Ministry of Defence

Defence Fire and Rescue

Tactics Techniques & Procedures

Tactics Techniques & Procedures

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Stakeholders:				
	DFR HQ	✓	Capita Fire and Rescue	✓
	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) Operations Committee
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Conditions of Release

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

Document Control

Version	Date	Author	Role/Name	Status	Changes
V1.0	04/04/2022	C.Mack	RNSFDO Fire Trainer	Draft	
V1.0	05/04/2022	A Jones	CPO	For Review	
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V1.0	28/06/2022	P McGuinness	CFR Hd of Response	Issued	
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V1.2	07/11/2023	P McGuinness	CFR Hd of Response	Issued	New Cover

Defence Fire & Rescue

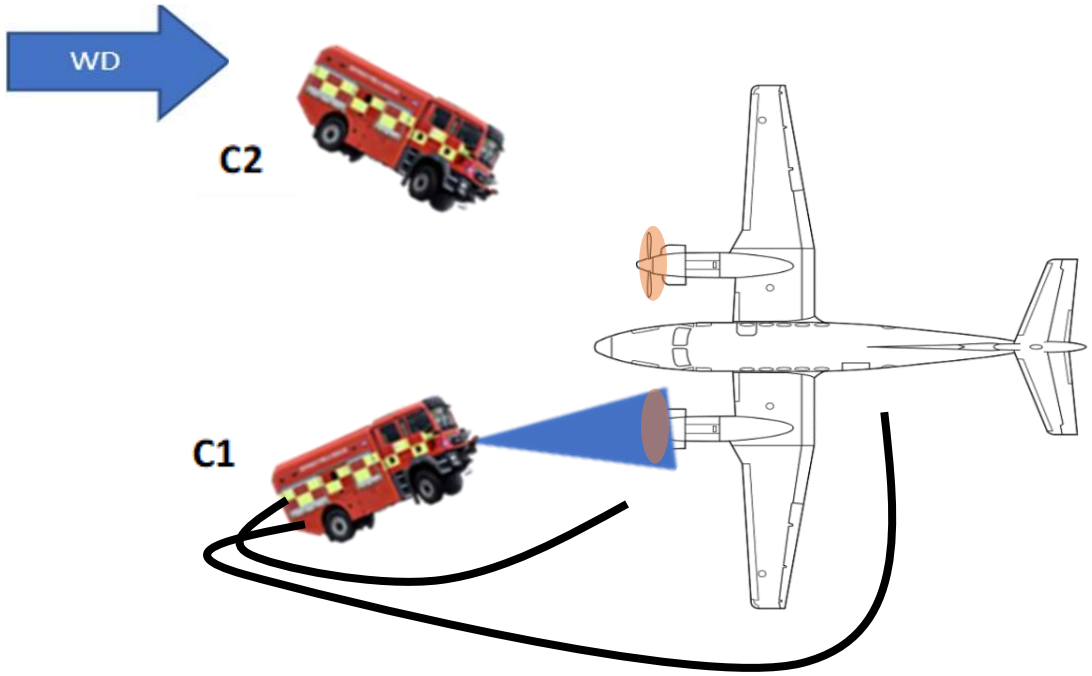
AIRCRAFT TACTICS TECHNIQUES PROCEDURES (ATTP/A22)

King Air

MPRV Crash 1 1 x CM, 1 x DVR, 2 x BA	MPRV Crash 2 1 x WM (IC), 1 x DVR

TTP 1 – Engine Fire

Event Plan - Initial Deployment:



Incident Commander Considerations:

- Location of A/C
- Emergency declared
- POB
- Wind Direction
- Transit to incident
- Confirm with all crews the nature of incident and location
- Evacuating PAX
- DRA followed by M/ETHANE
- Inform ATC of Tactical Mode & request external resources
- Consider contacting aircraft commander via ATC or 121.6 if available
- Repeat DRA as appropriate to the incident
- Prepare for ARA
- Declare state of airfield and ICAO category
- Consider use of secondary media
- Direct evacuated passengers / crew to safe holding area prior to designated casualtyclearance set up by Medics
- AEO Sqn Support
- LAFRS
- Ensure safe handover of incident when declared safe to relevant authority
- Debrief all crew's post-incident and identify any further support required.

Crash 1 - MPRV Actions:

- Crash 1 to deploy on the relevant affected undercarriage area. Bring the monitor into placeready to be used should it be needed, and the TIC can be used to locate a heat signature
- Designated BA wearers will don BA sets but remain off air until instruction from IncidentCommander
- Initially crew will respond and assist evacuating passengers/crew, who will be directedaway from danger area
- Vehicle Commander will identify entry points to aircraft if required
- Deploy sufficient lengths of hose (45mm) or hose reel dependent upon the IC's DRA, forpreparation for entry into airframe if required
- If BA entry is required instruction will be given by Incident Commander. BA Team will deployaccording to current SOP with sideline or hose reel dependent upon the IC's DRA as appropriate to the incident
- BA team should consider use of thermal image camera to identify internal hot spots
- BA team aim will be to ensure survivable conditions therefore ventilation should beconsidered at the earliest opportunity and reported to Incident Commander
- Remove any casualties as appropriate and according to SOP.

N.B. No internal entry to airframe should take place until all external fires are extinguished or declared as under control.

Specific Aircraft Hazards - (Make use of AQRC):

- Propellers
- Flammable liquids
- Pressurised gases
- Mark 9 oxygen masks are kept onboard for aircrew to use in the case of being trapped in asmoke-filled environment.
    - x 2 Pilot Oxygen Mask with Goggles
    - x 2 Smoke Hoods for rear crew

Further Considerations:

- Once the pilot is aware of the engine fire, the engines will be shut down and the onboard emergency fire extinguishers operated. The A/C captain will also instruct the aircrew to evacuate the airframe on the opposite side to the engine fire
- Aircrew will open main entry point to A/C and vacate the airframe to a safe location.
- Extracted aircrew will inform the crew commander of previous known locations of trapped casualties
- 750 SQN aircrew are trained to evacuate via the front portside exit in the event of anemergency
- As part of 750 SQN SOP's the aircraft will be shut down prior to evacuation
- Consider security implications in relation to aircraft use
- Environmental considerations from fire run off and incident interaction.

Supporting Information:

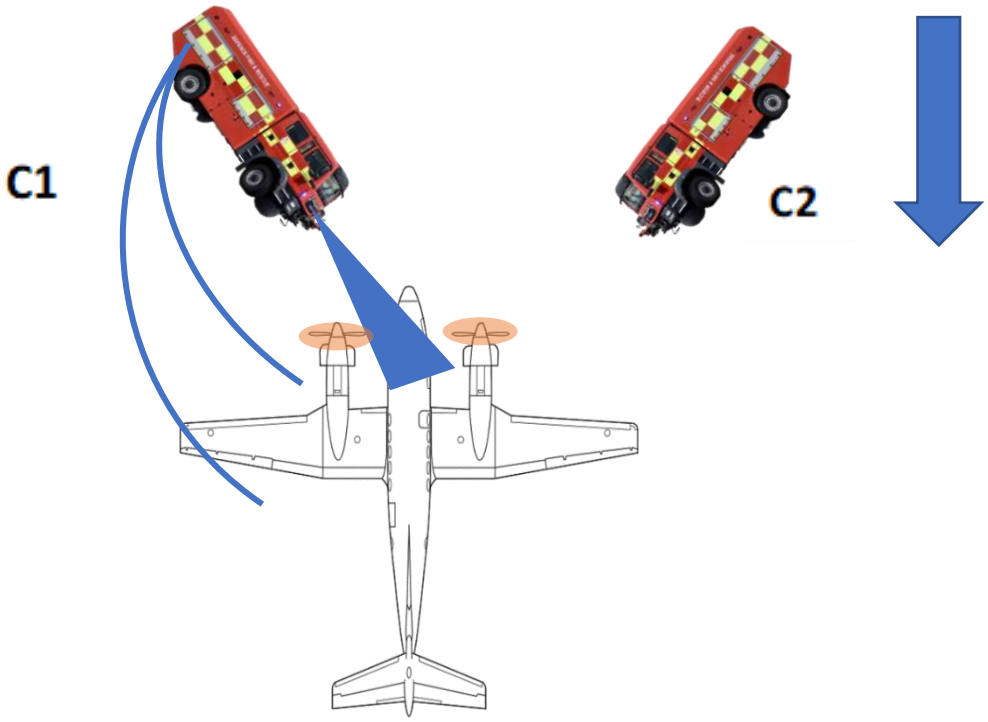
- NOG
- CFR ARFF TOG
- CFR Ops Instruction 001 – Aircraft Incidents
- CFR Ops Instruction 002 – CFR HSE Policy
- CFR Ops Instruction 005 – Low Speed Manoeuvring
- CFR Ops Instruction 006 – MPRV ARFF Positioning Deployment & Task
- CFR Ops Instruction 007 – MPRV Vehicle Operations
- CFR Ops Instruction 033 – BA Operations
- CFR Op Guidance 001 – Aircraft Incidents
- CFR Op Guidance 003 – Aircraft Fuel Fires
- CFR Op Guidance 005 – Incidents Involving Small Aircraft
- CFR Op Guidance 006 – Aircraft Internal Fires
- CFR Op Guidance 007 – Aircraft Engine Fire
- CFR Op Guidance 008 – Aircraft Undercarriage Incidents
- MOD Aircraft Crash Hazards Document Set
- NATO STANAG/TO 00-105E-9-Chapter 13 (revision 16).
- www.fast-air.co.uk
- www.flightglobal.comMOD
- Aircraft Crash Hazards Document Set.

Training:

- Aircraft Familiarisation
- CT Technical Note 63 – Engine Fires
- Endorsed PPT
- Redkite CMS

TTP 2 – Undercarriage Incidents

Event Plan - Initial Deployment



Incident Commander Considerations:

- Location of A/C
- Emergency declared
- POB
- Wind Direction
- Transit to incident
- Confirm with all crew's nature of incident and location
- Evacuating PAX
- DRA followed by M/ETHANE
- Inform ATC of Tactical Mode & Request External Resources
- Consider contacting aircraft commander via ATC or 121.6 if available
- Repeat DRA as appropriate to the incident
- Prepare for ARA
- Declare state of airfield and ICAO category
- Consider use of secondary media
- Direct evacuated passengers / crew to safe holding area prior to designated casualty clearance set up by Medics
- AEO Sqn Support
- LAFRS
- Ensure safe handover of incident when declared safe to relevant authority
- Debrief all crew's post-incident and identify any further support required.

Crash 1 - MPRV Actions:

- Crash 1 to deploy on the relevant affected undercarriage area. Bring the monitor into place ready to be used should it be needed, and the TIC can be used to ascertain a heat signature
- Designated BA wearers will don BA sets but remain off air until instruction from Incident Commander
- Initially crew will respond and assist evacuating passengers/crew who will be directedaway from danger area.
- Vehicle Commander will identify entry points to aircraft if required
- Deploy sufficient lengths of hose (45mm) or hose reel dependent upon the IC's DRA, for preparation for entry into airframe if required
- If BA entry is required instruction will be given by Incident Commander. BA Team will deploy according to current SOP with 45mm sideline or hose reel as appropriate to the incident
- BA team should consider use of thermal image camera to identify internal hot spots
- BA team aim will be to ensure survivable conditions therefore ventilation should be considered at the earliest opportunity and reported to Incident Commander
- Remove any casualties as appropriate and according to SOP.

Note: No internal entry to airframe should take place until all external fires are extinguished or declared as under control.

Specific Aircraft Hazards – (Make use of AQRC):

- Propellers
- Flammable liquids
- Pressurised gases
- Mk 9 oxygen masks are kept onboard for aircrew to use in the case of being trapped in asmoke-filled environment. They will last between 15 - 20mins depending on activity levels.

Further Considerations:

- Upon undercarriage collapse Aircrew c/will commence shutting down of A/C systems and self-extract if possible
- Aircrew will open over-wing access point to A/C and vacate the airframe to a safe location. Note the main door will not open if the A/C has suffered undercarriage collapse
- Extracted aircrew to inform crew commander of previous known locations of trapped casualties
- Depending on severity of fire, crew commander may request use handheld extinguishers
- 750 SQN aircrew are trained to evacuate via the rear portside exit in the event of anemergency unless it is obstructed
- As part of 750 SQN SOP's the aircraft will be shut-down prior to evacuation
- Sqn response/actions
- Access to wheel assembly

Supporting Information:

- NOG
- CFR ARFF TOG
- 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

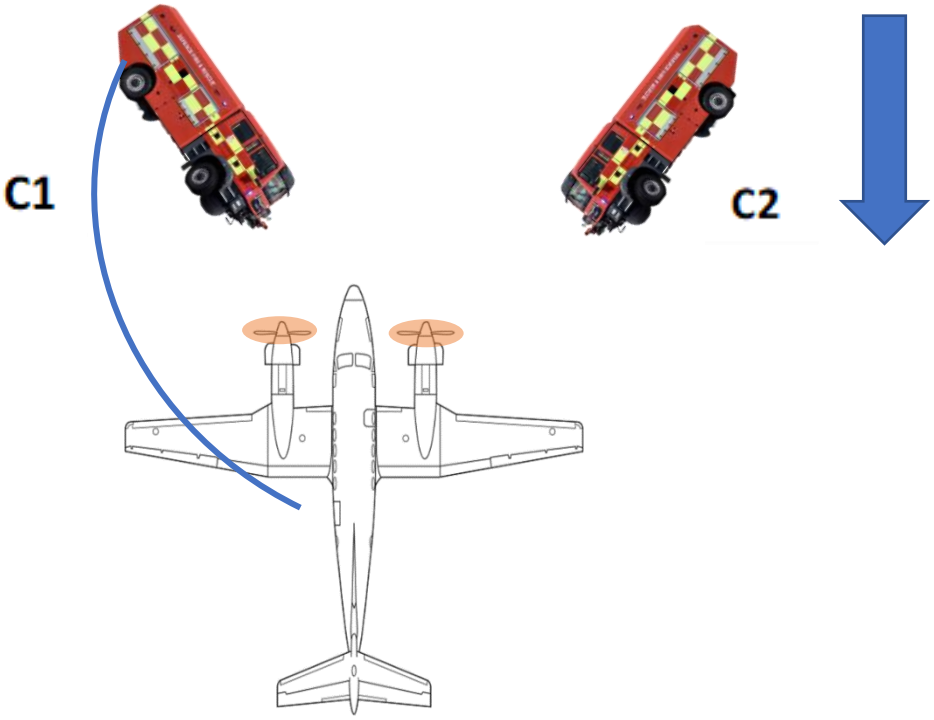
- CFR Op Guidance 001 – Aircraft Incidents
- CFR Op Guidance 003 – Aircraft Fuel Fires
- CFR Op Guidance 005 – Incidents Involving Small Aircraft
- CFR Op Guidance 006 – Aircraft Internal Fires
- CFR Op Guidance 007 – Aircraft Engine Fire
- CFR Op Guidance 008 – Aircraft Undercarriage Incidents
- MOD Aircraft Crash Hazards Document Set
- NATO STANAG/TO 00-105E-9-Chapter 13 (revision 16).
- www.fast-air.co.uk
- www.flightglobal.comMOD
- Aircraft Crash Hazards Document Set.

Training:

- Aircraft Familiarisation
- Endorsed PPT
- Redkite CMS

TTP 3 – Internal/Electrical Fire – Evacuation

Event Plan - Initial Deployment



Incident Commander Considerations:

- Location of A/C
- Emergency declared
- POB
- Wind Direction
- Transit to incident
- Confirm with all crew's nature of incident and location
- Evacuating PAX
- DRA followed by M/ETHANE
- Inform ATC of Tactical Mode & Request External Resources
- Consider contacting aircraft commander via ATC or 121.6 if available
- Repeat DRA as appropriate to the incident
- Prepare for ARA
- Declare state of airfield and ICAO category
- Consider use of secondary media
- Direct evacuated passengers / crew to safe holding area prior to designated casualty clearance set up by Medics
- AEO Sqn Support
- LAFRS
- Ensure safe handover of incident when declared safe to relevant authority
- Debrief all crew's post-incident and identify any further support required.

Crash 1 - MPRV Actions:

- Crash 1 to deploy on the relevant affected undercarriage area. Bring the monitor into place ready to be used should it be needed, and the TIC can be used to ascertain a heat signature
- Designated BA wearers will don BA sets but remain off air until instruction from Incident Commander
- Initially crew will respond and assist evacuating passengers/crew who will be directedaway from danger area.
- Vehicle Commander will identify entry points to aircraft if required
- Deploy sufficient lengths of hose (45mm) or hose reel dependent upon the IC's DRA, for preparation for entry into airframe if required
- If BA entry is required instruction will be given by Incident Commander. BA Team will deploy according to current SOP with 45mm side-line or hose reel as appropriate to the incident and a CO2 FFE
- BA team should consider use of thermal image camera to identify internal hot spots
- BA team aim will be to ensure survivable conditions therefore ventilation should beconsidered at the earliest opportunity and reported to Incident Commander
- Remove any casualties as appropriate and according to SOP.

Note: No internal entry to airframe should take place until all external fires are extinguished or declared as under control.

Specific Aircraft Hazards – (Make use of AQRC):

- Propellers
- Flammable liquids
- Pressurised gases
- Mk 9 oxygen masks are kept onboard for aircrew to use in the case of being trapped in asmoke-filled environment. They will last between 15 - 20mins depending on activity levels.

Further Considerations:

- Ventilation is a priority
- Commit BA Teams
- Mk 9 oxygen masks are kept onboard for aircrew to use in the case of being trapped in asmoke-filled environment. They will last between 15-20mins depending on activity levels
- BA team is to note that access to rescue the occupants is very tight
- Due to irrespirable atmosphere crew could be trapped but under A/C system oxygen prior to ventilation, then consideration should be given to a DRA being carried out to leave the casualties in situ until medical personnel can access the aircraft to assess their condition
- 750 Sqn aircrew SOP requires evacuation via the main front port side exit in the event of an emergency
- As part of 750 Sqn SOP the aircraft will be shut down prior to evacuation
- Shut down aircraft iaw Sqn SOP

Supporting Information:

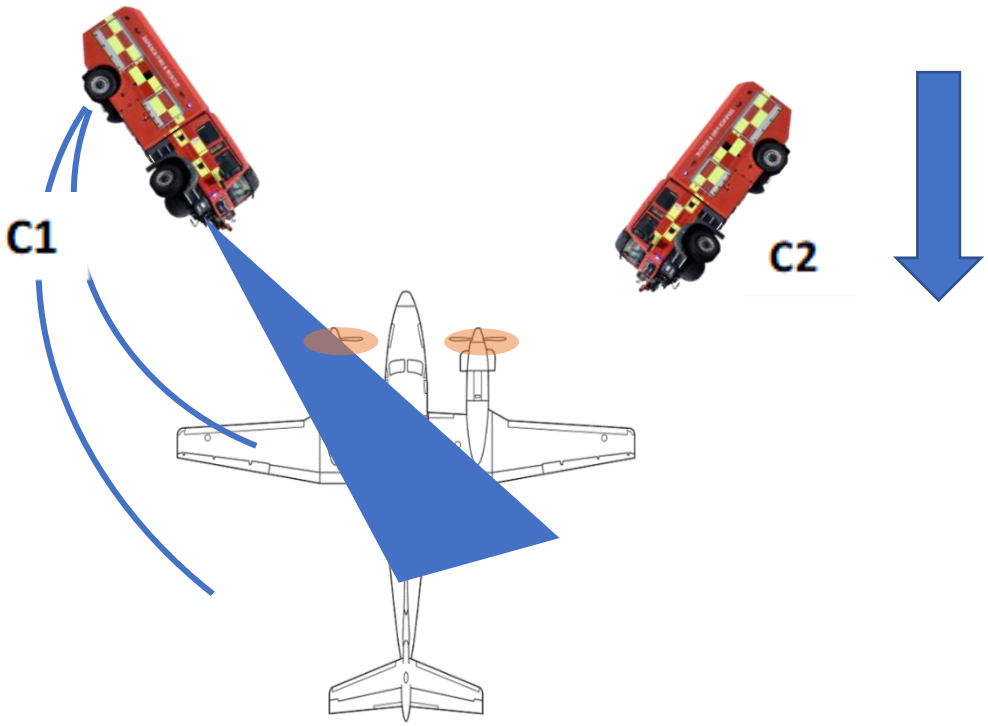
- NOG
- CFR ARFF TOG
- CFR Ops Instruction 001 – Aircraft Incidents
- CFR Ops Instruction 002 – CFR HSE Policy
- CFR Ops Instruction 005 – Low Speed Manoeuvring
- CFR Ops Instruction 006 – MPRV ARFF Positioning Deployment & Task
- CFR Ops Instruction 007 – MPRV Vehicle Operations
- CFR Ops Instruction 033 – BA Operations
- CFR Op Guidance 001 – Aircraft Incidents
- CFR Op Guidance 003 – Aircraft Fuel Fires
- CFR Op Guidance 005 – Incidents Involving Small Aircraft
- CFR Op Guidance 006 – Aircraft Internal Fires
- CFR Op Guidance 007 – Aircraft Engine Fire
- CFR Op Guidance 008 – Aircraft Undercarriage Incidents
- MOD Aircraft Crash Hazards Document Set
- NATO STANAG/TO 00-105E-9-Chapter 13 (revision 16).
- www.fast-air.co.uk
- www.flightglobal.comMOD
- Aircraft Crash Hazards Document Set.

Training:

- Aircraft Familiarisation
- Endorsed PPT
- Redkite CMS

TTP 4 – External Fuel Fire (Full Evacuation)

Event Plan - Initial Deployment



Incident Commander Considerations:

- Location of A/C
- Emergency declared
- POB
- Wind Direction
- Transit to incident
- Confirm with all crew's nature of incident and location
- Evacuating PAX
- DRA followed by M/ETHANE
- Inform ATC of Tactical Mode & Request External Resources
- Consider contacting aircraft commander via ATC or 121.6 if available
- Repeat DRA as appropriate to the incident
- Prepare for ARA
- Declare state of airfield and ICAO category
- Consider use of secondary media
- Direct evacuated passengers / crew to safe holding area prior to designated casualty clearance set up by Medics
- AEO Sqn Support
- LAFRS
- Ensure safe handover of incident when declared safe to relevant authority
- Debrief all crew's post-incident and identify any further support required.

Crash 1 - MPRV Actions:

- Crash 1 to deploy to the port side of the aircraft, this will give easy access if a BA is needed to make entry
- Designated BA wearers will don BA sets but remain off air until instruction from Incident Commander
- Initially crew will respond and assist evacuating passengers/crew who will be directed away from danger area.
- Vehicle Commander will identify entry points to aircraft if required
- Deploy sufficient lengths of hose (45mm) or hose reel dependent upon the IC's DRA, for preparation for entry into airframe if required
- If BA entry is required instruction will be given by Incident Commander. BA Team will deploy according to current SOP with 45mm side-line or hose reel as appropriate to the incident
- BA team should consider use of thermal image camera to identify internal hot spots
- BA team aim will be to ensure survivable conditions therefore ventilation should be considered at the earliest opportunity and reported to Incident Commander
- Remove any casualties as appropriate and according to SOP.

Note: No internal entry to airframe should take place until all external fires are extinguished or declared as under control.

Specific Aircraft Hazards – (Make use of AQRC):

- Propellers
- Flammable liquids
- Pressurised gases
- Mk 9 oxygen masks are kept onboard for aircrew to use in the case of being trapped in a smoke-filled environment. They will last between 15 - 20mins depending on activity levels.

Further Considerations:

- Once the aircrew is aware of fire the pilot will position the aircraft with wind direction nose to tail and commence shutting down of the aircraft systems per SOP
- Aircrew will open main entry point to the aircraft and vacate the airframe to a safe location
- Extracted aircrew to inform crew commander of previous known locations of trapped casualties
- 750 Sqn aircrew SOP requires evacuation via the main front port side exit in the event of an emergency
- As part of 750 Sqn SOP the aircraft will be shut

Training:

- Aircraft familiarization – Sqn personnel
- CT Lesson Technical Note 62 - Hot Brakes Wheel Brake Assembly
- Endorsed PPT

Supporting Information:

- NOG
- CFR ARFF TOG
- CFR Ops Instruction 001 – Aircraft Incidents
- CFR Ops Instruction 002 – CFR HSE Policy
- CFR Ops Instruction 005 – Low Speed Manoeuvring
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