction 005 – Low Speed Manoeuvring
- CFR Ops Instruction 006 – MPRV ARFF Positioning Deployment & Task
- CFR Ops Instruction 007 – MPRV Vehicle Operations
- CFR Ops Instruction 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 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 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
- DFR BA Operations
- CFR Ops Instruction 001 – Aircraft Incidents
- CFR Ops Instruction 002 – CFR HSE Policy
- CFR Ops Instruction 005 – Low Speed Manoeuvring
- CFR Ops Instruction 006 – MPRV ARFF Positioning Deployment & Task
- CFR Ops Instruction 007 – MPRV Vehicle Operations
- CFR Ops 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