Yukon

2023

Initial Attack Standard Operating Procedures

Community Services
Protective Services

Revised April 6, 2023

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Introduction

Wildland Fire Management protects life, property, and infrastructure from wildland fire while facilitating the creation of fire-resilient communities. To fulfill this mandate WFM prioritizes response to wildland fires as follows:

1. The protection of **human life** and safety of public and personnel
2. The protection of **infrastructure and private property**
3. The protection of other **commercial, cultural, historic, or natural values**

WFM manages wildland fires in Yukon on a priority basis of five wildland fire management zones as outlined in the Fire Management Zones Directive (2003);
- Critical Fire Management Zone (Red)
- Full Fire Management Zone (Orange)
- Strategic Fire Management Zone (Yellow)
- Transitional Fire Management Zone (Blue)
- Wilderness Fire Management Zone (Green)

Successful initial attack (IA) of wildland fires is an integral part of WFM's strategy in meeting this mandate. It is the goal of WFM to extinguish or have under control fires identified for full suppression as quickly as is safely possible within the first burning period. The ability to meet this goal is largely determined by the actions taken by the Initial Attack Incident Commander (IAIC) and their crew.

This manual is intended to provide the IAIC with standardized procedures for conducting IA operations in Yukon as well as provide an additional training aid in the development of new IAIC's. The procedures outlined in this manual are to be carried out in conjunction with but not limited to the following material, standards, and training:

Aviation Handbook	CIFFC Exchange Standard IAIC Type 1
Aviation Operations Manual	WFM CL Course
Hover Exit Guidelines	Annual Rotary Wing Operations Training
WFM Hover Exit Directive	WFM Driver Orientation
Aerial Detection Manual	Brush Engine Standard Operating Procedures
S-215 Fire Operations in The Wildland Interface	Yukon WCB Regulations
S-131 Crewmember Training	Forms WFM
CIFFC Exchange Standard Type 1 Crewmember	WFM Equipment Maintenance Manual
Forms (ICS)	

IA operations are inherently complex; IAIC's must implement achievable objective-based operations while allowing for flexibility and adaptive management. This manual does not define

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[1] From Yukon Wildland Fire Management Policy 2021

specific suppression strategies and tactics, as those are developed through training, mentoring and experience.

The safety of fire management personnel and the public is the first priority for WFM. All WFM operations and activities must reflect this priority. ***IAIC's must not compromise safety for the sake of expediency.***

SOPs outlined in this manual must be followed during IA Operations. IAIC's must be prepared to respond to fire dispatches within their Region and areas bordering their Region. The daily routine of an IAIC normally starts with physical fitness training or the regional safety briefing (see example in Appendix 1). The order in which the safety briefing and physical fitness training take place is Region-specific. IAIC's should, when deployed to another Region, confirm the order with the Regional Duty Officer (RDO).

Morning Safety Briefing

IAIC's, crewmembers and contracted pilots (if available) must participate in regional morning safety briefings and receive their assignments for the day. The briefing is particularly important to the IAIC as it affects strategies and tactics they will implement on IA. It is recommended the IAIC keep a copy of the safety briefing for reference.

The IAIC should consider the following during the briefing:

Alerts

Each crew should be aware of the assigned alert level and associated protocols. Response times for each alert level are in the following table:

Alert	Green	Blue	Yellow	Red
Response Time	No time specified	1 hour	30 minutes	Immediate Dispatch

Weather and Fire Behaviour Forecast

What is the anticipated fire behavior for the predicted indices for the day in different areas of the respective region? Consider regional terrain, fuel types, and weather. The following reference chart relates fire intensity and FWI to the type of fire and fire suppression difficulty:

Fire Intensity Class	Frontal Fire Intensity	Flame Length	Flame Height	Type of Fire and Fire Suppression Difficulty	FWI
1	<10 kw/m	<0.2 m	<0.1 m	Firebrands that cause ignition to occur are self-extinguishing. Fires remain of the smoldering ground or subsurface variety, provided there is a forest floor layer of significant depth and a general level of dryness. Extensive mop up is generally required	0-3
2	10-500 kw/m	0.2-1.4 m	0.1-1.0 m	Creeping or gentle surface fire. Direct manual attack at fire's head or flanks by firefighters with hand tools and water is possible. Constructed fireguard should be held.	4-13
3	500-2000 kw/m	1.4-2.6 m	1.0-1.9 m	Low vigour to moderate or highly vigorous surface fire. Hand constructed fire guards are likely to be challenged. Heavy equipment is generally successful in controlling fire. Retardant lines will be challenged.	14-23
4	2000-4000 kw/m	2.6-3.5 m	1.9-2.5 m	Very vigorous to extremely intense surface fire (torching common). Control efforts at head may fail. Direct attack on head at the upper end of this range may be limited to air attack.	24-28
5	4000-10000 kw/m	>3.5–4.5 m	>2.5-3.0 m	Intermittent crown to active crown fire development at >10000 kw/m. Exceedingly difficult to control. Suppression action limited to flanks.	29-35
6	>10000 Kw/m	4.5> m	3.0>	Active crown fire. Long range spotting. Suppression efforts are limited in effectiveness. Equipment and Aircraft are not effective.	>35

Note* Changes in weather and/or time of day cause changes in fire behavior.

Current Fire Activity

Where are the current incidents at a Regional and Territorial level? Consider how WFM's response to these incidents may affect strategies and tactics on new starts. Consider what resources are committed to current incidents and where resources are positioned (e.g., airtankers, rotor wing, and other ground resources). Anticipate what their response times might be in the event of a new fire starts.

Accidents/Injuries/Near Misses (last 24hrs)

Any known accidents/injuries and near misses will be discussed at the briefing. It is the IAIC's responsibility to ensure all accidents/injuries and near misses are reported immediately using the appropriate forms[2].

Safety Concerns

All briefing attendees are encouraged to bring forward any concerns or observations that they feel could contribute to a safer work environment. It is the responsibility of the IAIC to encourage their crewmembers and coworkers to be actively engaged in WFM's Safety Management System (SMS)

Daily Assignments

During the briefing regional staff are given their daily assignments which fall into 4 general categories initial attack, sustained action, service/support, and project work/training. The assignment section of the briefing outlines by position and crew the day's activities, what hazards may be encountered, and any mitigating measures put in place to address identified hazards.

Regardless of assignment category, it is the responsibility of IAIC's to conduct an additional onsite hazard assessment for any field work. An example of an onsite hazard assessment is the Tailgate Assessment form (Appendix 2)[3]. At a minimum, a hazard assessment with the same basic content of the Tailgate Assessment form must be completed and documented.

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[2] These will include an Incident/Near Miss Report Form and may include additional forms such as WCB forms or Damage and Loss Report.

[3] Also found in the WFM Safety Management System, Element 5. Hazard Assessments.

Pre-Dispatch Preparation, General *(Helitack & Brush Engine)*

The following list is the standard list of items an IAIC must check after physical fitness training and the morning briefing.

- ✓ Crew/Pilot briefed on day's assignment (see Aircrew Briefing Manual).
- ✓ Safety concerns addressed for activities carrying out assignments.
- ✓ IAIC kit is complete (Appendix 3).
- ✓ First aid kits are complete.
- ✓ All IA equipment including pumps, chainsaws, hand tools, etc. are serviceable.
- ✓ IA load manifested and loaded into the assigned IA transport (engine or rotor wing) and Receipt Transfer Vouchers forwarded to Stores person.
- ✓ Crew/Pilot prepared to meet daily alerts.
- ✓ Overnight and day bags packed and labeled max combined weight is (65 Lbs. or 29.5kg).
- ✓ Food kit and drinking water in a follow up resource order.
- ✓ Stores person aware of location of crew overnight gear.
- ✓ Crew prepared to spend 24 hours on the fire line.

Communications

- ✓ Crew's handheld radios serviceable, batteries checked, replacement batteries available.
- ✓ Repeater sites are functional.
- ✓ Radios programmed with proper frequencies, including handheld, aircraft, and vehicle radios.
- ✓ WFM Communications Guide is current and available.
- ✓ Have a known awareness of FM Repeater communications dead zones in your region.
- ✓ Familiar with alternate means of communication for the area (e.g., cellular, satellite, and radio telephones, link repeaters (telephone-to-radio) in CA-RR, DA-OC, and MRS).
- ✓ GPS batteries are charged, and units are configured correctly.

Helitack Operations

Pre-Dispatch Preparation

In addition to Pre-Dispatch Preparation, General, the following is the standard list of items an IAIC must check/confirm if assigned to a rotor wing and pilot.

Air Crew Briefings

WFM briefs Pilot

It is the responsibility of the RDO to ensure pilots receive a thorough briefing at the start of their contract as outlined in the Aircrew Briefing Manual. It is the IAIC's responsibility to confirm this briefing and the accompanying check list have been completed before the initial flight. WFM staff are prohibited to take part in any flight until a briefing, as outlined, has been completed. The IAIC must ensure that the pilot has also been briefed with mission-specific information.

Pilot briefs IA Crew

The IAIC will ensure the pilot in command provides a passenger safety briefing in accordance with the Canadian Aviation Regulations before each initial flight. The level of detail provided in the briefing will depend on the complexities of the flight, the objective of the flight and landing locations (e.g., hover exit will require additional information to that provided for a full-skid landing). In addition to the standard passenger safety briefing mandated by Transport Canada, the briefing must also include:

- ✓ Radio operation/communication
- ✓ Emergency fuel shut-off
- ✓ Operation of rotary wing gear. Rotary wing contracted for wildfire suppression operations are equipped with the following standard gear:
    - o Fire-bombing bucket
    - o set of barrel slings
    - o cargo nets with lanyards
    - o 50' & (1) 100' long line with remote hook
    - o Refueling Gear

Preparation Checklist

The IAIC should ensure the following prior to dispatch:

- ✓ Fuel is sufficient for assigned mission and considers allowable payload. **(Minimum fuel for Initial Attack Operations is 1.5 hrs)**
- ✓ Legal load limits are not exceeded (load calculation complete). Pilot will oversee and be the final authority on load configuration. Aircraft equipment required to complete the IA kit must be included in the load calculation.
- ✓ No unauthorized equipment (extra personnel gear, etc.).
- ✓ All doors/hatches closed and secured.

- ✓ Fire crew equipped (e.g. radio, food, water).
- ✓ IAIC kit on board.
- ✓ Co-ordinate in flight use of A/C radios with pilot.
- ✓ Aircraft loaded under the supervision of the pilot and ensure the re-fueling gear and bucket are included as part of the standard IA load.
- ✓ Confirm that the onboard VHF AM/FM avionics equipment is operational and programmed with all WFM radio frequencies prior to initial flight.

Dispatch

1. Record the dispatch request and get away time in the Fire Diary.

2. Ensure crewmembers are on board in their appropriate positions with seat belts and shoulder harnesses fastened; headsets and/or hearing protection on.

3. All doors and latches closed, tie downs removed, aircraft controls are unobstructed, and all cargo secured.

4. The IAIC will confirm that the crew and equipment are secure.

5. After the engine has been started and the radio master turned on, confirm with the pilot if it is OK to use the FM Radio

6. Upon receiving approval from the pilot, contact the Duty Office for the dispatch information if you have not received it yet.

7. The standard dispatch will contain as much of the information as currently available and be issued in the following manner:

During the dispatch, the IAIC is given some critical pieces of information. To be certain that the information has been received correctly, the IAIC will read the information back to the Duty Office. The Duty Office will respond, "Read back correct" if no errors have been made in copying down the information.

Information	Example
1. Incident #	DA-12
2. Coordinates	60 09.582N 138 31.164W
3. Geographic Location	Antimony Creek
4. Other Resources Dispatched	Aircraft type and call signs, IA crews, etc.
5. Other Information	Radio frequencies, values at risk, route etc.

Once the dispatch has been confirmed the IAIC will give the coordinates to the pilot and plot the fire on a map. The pilot will enter the coordinates into the GPS and can derive a bearing and distance if not already supplied. This is done as soon as possible so the pilot can transmit this information on the Mandatory Frequency (MF) or Aerodrome Traffic Frequency (ATF).

It is __mandatory__ that all wildfire incidents actioned in Yukon have a Fire Diary completed by the IAIC and turned in post incident to the Regional Duty Office.

Lift-off

The IAIC now has a target, the routing planned, and the aircraft is preparing for lift-off. During lift-off it is important not to distract the pilot as all their attention is focused on controlling the aircraft and monitoring the instruments.

(Remember when you are in an aircraft, its registration is your call sign)

Do not distract the pilot unless you have noticed main or tail rotor obstructions or any other safety hazards. During lift-off observe the following:

No map folding.

No radio or intercom interference.

Record your getaway time in the Fire Diary.

Request additional information from the Duty Officer ie: Fire size, known values at risk, nearest fuel caches, etc.

Pilot will now advise of lift-off on MF or ATF.

The IAIC will now transmit the following information upon lift off on the applicable VHF-FM frequency to the regional duty office:

1. Aircraft call sign and radio frequency used.

2. Prior to lift off the IAIC will inform the respective Duty Office of the number of souls onboard and identity (names, call signs or manifest numbers).

3. Destination and ETA.

4. Fuel on board (in hours, upon lift-off and each flight after refueling).

5. Confirm the aircraft is tracking on Dispatch Yukon

Enroute

The IAIC will monitor and acknowledge FM traffic, pilot will acknowledge AM traffic

When 5 minutes back from the fire, ensure the pilot switches to VHF-AM Air Advisory frequency (122.7) and announces aircraft call sign, altitude, direction of approach, and intention to enter the designated fire airspace

E.g., Aircraft advisory for aircraft in the vicinity of Carmacks Fire 4, it's helicopter VFG currently 5 minutes back inbound to the fire from the west at 2700 feet. Any conflicting aircraft please advise VFG on 122.7.

Restricted Airspace

The airspace in the vicinity of a wildland fire is automatically restricted airspace to all aviation traffic except for WFM aircraft (and at times Transport Canada aircraft). The restricted airspace is 5 nautical miles around the perimeter of the fire and 3000 feet Above Ground Level (AGL) over the highest point of the fire, as per CAR 601.15.

When entering restricted airspace:

- Switch from enroute frequency VHF-AM 126.7 to WFM Air to Air Fire Advisory frequency VHF-AM 122.7 5 minutes back from fire.

- If there are multiple rotary wing aircraft inbound to the same fire and no Birddog at the fire a common altimeter setting must be established, and operations must be conducted in a manner that ensures aircraft separation.

- If another aircraft is already on the fire, **do not** enter the restricted airspace unless you have radio communications with the other aircraft. If you are unable to contact the other aircraft on 122.7, use the local FM frequency or the local F.M. fire frequency VHF-FM Tx:162.75 RX: 162.75 *(unless specified by RDO). If unable to establish contact, try the simplex channel for the frequency being used.*

- Positive communications must be established with the other aircraft before entering the restricted airspace.

- If there is no other traffic on the fire, approach the fire and do left hand circuits in order to complete the Initial Fire Report (IFR). For instructions on completing IFR see Appendix 4.

- Establish air-to-ground communications on Fireline Channel #1 Red Simplex (VHF/FM 162.75), unless otherwise specified.

Birddog Team Inbound

The birddog team will:

- Transmit an advisory on VHF AM 122.7 when 5 minutes from the restricted airspace.
- Assume control of the restricted airspace upon arrival.
- Give an updated altimeter setting.
- Give the birddog's altitude.
- Ask for all aircraft call signs and type.
- Ask for current altitude, location, and assignment of all aircraft.

Birddog Team Overhead

When giving approval for other aircraft to enter the restricted airspace, the birddog team will provide the following information on VHF AM 122.7:

- Entry approval.
- Confirm assignment or intention.

- Altimeter setting.
- Assigned altitude.
- Direction or quadrant of approach when required.
- Present location of birddog.

Upon receiving instructions from the birddog team, the helicopter pilot will confirm all the information and instructions given. The birddog team will acknowledge that all info has been received and understood.

Approach the fire exactly as the birddog team instructs. Note that in some cases the AAO may request you find a suitable spot to land and wait until airtanker work is complete. The AAO will clear your aircraft into the fire as soon as time permits.

At the time of arrival of the assigned IAIC a transition of responsibilities takes place. Although the AAO has the line authority equivalent to that of the IAIC, the IAIC is fully accountable for the direction of ground forces. The AAO may advise the IAIC on tactical matters. The AAO is accountable for the air attack operation but may be advised or given objectives by the IAIC or designate (e.g., AOBD).

Restricted Airspace Poster
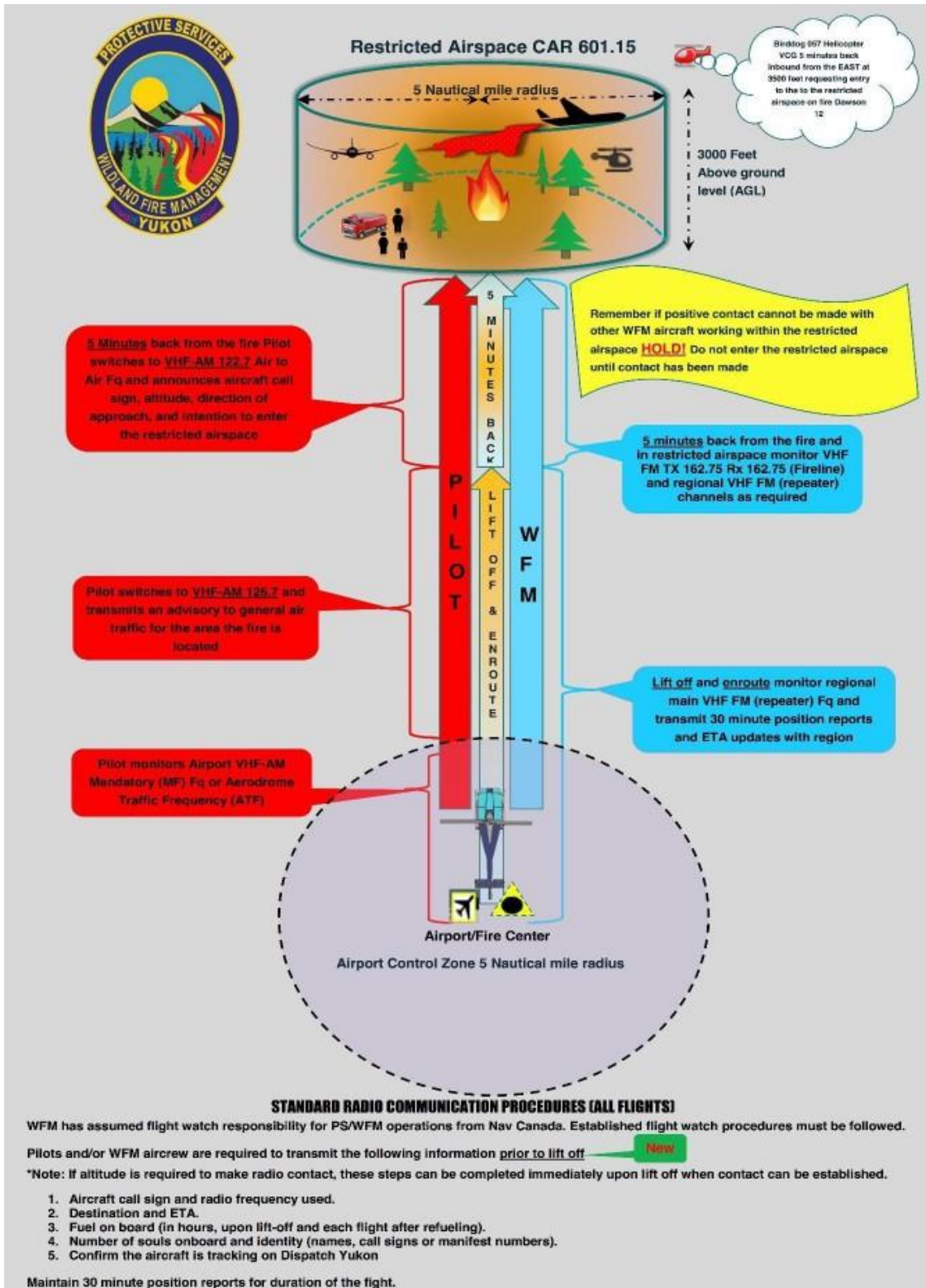
Fire Assessment

Once over the fire, the IAIC should:

- Advise the RDO immediately if the fire is beyond Initial Attack resources.
- Confirm coordinates are accurate and ensure that they are at the correct fire.
- Establish a GPS location and photograph the fire upon arrival. If cellular service is available and you are able to, send a photograph to the RDO.
- Do the fire reconnaissance as per IAIC training. An altitude of 1500 feet AGL in a left-hand orbit may offer the best perspective of the entire fire. Complete the IFR as quickly and accurately as possible[4].
- Relay the completed IFR to the Duty Office. Try doing this at a low level above the fire to determine if you will have F.M. radio contact with other stations while on the ground.
- Descend to a lower altitude in order to assess water sources, helispot, pump locations, fuel type and arrangement, amount of hose required, etc.
- Set clear objectives and coordinate and confirm the attack plan with the crew and advise the pilot of the aircraft's role in the plan (e.g., bucketing, slinging, or returning to base)
- Make sure that everyone is aware of their role in the attack plan. The IAIC will assist the pilot with hooking up the bucket if required.
- In consultation with the RDO determine (based on current and anticipated fire behavior) if deploying sustained action resources is appropriate.
- Determine additional resource requirements and write them down. Use the Resource Order Form in the Fire Diary for reference (e.g., hand tools, fire hose, pumps, equipment and aircraft fuel, personnel, or aircraft). Relay resource request to RDO as soon as possible.
- Advise the Air Attack Officer upon arrival of the attack plan and discuss it with him/her in order that the objectives are clear to everyone.
- Ensure that the Air Attack Officer knows where all the ground crews are on the fire line.
- Use major features to establish orientation to compass references or use the existing wind to identify the base, left or right flank and the head of the fire.
- Advise the RDO of the fire situation, the attack plan, your resource requirements, and the probability of success, as well as the estimated time to extinguishment/containment. Confirm objectives with RDO.
- If Values at Risk (VARs) in the area are unknown, establish a plan to search for and document VARs with RDO. Priority of VAR reconnaissance may depend on availability and quality of VAR data, local knowledge, fire behaviour, etc.
- Establish check-in schedule with the RDO.

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[4] See Appendix 4, IFR Completion Guide

Hover Exit Procedures

Hover exits should only be used if no suitable full skid landing is available near the fire and in full accordance with the WFM Hover Exit Operational Directive. Hover exits shall only be used if crewmembers being deployed are not at risk if fire behaviour increases. All crew personnel involved in the hover exit maneuver must be trained and certified on the helicopter used.

The only objective of performing a hover exit is to build a safe helispot at or near the fire site in order to provide safe extraction of personnel in the event of an accident or emergency.

Once the decision has been made to use a hover exit, notify the RDO of the requirement for a hover exit before commencing preparations for the maneuver. The rotor wing will land at a safe full skid helispot and non-essential equipment and crew will be offloaded. This will assist/increase helicopter performance by reducing weight and improving lift capability for the hover exit maneuver.

Brief with the crew and pilot on the sequence of maneuvers, board the aircraft and return to replace with hover exit site. Assess the fire situation to determine if it is safe to deploy the helispot construction crew. Notify the RDO prior to commencing the hover exit that you will be switching to Fireline channel and give the coordinates of the hover exit site.

The hover exit maneuver will be executed as outlined in the CIFFC Hover Exit Guidelines Manual.

Notify the RDO upon completion of the hover exit maneuver. Ensure that helispot building crew is in communication with the aircraft or the IAIC and that fire behaviour is monitored until the spot is functional; once it is functional suppression resources can be deployed to the helispot. The helispot can continue to be improved.

Once the helispot is complete, a number should be assigned. If you are anticipating using other helispots on the fire ensure the numbering sequence allows for infill helispots if required (i.e., an initial sequence of 1, 5, and 10).

Engine Operations

Pre-Dispatch Preparation

In addition to Pre-Dispatch Preparation, General:

✓ Ensure assigned IA vehicle is serviceable
✓ Fluids checked and full
✓ Ensure IA Engine checks are completed, and Engine is serviceable if applicable
✓ All IA equipment is serviced, and operational Radios, Pumps, Water, and foam reservoir levels are full lights
✓ Cargo compartment stock levels are full (as per Brush Engine SOP's)

Dispatch

The standard dispatch will contain as much of the information as currently available and be issued in the following manner:

Information	Example
1. Incident #	DA-12
2. Geographic Location	Antimony Creek
3. Coordinates	60 09.582N 138 31.164W
4. Other Resources Dispatched	Aircraft type and call signs, IA crews, etc.
5. Other Information	Radio frequencies, values at risk, route etc.

Upon receiving dispatch acknowledge and repeat dispatch; ensure crew is made aware, and proceed to vehicles, without delay request directions if required. Record the time of dispatch and other pertinent information in the Fire Diary.

It is __mandatory__ that all wildfire incidents actioned in Yukon have a Fire Diary completed by the IAIC and turned in post-incident to the Regional Duty Office.

__Never__ back an engine without checking behind the vehicle. Utilize spotters (vehicle occupants) whenever possible.

Consider where the fire is located and plan for communications. Will FM repeater work, cell phones, sat phone?

Call Fire Centre to tell them you are departing the base. (Remember that when you are in the engine, the unit number of the engine is your call sign.)

Enroute

Once enroute, call the Duty Office with your ETA taking into account traffic, time of day, speed limits, and any other considerations.

While enroute continue to gather/record more information on the fire, including whether or not other resources are enroute and if so their ETA's (e.g., VFD, airtanker group, helicopter) fire behavior updates, and any other relevant information. Monitor the radio and be aware of developments. Also note any values at risk you observe as you approach the fire.

Take extreme care when approaching any intersection while responding to an emergency. Other vehicles may not react in a manner which is expected or appropriate

Notify the Duty Office when you have the smoke in sight. Observe the color of the smoke as per the IFR reporting information. Request airtanker support, if not already enroute, if there are observed signs of accelerating or equilibrium rates of spread.

Approaching the Fire (5 Minutes Back)

Notify the Duty Office when you are five minutes back or have smoke in sight. Pass on any updated fire information you have gathered.

Contact other resources enroute or on site using Fireline or local FM repeater frequency and brief on the situation. Determine their location and their role in the response.

When approaching fire by road or foot observe smoke/fire for signs of increasing behaviour; ensure the crew is aware of safety zones and escape routes.

Avoid getting the vehicle stuck or entrapped by increased fire behavior.

Arrival

Upon arrival:

- If you are the first on scene assume IAIC role unless assigned otherwise; if other agencies are already on site determine who is going to be the IC and what role your crew will assume.
- Establish an Incident Command Post (ICP). Ensure pertinent information is recorded in the Fire Diary.
- Position engine/brush truck strategically depending on role: (suppression, support, command, etc.) Take into consideration further resources responding, escape/exit routes, hazards, and any other considerations. Turn all warning lights while on scene.
- Establish a GPS location and photograph the fire upon arrival. If cellular service is available and you can, send a photograph to the RDO.
- Complete Initial Fire report (IFR) and relay to the RDO.
- Update the RDO on fire behaviour observed, other agencies and the number of personnel on site, current actions being taken, and plan of attack. Notify RDO if more

resources or other agency assistance is required (e.g., RCMP, Yukon Electric, EMS, City Fire or VFD, Highways etc.)

- Set up a check-in time/schedule with the RDO for fire updates.
- Secure the scene and preserve evidence/origin point if human caused start is suspected. Notify RDO if Fire Investigator is required.
- If an airtanker group is at the fire coordinate your suppression plan with the AAO. Ensure objectives are clear and that the AAO is aware of the locations of ground resources. The AAO will prioritize containment objectives for air attack and will attempt wherever practical to allow ground suppression crews to continue working during airtanker action.

Fire Operations

On Site Incident Briefing

Prior to initiating suppression action, the IAIC must conduct a briefing. The level of fire danger, size, and complexity of the specific incident will dictate the level of detail in which the IAIC will address the following topics:

- ✓ Chain of command
- ✓ All hazards and safety concerns specific to the area being worked
- ✓ Control measures to mitigate hazards/reduce risk
- ✓ Medical plan
- ✓ LACES (Lookouts; Anchor points; Communication procedures; Escape routes; and Safety zones)
    - o **L** - Ensure a **lookout i**s established (air or ground),
    - o **A** - Never allow ground crews to be outflanked, initiate suppression action from a secure **anchor point**.
    - o **C** - Ensure all resources (aircraft ground crews, engines) committed to the fire are on the appropriate radio channels both simplex and duplex. Do a radio check with all assigned resources. *Note: Remember once you are on the fire your call sign becomes the fire number (E.g., IC Carmacks 4) for communications with the RDO.
    - o **E** - Confirm **escape routes** have been established, tested, and communicated.
    - o **S** - Confirm **safety zones** are identified and communicated
- ✓ Weather forecast and indices
- ✓ Fire behaviour forecast
- ✓ Fire suppression strategies
- ✓ Contingency plans
- ✓ Tasks the crew will be accomplishing
- ✓ Individual work assignments
- ✓ All safe work procedures to be used

Ongoing

- ✓ Develop objective-based Incident Action Plan and assign resources to complete objectives. Ensure instructions are understood.
- ✓ Ensure that your plan of attack includes an appropriate Incident Command structure and that all assigned resources are qualified for assigned positions and are supervised appropriately.
- ✓ Assign personnel and equipment upon arrival at the fire. Ensure equipment deployed is tracked using the Fire Diary or Receipt Transfer Vouchers.
- ✓ Monitor and manage the progress of your assigned resources to ensure overall objectives are being met.
- ✓ Follow your attack plan but do not hesitate to change it if it becomes apparent that the plan is not meeting your objectives.

- ✓ Remember during initial attack, primary objectives must be directed towards perimeter control.
- ✓ Check with personnel to ensure that all equipment is working properly and in adequate supply.
- ✓ Exercise situational awareness. Know where you, your resources and the fire are and anticipate where they will be in the future.
- ✓ Brief Duty Officer regularly, as significant changes occur, and when fire status changes. Fire status categories are[5]:
    - o Out of Control
    - o Being Held
    - o Under Control
    - o Being Monitored
    - o Out
- ✓ Adjust the Incident Action Plan as required.
- ✓ Order more resources if required
- ✓ Monitor actual and forecasted weather. Note that spot weather forecasts and fire behavior predictions are available and can be requested through the RDO.
- ✓ Monitor fire behaviour and report any significant changes to incident personnel and to RDO.
- ✓ Ensure escape routes and safety zones remain adequate as conditions change; if escape routes and safety zones change ensure all personnel are aware.

It is the responsibility of All WFM Personnel to ensure there Fire service Log Book is updated for training and Incident position/functions. It is the IAIC,s responsibility to ensure all positions of authority within the incident command structure complete the entries for their subordinates

- ✓ Ensure that documentation occurs on an ongoing basis, including completion of the Fire Diary.

Demobilization Plan

- ✓ Coordinate demobilization with the RDO.
- ✓ Ensure all equipment and resources are accounted for before leaving the fire.
- ✓ Ensure all Personnel have completed their Fire Service Logbook as per the general instructions in Appendix 5.
- ✓ Ensure appropriate documentation is supplied to regional office/warehouse (Transfer Vouchers, Write Off Forms, fuel receipts, etc.).

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[5] From CIFFC Canadian Wildland Fire Management Glossary, 2017

Post Fire

- ✓ Fuel all vehicles enroute home from incident if possible.
- ✓ Refurbish Initial Attack load and ensure crew replenishes day/overnight bags as soon as possible upon returning from fire.
- ✓ Ensure Fire Diary is completed and handed in to the Regional Duty Officer within 72 hours of demobilization.
- ✓ Debrief fire as soon as possible after the fire and include as many of the personnel involved using the Incident Debrief Form. The debrief form will be included in the regional fire file.
- ✓ Ensure that Incident Personnel Performance Rating Forms are completed for all resources assigned directly to you, and any other administrative duties.

Appendix 1: Regional Morning Safety Briefing

Klondike Fire Centre Safety Briefing

Dawson			Date:	June 14, 2017							
Indices are based on:			AM Forecast								

AM Forecast — Data Created: 6/14/2017 9:44

Stn	Tmax	Rhmin	Crossover	WS	WD	PCP %	LGT %	Fire Danger Rating
DAF	20	19	YES	7	70			
YOC	17	22	NO	6	80			

Any changes in the weather and/or time of day may cause changes in fire behaviour.

1300 Forecast and peak burning (1700) Indices

Stn	Temp	RH	WD	WS	PCP	FFMC	DMC	DC	ISI	BUI	FWI	NAME (click here for map)
YOC	14	30	80	6	0.0	89	41	129	5.2	45	12	Old Crow
EPF	14	23	110	10	0.0	90	36	125	7.6	41	16	Eagle Plains Fire
FMI	15	26	60	7	0.0	90	63	228	6.9	74	21	Forty Mile
DAF	17	23	70	7	0.0	92	81	305	8.1	97	27	Dawson Fire Centre
HEN	12	30	120	13	0.0	88	39	223	6.4	54	16	Henderson
ANT	16	23	90	8	0.0	92	71	208	9.2	77	26	Antimony
BAR	15	26	100	8	0.0	90	42	237	7.3	58	19	Barlow

Station	Fuel type	ROS (m/min)	Size at 60 min (ha)	HFI	CFB (%)	Fire Type - shaded Int. Class
Old Crow	C2	4.9	11.88	3695	56%	intermittent crown
Eagle Plains	C2	8	19.17	6110	78%	intermittent crown
Forty Mile	C2	8.6	31.55	9098	83%	intermittent crown
Dawson Fire	C2	11.2	54.93	13832	91%	continuous crown
Henderson	C2	7.1	10.7	6211	74%	intermittent crown
Antimony	C2	12.6	61.15	13953	93%	continuous crown
Barlow	C2	8.6	28.39	8084	82%	intermittent crown

CURRENT FIRE ACTIVITY	LOCATION (GENERAL)	STATUS	SIZE	RESOURCES
none				

Aircraft Group/ID	D1	AAO/Pilot	Alert	LOC	Assignment
Group 1		Boland	BYB 10-14-19-21	XY	Electra
Group 2		Nehring	B 10 -21	DA	802's

Avail. Resources	Alert	LOC	Assignment/Project/Training
XY Alpha 1x3	B 10-21	DA	Chainsaw training
HJ Bravo 1x4	B10-14 Y14-19 B19-21	DA	Chainsaw training
Eagle 1x3	B10-14 Y14-19 B19-21	DA	Initial Attack/Project work on base as able
Notes/Comments			

Klondike Fire Centre Safety Briefing

Safety Concerns:

☑ Falling Snags (Winds over 20 km/h or DC > 300 or observed

☐ Heavy Equipment: Brief daily or as required

☐ Air/Heli Tanker support: Brief daily or as required

☑ Topography: Slopes > 10%, saddles, chutes, canyons

☐ R/W use. Date of last briefing:

☐ Dehydration.

☐ Wildlife   ☑ PPE must be worn   ☐ (other)   ☐ (other)

Position	Assignment	Identified Hazards	Hazard Mitigation

Initial to acknowledge that you have read the briefing:

_____   _____   _____

_____   _____   _____

_____   _____   _____

Appendix 2: Tailgate Assessment Form

![Yukon Community Services logo]	ELEMENT:	HAZARD ASSESSMENTS	
	FORM:	TAILGATE ASSESSMENT FORM	
	DATE: ORIGINAL: 2011-03-30 REVISED: 2012-04-30		05-03

Type of work: _____ Date: _____

Workplace location: _____

Employees present on-site:

☐ _____ ☐ _____

☐ _____ ☐ _____

☐ _____ ☐ _____

Work to be performed: _____

_____

CHECK ALL HARZARDS THAT ARE OR COULD BE PRESENT OR ENCOUNTERED DURING THE DAY.

EMERGENCY PLAN
Name of first aider: _____

Location of first aid kit: _____

Location of nearest hospital: _____

KM to hospital: _____ estimated time to hospital: _____

Hospital transport method: _____

ANY SAFETY INCIDENT OR NEAR MISSES SHALL BE REPORTED

EMERGENCY NUMBERS
In Whitehorse:9-911
In Community:_____

Priority Code
A   Severe / High
B   Moderate / Medium
C   Minimal / Low

Tasks to be done	Hazards that may be present	A,B or C	Control measures

Completed by: _____

Reviewed by: _____ Date: _____

Appendix 3: IAIC Kit List

IAIC Kit List Regional specific items may be included in IAIC kit, but kit should contain at a minimum:

IAIC Kit List		
• Communications card	• Note pad	• Flagging tape
• GPS	• Fire diaries	
• Extra pens	• Weather kit	

Wildland Fire Management	
• WFM Contact Sheet	• Daily Time Sheets
• Initial Fire Report	• Fire Logbooks
• Bi- Weekly Time Sheets	

Planning and Science Unit
• Spot Weather Forecast Request
• Fire Behavior Prediction Worksheet
• Regional Maps

Operations
• ICS Forms
• Demob Forms
• Fire Logbooks
• AAR / Debriefing Form

Logistics	
• Common MSDS Sheets	• TDG Forms
• Equipment Time Sheets	

Air Operations
• Aircrew Briefing Manual
• Aviation Accident/Incident Report
• Aircraft Unavailability Report
• Manifest Form

Appendix 4: Instructions for Completing the Initial Fire Report Form

Yukon — INITIAL FIRE REPORT

Fire no.	Fire response zone

Geographic location

Location (format hdd°mm.mmm')

_____ ° _____._____ 'N (Lat)   _____ ° _____._____ 'W (Long)

Reported by	Date	Time

ALPHA (size)
- ☐ 1. Spot < 0.1 ha
- ☐ 2. 0.1 ha – 1.5 ha
- ☐ 3. 1.6 ha – 5 ha
- ☐ 4. > 5 ha
- ☐ _____ ha

BRAVO (fire rank)
- ☐ 1. Smouldering
- ☐ 2. Creeping
- ☐ 3. Running surface
- ☐ 4. Torching
- ☐ 5. Crowning
- ☐ 6. Blow up

CHARLIE (smoke colour)
- ☐ 1. White
- ☐ 2. Grey
- ☐ 3. Black

DELTA (wind speed/dir.)
- ☐ 1. Calm (5 km/h)
- ☐ 2. 6 – 11 km/h
- ☐ 3. 12 – 19 km/h
- ☐ 4. 20 – 30 km/h
- ☐ 5. > 30 km/h
- ☐ 6. Direction _____

ECHO (slope)
- ☐ 1. Flat/rolling
- ☐ 2. Moderate
- ☐ 3. Steep
- ☐ 4. Extreme

FOXTROT (aspect)
- ☐ 1. N/A
- ☐ 2. Facing _____

GOLF (position on slope)
- ☐ 1. N/A   ☐ 4. Upper 1/3
- ☐ 2. Lower 1/3   ☐ 5. Top
- ☐ 3. Middle 1/3

HOTEL (burning in fuels)
- ☐ 1. FBP fuel type _____
- ☐ 2. Grass
- ☐ 3. Brush   ☐ 7. Closed conifer
- ☐ 4. Deciduous   ☐ 8. Mixed-wood
- ☐ 5. Slash   ☐ 9. Old burn
- ☐ 6. Open conifer ☐ 10. Other

INDIA (adjacent fuels)
- ☐ 1. FBP fuel type _____
- ☐ 2. Grass
- ☐ 3. Brush   ☐ 7. Closed conifer
- ☐ 4. Deciduous   ☐ 8. Mixed-wood
- ☐ 5. Slash   ☐ 9. Old burn
- ☐ 6. Open conifer ☐ 10. Other

JULIET (access)
- ☐ 1. Road _____ m
- ☐ 2. Helispot _____ m
- ☐ 3. Hover exit _____ m
- ☐ 4. Other _____ m
- ☐ 5. Direction _____

KILO (available water)
- ☐ 1. N/A
- ☐ 2. Adjacent
- ☐ 3. _____ m
- ☐ 4. Direction _____

LIMA (values at risk)
- ☐ 1. Human life
- ☐ 2. Infrastructure, private property
- ☐ 3. Commercial, cultural, historic, natural
- ☐ 4. Other
- ☐ 5. Distance _____ m
- ☐ 6. Direction _____

MIKE (recommended action)
- ☐ 1. Full response
- ☐ 2. Modified response
- ☐ 3. Monitor

NOVEMBER (probability of success)
- ☐ 1. Low
- ☐ 2. Moderate
- ☐ 3. High

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When completing the IFR consider the following points:

Geographic Location: Ensure that distance and direction from the geographic reference are noted. Directions should be given in magnetic bearings. Example: the fire is 3.5 km NW of the headwater of Fyfe Creek.

Location: Use degrees and minutes and decimal minutes of latitude and longitude (Format: hdd°mm.mmm´). Plot the fire location, read the coordinates, then re-plot the location from your coordinates. This is a quick double check of location. Remember that latitude reads from bottom to top, and longitude reads from right to left. Example: 61° 52'N 135° 11 W is 3.5 km NW of headwater of Fyfe Creek. Use the GPS to confirm coordinates when over the fire.

Time: Time of Initial Fire Report using the 24-hour clock i.e., 5:30 pm = 1730.

ALPHA – estimated size Area of fire in hectares (ha.) Use estimating techniques to determine the size as accurately as possible. Do not guess. Accurate fire size estimates are crucial to Regional and Territorial fire response planning. See appendix for instructions on calculating fire size.

BRAVO – behavior: Record the burning characteristics that best describe the fire activity at time of report.
1. Smoldering - slow moving fire, no visible open flame/ 2. Creeping - visible open flame on the surface/ 3. Running – vigorous surface flame front 4. Torching - single tree crowns or small groups are burning/ 5. Crowning - large areas of tree crowns/forest canopy are burning, rapid fire movement / 6. Spotting - spot fires or defined smoke ahead of the main fire area/7. Blowup – violent fire behavior, fireballs, or fire whorls. How will the fuel, topography, and current weather affect the current and anticipated fire behavior? How will the forecasted weather change this?

CHARLIE – colour of smoke 1. Black - indicates equilibrium spread rates reached, volatile fuels / 2. Grey - indicates accelerating spread rates/ 3. White - indicates moist fuels, incomplete combustion. While enroute observe smoke colour for signs of increasing fire behaviour and assess the need for airtankers. If the fire location coincides with the appropriate Zonation Policy, request airtankers as soon as possible if accelerating or equilibrium rates of spread indicators are observed.

DELTA – wind speed / direction 1. Calm - smoke rising straight up/ 2. 0-10 km/h - smoke flow fans and bends slightly from vertical indicating slight wind movement/ 3. 10-30 km/h - smoke flows with wind. Wind direction is easily recognizable/ 4. 30+ km/h - smoke flows parallel to ground/ 5. Circle direction wind is coming from e.g., wind from north circle N, wind from northwest circle N & W. When you are assessing wind speed and direction consider whether it is consistent with the forecast winds or is it locally influenced by TCU's. Anticipate wind speed or direction changes when formulating your attack plan.

ECHO – slope: 1. Flat - less than 5° or 10%/2. Moderate - 6 to 17° or 10 to 30%/3. Steep - Greater than 18° or 31%. Consider slope when planning water delivery methods and resource orders. Are there any dangerous combinations of fuels, fire behavior and terrain?

FOXTROT – aspect: Direction slope faces - if echo was flat leave blank.

GOLF – position on slope: Choose the one that best describes the fire's position. Choose more than one if necessary. Again, if foxtrot was flat leave blank.

HOTEL – fuel type: Choose the fuel type or types that best describe what is burning. How will projected spread rates affect initial attack success? What area of the fire is most likely to resist control? What area of the fire has the least priority? What control points can be used?

INDIA – adjacent fuel type: Same as hotel - fuel type (this is the fuel type adjacent to the head and active flanks of the fire). Use this information to predict fire spread potential and direction.

JULIET – access: indicate the types and nearest available access to the fire, distance from access to fire and direction of access in relation to fire. Can ground crews be deployed safely and evacuated quickly? Does the ground crew have ready access to escape routes and safety zones? Note all areas that may provide a good helicopter landing site/Will the ground crews ever be out of sight of the fire? Is there a suitable spot to conduct a hover exit to improve access?

KILO – **available water**: Indicate where the nearest water source is in relation to the fire, include whether it is a helicopter bucketing site or a pump site or both. Indicate distance in meters if less than 1 kilometer; indicate distance in kilometers if greater than 1 kilometer. Indicate direction of water source in relation to fire. Consider distance to water source for bucketing, turnarounds greater than 5 minutes are unlikely to succeed in containing fires with HFI of Rank 3 or greater. Distances to pump sites must be considered for resource ordering.

LIMA—Values at Risk: Indicate any observed values at risk seen during the assessment and the distance and direction they are located from the fire. The RDO may inform you of known values in the area and request assessment of the values. Upon spotting a fire, begin looking for values as you approach the fire. Look in the obvious spots that cabins, power lines, or buildings would be i.e., near roads, at creek and river confluences, lake shores etc. Known values may influence the priority placed on the fire. Is it interface? Is there potential for structural losses?

Are there new values near the fire that are not recorded? Are there timber resources?

MIKE – Recommended Action: 1. Full Response: This fire can be safely contained by I.A. personnel. The fire is containable with your current resources. Direct attack is the most viable option. 2. Modified Response: Indirect Attack is the most viable action. Structure protection. Air Tanker requests. Fire is beyond available resources. 3. Monitor: Fire is unactionable. HFI is too high. Fire Danger is too extreme. Fire is in the Wilderness Zone and monitoring is all that is required. No values at risk.

NOVEMBER – Probability of Success: How likely is your recommended action going to succeed. 1. Low. 2. Moderate. 3. High.

Appendix 5: General Instructions for Completing the Fire Service Log

1. This book must be carried by all Department personnel while engaged in fire control activities or training.

2. Service on each fire must be entered in the Fire Record portion of this book and certified and signed by the Incident Commander or the immediate supervisor.

3. All fire control personnel issued with a service book, and who attend recognized fire control training courses must have their training record completed for each course they attended. The instructor in charge must certify this attendance.

4. When the service book entries are completely used up or the book is becoming excessively worn, turn it into the Training Coordinator for re-issue.

5. The service book must be **_turned in annually_** to the Training Coordinator for review and record purposes

6. If the service logbook is lost, report it immediately to your supervisor and the Training Coordinator and a substitute will be issued.

Quick Reference

The YTG representative responsible for a flight is responsible for providing the pilot with a complete passenger/cargo manifest including accurate weights and advising the pilot of dangerous goods being carried.

The following estimated weights can be used if a certified scale is not available. Adjustments must be made for wet, dirty, or modified equipment.

Fireline Pump Weights	Lbs.	Kgs.
Pump, Mark 3, c/w board	66.5	30.2
Pump, Mark 26, c/w board	47.5	21.5
Pump Kit, Mark 3/26	35.5	16.1
Pump, Mini Mark	17.5	7.9
Pump, Tanaka	13	5.9
Pump, Wickman 100	18.4	8.3
Pump Kit, Mini Mark/Tanaka/Wickman	10	4.5
Pump, Floto	48.5	22
Pump Kit, Floto	22	10
Hose Weights (Add approx. 2lbs/roll for wet hose)	**Lbs.**	**Kgs.**
Hose , 1 1/2" (1 length 100') variation due to the type of lining in hose	13 to 16	6 to 7
Hose, Fire, 1" QC (1 length 100')	9	4.1
Hose, Eccono (1 length 50')	1	0.45
Hose, Box, 1 1/2" (4 lengths)	55	24.9
Hose, Box, 1 1/2" (5 lengths)	65	29.5
Hose, Box, Eccono, (25 lengths)	50	22.7
Hose, Suction, 1 1/2" Draftex	4	1.8
Hose, Suctions, 2" Rubber	15	6.8
Hose, Suction, 2", Draftex	5	2.3
Fuel Container Weights	**Lbs.**	**Kgs.**
Drip Torch (Empty)	5	2.3
Drip Tourch (Fuel)	13	5.9
Drum, Fuel (Full0 - Estimated Weight	480	218.2
Oil, Chainsaw 4 liter jug	8	3.6
Propane Bottle, 100lbs	180	81.6
Propane Bottle, 20lbs	45	20.4
Tank, Fuel 10 L (2.5 gal) (Empty)	2	0.9
Tank, Fuel 10 L (Full)	22	10
Tank, Fuel 20 L (5.3 gal) (Empty)	3	1.4
Tank, Fuel 20 L (Full)	44	20
Tank, Fuel, Aux Can (Empty)	7	3.2
Tank, Fuel, Aux Can (Full)	31	14.1
Tank, Fuel, Combi, 6 L/2.25 L (Empty)	3	1.4
Tank, Fuel, Combi, 6 L (Full)	23.4	10.6
Fire Line Equipment Weights	**Lbs.**	**Kgs.**
Axe, Boy	3.2	1.5
Axe, Brush	2	0.9
Battery, AA, (box of 144)	8.5	3.9
Brushsaw	18	8.2
Chainsaw	17	7.7
Chainsaw, Kit	7.5	3.4
Chainsaw, w/Kit	25.5	11.6
First Aid Kit, Burn	13.5	6.1

Helicopter Fuel Burn Rates. For planning purposes only

TYPE	IMP. GAL/HR.	LITRES/HR.
206B	24	114
EC120B	25	118
206L1	29	135
206L3	32	150
206L4	36	165
AS350B/SD	29	135
AS350SD2	37	170
AS350B2	39	180
AS350B3	41	190
AS350B3DH	41	190
AS350B3e	41	190
B407	41	190
B204C	75	350
B205A-1	75	350
B205A-1+	75	350
B212	93	425
AS332L1	153	700
AS332L2	162	740

Helicopter Lifting Capacity. For planning purposes only

TYPE	MAX WEIGHT INT.	MAX WEIGHT EXT.
206B	3200	3350
EC120B	3780	3968
206L1	4050	4150
206L3	4150	4250
206L4	4450	4650
AS350B/SD	4300	4635
AS350SD2	4961	5512
AS350B2	4961	5512
AS350B3	4961	6173
AS350B3DH	5224	6173
AS350B3e	5224	6173
B407	5250	6000
B204C	8500	8500
B205A	9500	10500
B205A-1+	10500	10500
B212	10400	11176
AS332L1	18915	20610
AS332L2	20502	23152

Suggested Brush Engine Equipment

Each region may have its own regional specific configuration of equipment they regularly carry on their brush engine. This addresses specific fire conditions and operating styles of different crews.

Brush engines come with the following standardized auxiliary equipment; each region should ensure they are always carrying these items:

- ➢ Fire extinguisher
- ➢ First Aid kit
- ➢ Intake screens and suction hose (used for drafting)
- ➢ Wheel chocks
- ➢ Hydrant wrench
- ➢ 2 ½" strangler
- ➢ Hydrant valve
- ➢ 4 lengths Hydrant hose

The following list of adaptors will provide you with access to all of Dept. Highways and most private contractor water tenders:

- 2 ½ " male to 4" female camlock (to load off hwys. water trucks)
- 2 ½ " male to 4 " male camlock   (to load off hwy's 4" pump)
- 2 ½ " male to 2 " male camlock   (to load off hwy's 2" pump)
- 2 ½ " male to 2 " female camlock   (connect to town well)

All 2 ½ " fittings are male, outside threads, threaded to fit a fire hydrant.

The cross lay feature is of limited use in wildland fire scenarios. Unless your region has a particular need for a cross lay, disconnect it and put the storage space to better use.

There is room onboard for two complete I.A. kits and a 1000-gallon porta-tank liner and frame.

Each brush engine is equipped with a back-up camera. Vehicle operators should become familiar with their use.

When conducting daily vehicle inspections inspect the equipment compartments to ensure the truck is completely I.A. ready.

Brush Engine Equipment (continued)

In addition to the I.A. load, consider carrying the following supporting equipment:

- ➢ Bolt cutters
- ➢ A Selection of various hose adaptors and connectors (assorted sizes of cam-lock, quick connect, & threaded, etc.) to provide compatibility with diverse types and sizes of water tenders and pumps.
- ➢ Several 10 ft. lengths Fire-Marshall Hose
- ➢ 4-5 fifty-foot lengths 1 ½" hose
- ➢ Fire boss kit c/w maps, contact lists and IFR book
- ➢ Crew level first aid kit
- ➢ Pulley block to assist with winching
- ➢ 5-gallon straight gas for brush engine Honda pump
- ➢ Bear spray
- ➢ High Visibility vests (OH&S requirement for working alongside roadways)
- ➢ (Extra) 10 lb. fire extinguisher
- ➢ Spare parts box for miscellaneous tools, nozzles, couplings, etc.
- ➢ Roadside safety triangles
- ➢ Hose blocks to protect hose lays from vehicles travelling across hose lines
- ➢ Drip torches (2)
- ➢ Any other equipment particular to specific region's requirements
- ➢ Satellite phone with contact numbers

Personal gear:

Individual crew member day packs

Drinking water

24 hr food kit

4-man mess kit

Planning for Medical Emergencies

Prior to each operational period, Incident Commanders, supervisors, and all wildland firefighters need to ask and be able to answer the following three questions:

1. What are we going to do if someone gets hurt?
    • Are there personnel on your crew/division/or fire that can provide medical support?
    • What type of equipment is available to treat and transport injured personnel?

2. How will we get them out of here?
    • Could you get an injured firefighter to a road or to a Helispot?
    • How many personnel and what kind of equipment would you need to get an injured firefighter out?

3. How long will it take to get them to a hospital?
    • Where is the closest hospital?
    • Will you use air or ground transportation?
    • Could conditions change and affect the transportation timeline?
    - Smoke/clouds/nightfall
    - Fire behavior
    - Mechanical failures

All operational activities should be based on answers to these questions.
If the answers are insufficient, stop, reassess, and consider alternate
strategies and tactics.