

HIGH BIRD OPERATIONS MANUAL

MARCH 2012



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ACKNOWLEDGEMENT

The basis for this document is a High Bird SOP written in March, 2004 by Lt Col Al King of the Washington Wing, Civil Air Patrol. Taking into account years of experience flying this mission, Lt Col King produced a well thought out document that describes the principles of how to conduct High Bird operations.

This document has now been updated to make it more relevant to a multi-agency operation as well as to make a good fit within the Incident Command System.

Aircrews with experience performing this mission are encouraged to recommend changes and additions to this SOP by contacting the WSDOT Aviation Emergency Services program manager.



1. PURPOSE

Maintaining continuous communications during aerial search and rescue (SAR) and emergency services (ES) incidents with tactical units can be a significant challenge. The use of aircraft and ground units equipped with radios that require line of sight for good reception adds to that challenge. So the use of an airborne radio relay is employed. The term, "High Bird", is the common description used for an aircraft and aircrew operating in that capacity.

The High Bird mission is a critical component for the safety of operations during aviation supported emergency services missions. The purpose of this document is to establish standardized procedures for aircrews tasked with the duty of flying the High Bird sortie and for those communicating with it.

2. OPERATIONAL CONSIDERATIONS

A. General

High Bird is an aerial communications relay platform only. All decisions about tasking of tactical teams and aircrews rests with the Incident Commander (IC) and his staff at the Incident Command Post. There the IC and staff have a broader view of the overall mission effort and the specific tasking requirements are made based on the staff's careful analysis.

The High Bird crew serves as the eyes and ears of the Incident Commander and should always be incorporated in the planning and execution of all SAR/ES operations.

Note that the **High Bird has no direct operational authority over aircrews or tactical teams.** Also the crew is in a good position to help identify problems, conflicts or emergencies. High Bird crews should take the initiative to assume a limited degree of control over the communications to raise appropriate questions and awareness so that the IC and his/her staff may address and resolve these issues.

Communication works best when messages are brief, to the point and in plain English. Brevity assists in the clarity of a message as there are fewer words to cause confusion. A good communicator is skilled at reducing a complex message to the least number of words possible. Therefore, High Bird aircrews should be composed of an experienced pilot with logged search time and a *very* experienced mission observer who also has good radio communications training and skills.

In Washington State, SAR/ES operations are joint operations involving WSDOT Aviation Emergency Services and State, County, and local law enforcement agencies, other State and Federal agencies that possess air assets, both the active and reserve branches of the US Military, and volunteer air organizations such as the Civil Air Patrol and Washington Air Search and Rescue. It is extremely important to implement and train using High Bird procedures that are both simple and concise so that all of these organizations can both understand and incorporate these procedures.

B. Aircrew and Ground Team Responsibilities

One responsibility of aircrews and tactical teams is to assure they understand the instructions provided with their tasking and are operating within the scope of that tasking. They are also responsible for both maintaining communications and keeping their transmissions to a practical minimum. At the same time, they must be able to clarify situations as they arise. When a clue/target/objective is sighted by an aircrew or investigated by a tactical team, it is important for them to get time critical messages through with minimum interference.

Excessive chatter, long messages and overly detailed instructions not only make it difficult to maintain communications with multiple air and ground assets, but also makes it extremely difficult to send and receive critical messages in a timely and clear manner. For safety and personnel accountability, it is critical that the Incident Commander and his staff know the operational status and locations of both aircrews and tactical teams that are in the field. SAR/ES operations are inherently high risk operations and can be very dangerous. If an aircrew has crashed or a team is in trouble, time becomes critical for diverting rescue teams to their last known location.

Operational checks are normally performed every 30 minutes. During missions where there are numerous air and tactical units, aircrews should be prepared to report their ops status at the top and bottom of the hour and tactical teams 15 minutes before and after the hour.

In those situations when an aircrew **cannot** contact High Bird or mission base on two consecutive operational checks, the aircrew should climb to a higher altitude to re-establish communications. If still unable to establish contact, the aircrew should leave the grid and fly closer toward mission base or High Bird and attempt to contact via all radios available. If still unable to establish contact, the aircrew should return to base (RTB). Aircrews are encouraged to use alternate means of communications such as cell phones, e-mail, text messaging or other wireless devices if unable to contact High Bird or mission base by radio. If distance is a factor, aircrews are encouraged to divert to a nearby airport and call in their status via cell phone or public phone.

Tactical teams should use alternate means of communications such as cell phones, satellite phones, e-mail through wireless devices or public phones if unable to contact High Bird or mission base by radio. If none of these resources are available, or if outside of cell phone/wireless coverage, the ground team should relocate to area where they can establish communications.

C. Operational Frequencies

Typical High Bird missions will be operating on and monitoring a minimum of two and sometimes three frequencies. Air and ground teams will each normally operate with one frequency and will use a second frequency for air-ground coordination. The following are suggested frequencies for such operations that should be included in the Incident Communications Plan and briefed to all air and ground teams.

Frequency 1: 123.1 for air to air communications.
Frequency 2: 155.160 for ground communications.
Frequency 3: ATC for air safety.

Other frequencies may be used as determined by operational needs and the Incident Staff.

3. HIGH BIRD OPERATIONS PROCEDURES

(1) High Bird will be the primary relay for all communications for the Incident. Usually all radio communications involving air and ground teams will be to and from High Bird. There will be times when air and tactical teams are not able to contact High Bird to report their operational status or when the Incident staff chooses to communicate directly with air or ground assets.

(2) The incident Air Operations Branch Director will plan to have High Bird in place and on station well before the first air and ground teams are launched and will ensure continuous coverage by a High Bird until all assets have returned to base (RTB).

Plans for the rotation of the High Bird duty every two to three hours should be anticipated by all. As a rule, a High Bird crew should not be on station more than four hours without relief.

A. High Bird Form and Use

The worksheet in Appendix 1 has been developed to assist the High Bird aircrew to organize and complete its tasks while airborne. When properly used, this form allows the crew to keep track of assignments and operational checks with a minimum amount of writing. This form records the following essential information.

(1) Aircraft Tail Number/ Team Call Sign – Enter the information that the aircraft will answer to. For a CAP aircraft it will be the prefix “46” followed the last two digit numbers of its registration. For example, the call sign for N9700Z will be “CAP 4600”. For N835CP it will be, “CAP 4635”. It will be useful to record the entire registration number for CAP aircraft in the remarks column. For WASAR and privately owned aircraft you will record the full registration number but use only the last three digits of that number as the call sign. All CAP ground teams will use call signs with the prefix, “Ground Team” followed by a number in sequence (Ex. Ground Team 1). All WSDOT ground teams will use call signs with the prefix, “Air Support Team” followed by a number in sequence (Ex. Air Support Team 3 or AST 3). Federal, State and local law

enforcement aircraft as well as military helicopters will have their own assigned call signs such as, "Rescue 1" or "King 9", and these should be used.

(2) Wheels Up (WU) – Note the time the inbound aircraft left mission base. Aircraft departing under tasking are required to report wheels up time, number on board and grid/area assignment/destination. This is also an opportunity for High Bird to verify assignments.

(3) Grid/Area Assignment – Note which grid the aircraft or the ground team has been assigned to by the Incident Commander.

(4) ETA to Grid/Area - Estimated time it will take the reporting aircraft to arrive at their assigned grid or search area.

(5) In Grid/Area – Inbound aircraft are required to report their time of arrival in their assigned grid/area or destination.

(6) Out of Grid/Area – Aircraft are required to report their time of departure from their assigned grid/area and reason for departure. If the aircraft has completed their search of their assigned grid/area, and are not returning due to low fuel or crew comfort issues, they may be re-assigned to another grid/area. High Bird should anticipate this and standby to relay that re-assignment information to the aircraft as well as verify that no aircraft is currently assigned to that grid/area.

(7) RTB – The time an aircrew/tactical team has reported completing their tasking and are beginning their return to base.

(8) ETA to Destination – In situations where aircraft are on returning to base, an administrative or ferry flight, a destination should be recorded instead of a grid or search area.

(9) Wheels Down (WD) – When an aircraft reports they are safely on the ground at their destination. There is always a possibility that a returning aircraft will fail to arrive for a variety of reasons. High Bird should monitor to verify that an aircraft has safely arrived at mission base.

(10) Check In Number – The check in boxes are numbered for on the hour and half hour roll calls. You may choose either to note the exact time the aircraft have checked in or simply put a check in their boxes.

(11) Notes - The crew should make notes as appropriate to help them keep track of information pertaining to aircraft and grid assignments as well as for coordination purposes. Again, **High Bird does not authorize or change assignments**, but must verify, as a second check, all grid/area assignments to ensure that the Incident Staff has not made any conflicting assignments. If there is an assignment conflict, High Bird should request that the inbound aircraft loiter in a safe area and should advise the IC, through Base Communications, of the issue. High Bird should also monitor communications to ensure that inbound aircraft do not cross grids/areas at unsafe altitudes that are occupied by other aircraft.

Table 1 is an example of a High Bird worksheet that has been filled in as described with four aircraft from a variety of agencies. The filled in information is an example with each column numbered only to reference the appropriate paragraph that discusses its use.

HIGH BIRD WORKSHEET																	
Date: 17 MAR 12		Mission No: 12M-021A			Operations Period 1				High Bird Tail No: N365TS								
Pilot: A. Brown		Com Officer: B. Smith			Recall RPM Check in 30				ON STATION TIME: 12:00								
Code: Find Need PIREP for Mt Rainer									OFF STATION TIME:								
Aircraft/Team	WU	Grid	ETA to Grid	In Grid	Out of Grid	RTB	ETA to Dest.	WD	Check In Number								Notes
1. N72612	14:10	270A	:20	14:30	16:45	X	:20	17:05	X	X	X	X	X				Scratchy Radio
2. CAP 4613	14:15	266C	:15	14:31	15:30	X	:15	15:47	X	X	X						Crew Comfort
3. CAP 4600	15:30	264C	:20														
4. N793DS	15:45	260D	:20														
5.																	
6.																	
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WSDOT HIGH BIRD WORKSHEET MARCH 2012

TABLE 1 – HIGH BIRD COMMUNICATIONS FORM

B. Mission Briefing and Pre-Flight Procedures.

Aircrews tasked with the duty of High Bird should check with three Incident Staff Sections before departing. The first stop is the Air Operations Branch, who should thoroughly brief the High Bird crew before departure on how long they should expect to be on station and, if possible, who will replace them. The grid or general area and altitude of where High Bird will loiter should be agreed on with the understanding that weather or operational requirements might force High Bird to move to a secondary location. Air Operations should brief High Bird on the locations and call signs of all other air assets that have been tasked along with wheels up and in grid times for those assets still on station.

In addition, Air Operations should also provide assignments of aircrew that have been assigned tasks, but have not yet departed. The High Bird aircrew should note all this information on their High Bird Form to include future sorties and plot it on a gridded chart.

There should be a confirmation of frequencies to be used and cell phone numbers for Air and Ground Operations as well as for the IC and Safety officer.

The High Bird crew should also be briefed on specific procedures to follow if a possible target or clue has been reported by a search aircraft. This is situational. The IC may direct that aircrews note the locations of possible targets and continue their search. In other situations, the IC may require the investigation of every clue or sighting, and require High Bird to facilitate this.

Additional information that the High Bird aircrew should be briefed includes active military airways, TFRs, "hot" impact areas or air activity at military installations close to the search area, other civil and general aviation activities and incident aircraft on administrative flights to and from the search base. High Bird aircrews should also be familiar with any class airspaces in the search areas.

The High Bird should next be briefed by Ground Operations to obtain information about ground team taskings. This should include locations of staging areas and assigned search areas, call signs, frequencies and cell or satellite phone numbers.

The end result of the briefings by Air and Ground Operations is that High Bird will have complete status information of all air and ground assets that have been tasked and deployed and will have a "bird's eye" view of where everyone is and will help avoid potential tasking conflicts.

Finally, the High Bird crew should stop by the Incident Communications Unit and confirm they have the same information provided by Air and Ground Branch Directors with the Communications Unit Leader.

Before takeoff, High Bird should ensure the following:

- (1) Ensure they have sufficient forms and the correct sectional to cover the search area and the period of time they will be High Bird.
- (2) Conduct a communications check on the ground with the Communications Unit with *all* radios and *all* frequencies it will use during the mission.

(3) That the aircraft has sufficient fuel and range in hours to perform the mission.

(4) Obtain a complete weather brief and forecast for both High Bird's assigned area and the entire search area.

(5) The High Bird crew should be equipped and prepared to stay on station longer than briefed.

(6) Be prepared to perform an in-flight hand off of the High Bird mission to another crew.

C. Relief/Handoff Procedures.

The High Bird handoff can occur in two ways. First, if there is not another aircraft already performing as High Bird and the handoff comes from the Incident Command Post. This usually occurs when the first High Bird is launched for an operational period. Second, the handoff occurs when High Bird is relieved by another aircraft.

(1) Initial High Bird - The first assigned High Bird launches initially using its assigned call sign. Base Communications should be advised that a High Bird aircraft has been launched, and will take on those duties once it reaches a satisfactory altitude. A satisfactory altitude will depend on terrain – 5,000 feet AGL over flat areas is acceptable and 10,000 feet MSL when aircraft are working mountainous terrain such as the Cascades. Once on station, High Bird should contact Mission Base using its regular call sign and make the following call to assume the role:

“Thun Mission Base, this is CAP 4600. We are now High Bird, over.”

Mission Base Communications should reply:

“CAP 4600, this is Thun Mission Base. You are now High Bird, out.”

From that point on, until relieved, the aircrew assumes the call sign, “High Bird.” This very simple verbiage tells all aircrews and ground teams as well as the Incident Command Post that High Bird is operational. All aircrews and ground teams should ensure they have switched over all communications from Mission Base to High Bird.

(2) Relief High Bird Handoff – Aircraft launching to assume High Bird duties will launch using its assigned call sign. Base Communications should already be advised that a replacement High Bird has been launched and will take over duties once it is on station and at altitude. When the replacement aircraft is enroute, it should contact the current High Bird to check in, by making the following call:

“High Bird, this is CAP 4635. Wheels up at 1045, 2 onboard, enroute to replace High Bird vicinity grid 265, over.”

“CAP 4635, this is High Bird. Report when you arrive on station and at altitude, out.”

On reaching station, the replacement High Bird will call the current High Bird and ask them to report all aircraft and ground teams they are currently tracking. This serves as a final check to make sure the new High Bird has complete situational awareness and that no search aircraft or ground team has been missed. Upon completing this final check with the outgoing High Bird the replacement High Bird, using its standard call sign, takes on the High Bird role with the following call:

“High Bird, this is CAP 4635. On station and ready to assume High Bird, over”

“CAP 4635, this is High Bird. You are now High Bird, CAP 4606, out.”

From that point on, the new aircrew assumes the call sign, High Bird, and the replaced aircrew reverts to its assigned call sign. Operating aircrews should simply continue their communications with High Bird regardless of who has assumed that role.

4. COMMUNICATIONS PROCEDURES

A. Basic Calls

When High Bird is operational, all aircraft should communicate through High Bird once wheels up and cleared of the airport pattern. Again, the expected calls are as brief as possible. An example of the wheels up call should be as follows:

“High Bird, this is WASAR 34E, over.”

“WASAR 34E, this High Bird, over.”

“High Bird, 34E wheels up 1130, 2 onboard, enroute to Grid 264C, over.”

“34E, wheels up 1130, enroute to Grid 264C, out.”

Of course, reading back 34E’s message is optional, if received clearly, but also offers a chance to verify grid assignment. High Bird crews should use their judgment in deciding whether to repeat the information provided.

Note the brevity of the messages. Calls should provide High Bird with all the information it needs with as few words as possible. Once a pattern of brief communications is established and becomes the norm, one can see that much information can be transmitted very simply and quickly, leaving room for other aircraft checking in or dealing with other issues.

High Bird at this point then notes in Column 1 the aircraft call sign, in Column 3 the grid assignment, and in Column 2, the wheels up time. They now know that WASAR 34E should be out of grid and ready to RTB in approximately 3 hours and that there should be no other aircraft assigned to that grid, nor any of the adjacent grids. Column 9, “Notes”, may be used for any short notes that will help the High Bird crew assure appropriate and continuous communications. This can include information concerning the assignment of a ground team in the same grid that has search aircraft.

Coordination between search aircraft and ground teams would need to take place separate from High Bird on air to ground frequencies.

Other routine calls would be handled in a similar manner. The following are a few examples:

In Grid – **“High Bird, CAP 4690 in grid at 1218, over.”**

Out of Grid – **“High Bird, CAP 4690, out of grid at 1445 and RTB, over.”**

Wheels Down - **“High Bird, CAP 4690, wheels down at 1505, over.”**

Once again, the examples show very little need for other information. (Unless High Bird to ask where you are going or where you have landed). The High Bird form is filled with the appropriate time of each of these events under Columns 4, 5 and 6.

Note that once Column 9 is filled in with a, “wheels down” time, communications with the aircraft is terminated until such time as it becomes tasked and is airborne again. A good practice to avoid confusion should it be tasked and airborne again is to line it out when Column 9 is filled in. A high lighter would work well for this.

B. SOP Exceptions

The standard operating procedure for communications in the area of operations is that no other communications should occur other than through High Bird. This is in order to track the status of aircraft and ground teams and to render assistance when an emergency occurs. Some exceptions include conducting roll call, possible sightings that require further investigation, aircraft reporting departure from grid assignment early due to crew comfort or emergencies.

Section 6 will discuss Situational Emergencies in detail and procedures that High Bird will use to deal with them.

C. Roll Call

High Bird is to call a formal roll call every 30 minutes at the top and bottom of the hour. High Bird will initiate these calls, and expects a very brief reply. Remember, that if you’ve reported correctly, they already know where you are, they only need to know that you’re operating normally. By observing these procedures, it leaves the aircrew’s time to communicate among themselves. However, they should ALWAYS be listening for any High Bird or other operational calls.

An example of how High Bird would conduct roll call is to begin with one or two “heads up” calls:

“Attention all aircrews, this is High Bird. Roll call in 5 minutes, out.”

“Attention all aircrews, this is High Bird. Roll call in 2 minutes, out.”

No response is expected from anyone at this point. It simply lets everyone know that they should listen up so everyone can quickly and accurately be accounted for. The actual roll call should begin as follows:

“Attention all aircrews, this is High Bird. Roll call will now begin.”

High Bird – **“CAP 4635, over.”**

4935 responds – **“4635, Ops normal”**

High Bird – **“WASAR 34E, over.”**

34E responds – **“34E, Ops normal”**

All aircraft will respond in the order they are called. Again, the above examples gives the High Bird crew all the information they need to know. They already know where you are and now they know you are safe and continuing the mission. At the conclusion of roll call, High Bird should always ask for any remaining aircraft not called to check in. This may present some interesting situations if there are aircraft responding that were not accounted for previously, and it does happen. The High Bird crew can simply check off each aircraft as it checks in under the appropriate column. This section of the High Bird form is used by noting above column 10-1, the first check in time.

If High Bird becomes operational at 0910. The first roll call will then be at 0930. Each aircraft that is on station or on the High Bird list, either having been on the list at launch, or has launched since, should be checked off under that column once roll call is complete. Normally, roll call for tactical teams and ASTs will occur at 15 minutes before and after the hour. The same communications principles apply as with aircraft roll calls. On occasion it may be necessary to conduct roll calls for aircrews and ground teams at the same time to minimize radio traffic.

D. Target Reports

A Target report or sighting verification request should be made in a routine manner. If an aircrew sights a target that could be the missing plane, or a clue that could lead to its recovery, communications should be as brief as possible. ICS as a rule discourages the use of code words. However, the news media as well as private citizens could be monitoring our communications for any word of a possible sighting. If the Incident Commander authorizes it, Air Operations will brief a code word or phrase to be used if a clue or sighting is made. It could be as simple as, “eagle”, or routine as, “switch to the alternate frequency.” Plain English and brevity incorporating the code word is the rule:

“High Bird, CAP 4690 has Eagle, request AST, over.”

Or

“High Bird, CAP 4635, switch to the alternate frequency, over.”

High Bird should then call Mission Base and pass on the request or code word, getting back to CAP 4690 or 4635 with instructions passed on by the IC or his staff. This is one of the very few times when detailed information will need to be passed, including location (Lat/Long), description of sighting and identification of landmarks to facilitate an additional look by another aircraft, or to guide a ground team to the location.

Note that there is no indication of urgency for such a request, nor any indication of what “Eagle” might be or that switching to an alternate frequency is anything else but a routine procedure. However, the Incident Command Post will know exactly what it means and recognize the need to follow up with coordination and communications. All aircrews should also immediately recognize the code word, and cease all unnecessary communications, yet continue their missions until told otherwise. High Bird should ensure that all aircrews are doing just that.

High Bird should be prepared to be flexible in response to a possible sighting. Depending on the clues and the situation, aircrews reporting possible targets may be instructed to record the location and continue their search of the grid. In other cases, aircrews may be instructed to loiter over the location of the target and standby to direct a ground team or a helicopter for closer inspection.

E. Crew Comfort

At one time or another, even the most experienced aircrew get sick or has to relieve themselves. All High Bird should hear is:

“High Bird, CAP 4690 request RTB for Crew Comfort, over.”

High Bird should quickly acknowledge the request and inform Mission Base that 4690 is RTB for crew comfort issues. Unless the Incident Command Post wants to know why, High Bird and everyone else do not need to know any further details.

F. Collision Avoidance Systems

Whenever possible and available, G-1000 aircraft equipped with the Traffic Information System (TIS) should be assigned to the High Bird role so that it could provide situational awareness to incident aircraft in the search area. TIS is an aircraft collision avoidance system designed to reduce the incidence of mid-air collisions between aircraft. Based on the local air traffic control radar, it monitors the airspace around an aircraft and warns pilots of the presence of other transponder-equipped aircraft which may present a threat of mid-air collision. TIS has limitations that include the following:

- It is useful only within 50 miles of a local ATC radar.
- It only shows aircraft equipped with transponders. Aircraft without transponders will not be displayed on the TIS.
- It only tracks the 8 nearest targets
- It is a line of sight system and has limited effectiveness in mountainous terrain.

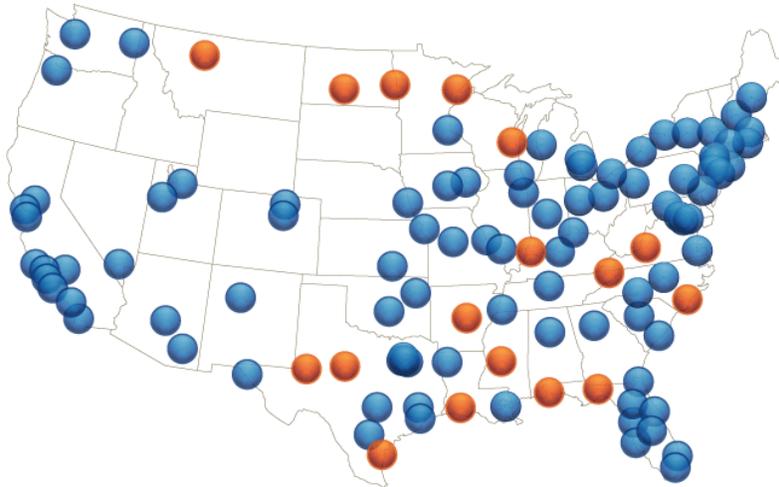
High Bird aircrews should be encouraged to use TIS to keep track of incident aircraft and provide warning if transient aircraft are in the search area. Table 2 shows a map of the United States showing TIS coverage.

TABLE 2 – TRAFFIC INFORMATION SYSTEM COVERAGE

TIS Coverage as of 3/1/2006

 = TIS sites proposed to remain active  = Proposed TIS sites to be decommissioned*

** These sites remain active as of 3/1/2006. Roll your cursor over the orange circles to view the proposed decommissioning date.*



5. EMERGENCIES

A. In Flight Emergency Procedures

In flight emergencies involving search or incident aircraft can occur at any time. When an aircrew experiences an in-flight emergency, they must broadcast their situation and requests for assistance in clear and in plain language. When anyone hears, “**MAYDAY!**”, everyone but High Bird stops all communications, continue the mission, yet standby for further instructions.

High Bird should follow the following procedures:

(1) Acknowledge the emergency and confirm which aircraft has the emergency with the following call:

“CAP 4600, this is High Bird. Confirm you have an in-flight emergency?”

(2) Attempt to verify the nature of the emergency and the distress aircraft's current location. High Bird should also attempt to obtain the pilot's intentions whether he plans to divert to an emergency airport or make a forced, off airport landing.

(3) Once High Bird verifies the aircraft's identification, the crew should fly toward the distressed aircraft's assigned area and obtain visual contact with the aircraft or contact a closer aircraft to move in that direction.

(4) Once the High Bird crew has eyes on the distressed aircraft, High Bird should trail the aircraft, if possible, until it lands at an emergency destination or is forced down in an off airport landing situation.

(5) If the distressed aircraft makes a forced landing or off airport landing, High Bird should loiter over the downed aircraft's location and be prepared to direct responding ground teams to the location.

(6) At all times, the High Bird aircrew should be keeping the IC and Mission Base notified and updated on this emergency and should be in communications with the local ATC so that local emergency responders can be directed on the scene as soon as possible.

The IC may decide to divert an aircraft from its current assignment to assist in the situation or simply require all aircraft to RTB. Such instructions will be transmitted through High Bird. The IC may decide to replace the High Bird with a fresh crew. This would imply an in-flight hand off of the High Bird mission.

B. Missing Search Aircraft Procedures

Search or incident aircraft may experience an in-flight emergency and not have a chance to transmit a “MAYDAY” distress call. Those situations may not be known until the aircraft misses a roll call. If an aircraft does not report its status during a roll call, High Bird should continue with the roll call until completed. Once completed, High Bird should then report to Mission Base that the missing

plane did not report in during roll call. High Bird should then attempt to make contact with the missing aircraft. If communications is not established, then High Bird should perform the following steps:

- (1) High Bird should ascend to a higher altitude and fly toward the missing plane's assigned search area and attempt to establish radio contact. The crew should also monitor for an ELT signal.
- (2) If High Bird is unsuccessful in establishing contact, the crew should fly at a higher altitude into the missing plane's assigned search area and attempt to establish visual contact with the missing plane.
- (3) If unable to establish visual contact, the crew should conduct a hasty visual search over the grid from a higher altitude to see if the missing plane has possibly made a forced landing or has crashed.
- (4) If High Bird is still unable to establish contact, High Bird should report to Mission Base and loiter at altitude to standby for further instructions.
- (5) The IC at this time will direct through High Bird that the most experienced aircrew assigned to a search grid be redirected to conduct a visual search of the missing plane's assigned grid. At this time, High Bird will remain on station and provide communications support for the search effort.
- (6) High Bird should attempt to continue its communications support of the incident until such time it is unable to monitor both the main effort and the missing plane search effort. At that time the IC may relieve High Bird or reassign another search aircraft as a second High Bird.
- (7) All other aircraft shall remain in their assigned search areas and continue their assigned taskings. As the situation develops, the IC may reassign additional aircraft to conduct ramp checks of emergency fields or conduct a route search from the missing plane's assigned grid back to its departure field.
- (8) Both the IC and High Bird should avoid a mass recall of search aircraft back to mission base and should use assets already in flight to conduct a search for the missing aircraft. In addition, the IC should re-task incident aircraft on the ground at mission base to assist in the search.

C. Missing or Distressed Ground Team Procedures

Due to the remote areas that ground teams are assigned to operate in, there is a high probability that a ground team can get into trouble or not be able to establish communications with High Bird or Mission Base. Ground teams can have vehicle accidents or breakdowns, run into illegal activity, have trouble with two legged or four legged wild life, or simply not be able to establish communications. As with missing aircraft procedures, High Bird should perform the following procedures:

- (1) Gain altitude and fly toward the missing ground team's assigned area while attempting to establish communications.
- (2) Once over the assigned area, attempt to make visual contact with the ground team. If visual contact is made, but no radio communications, hand and arms signals or signal panels should be used by the ground team for communications.
- (3) If the ground team is in obvious trouble, High Bird should report the situation immediately to Mission Base and standby to assist in directing emergency responders to the team's location.
- (4) If High Bird is unable to establish visual contact with the missing ground team, the crew should standby to direct and support aerial and ground searches of the missing team's assigned search area.

D. Alternate Communications Procedures

Both aircrews and AST's/ground teams are encouraged to make use of alternate means of communications. For air and ground teams, this can include cell phone calls and text messages to mission base. At crew briefings, both air and ground teams should be given cell phone numbers for Air and Ground Operations as well as for the IC and Safety Officer. Aircrews do not have to conduct a conversation with mission base when they call in by cell phone. Simply leaving a message or reporting their operational situation is sufficient without conducting a conversation.

Ground teams may be issued satellite phones to call in operational status. These calls shall be made direct to Mission Base. Some C-182Ts have satellite phones installed that can be used by aircrews to call in operational status.

Both air and ground teams might have to divert to an airport or location to make phone calls via public phone or within cell phone range.

When Mission Base staff receives operational status calls direct from the air and ground teams, this information should be relayed back to High Bird via the Incident Communications Team.

6. SITUATIONAL PROCEDURES

In the course of conducting the High Bird mission, the High Bird crew may find themselves facing a variety of situations that will require them to be pro-active in order to help resolve them. As stated earlier, High Bird does not have the authority to make decisions or change taskings. However, High Bird has the responsibility of raising concerns when they recognize something is not right.

Examples may include assigning two aircraft to the same grid or tasking an aircraft that is low on fuel to a follow on mission. The High Bird crew must be proactive in raising awareness with the Incident Commander and his staff when situations like these arise.

The following are some common situational examples and suggested solutions. There is not enough room in this SOP to list all possible situations and emergencies, but these examples will give High Bird crews ideas for how to handle unforeseen situations.

A. Convergent Searchers

A convergent searcher is someone who has heard about the search effort through the media or other sources and decides to fly into the search area either to check out what is going on or to join the effort. He may also be a relative or friend of one of the occupants of the missing aircraft.

Sometimes these pilots will monitor our frequencies and report in or will chime in during roll call offering their assistance. The recommended response from the High Bird crew should be to advise the convergent volunteer that his presence in the search area is a danger to other search aircraft and to request that he depart the area immediately. The High Bird crew may suggest that the convergent searcher proceed to mission base and report to the Incident Command Post where he can offer his assistance.

If the convergent volunteer insists in staying in the search area, he should be advised that the search effort may be terminated due to his presence and that a TFR may be imposed. If the convergent volunteer insists in staying in the search area, then High Bird should inform all search aircraft of the hazard, advise the Incident Commander of the situation and wait for further instructions.

B. ELT's/EPIRB's/PLB's

Early in the search the IC may have deployed aircraft to perform both a route and electronic search to acquire the missing plane's ELT. A formal grid search will commence if no ELT is heard. Sometimes, the crashed aircraft's ELT may not activate until later after the search has already started. In other cases, a distant and unrelated ELT may be heard in the search area. This results in a temptation for search aircraft to leave their taskings to pursue the signal.

If an ELT is heard in the search area, High Bird should advise all search aircraft of this and request that all search aircraft continue with their assigned taskings. High Bird should then note the time, altitude, Lat/Long location of where the ELT was first acquired and, if equipped with a DF, the direction from where the ELT is transmitting from. If High Bird does not hear the ELT,

High Bird should request that the aircraft that is acquiring the signal report this information.

High Bird, in turn, should report this information to the IC and await instructions. **At no time should High Bird leave station to pursue the ELT nor allow any aircraft to leave their assignment to do this unless directed by the IC or his staff.**

C. Erroneous Assignments

The Incident Staff can make mistakes in tasking aircraft. Examples include assigning multiple aircraft to the same grid or inappropriately tasking an aircraft. High Bird should be double checking assignments when in-bound aircraft check in and should raise awareness with the Incident Staff if they detect an error. While this is being resolved, High Bird may advise the incoming aircraft to loiter in a safe area until the Incident Staff provides a new assignment. Aircraft may also be inappropriately assigned. Examples include aircraft with insufficient fuel or a crew without appropriate training to carry out an assignment safely or an aircraft experiencing crew comfort issues after being in the air for a length of time. High Bird should be proactive to raise awareness of these issues with the IC and his Staff and the possible consequences of not changing these assignments.

D. In Flight Emergencies

If any aircraft declares an in-flight emergency, all aircraft should cease communications immediately. High Bird should attempt to contact the aircraft in distress and confirm the aircraft's identification, altitude, Lat/Long location and nature of emergency. The High Bird should try and determine the pilot's intentions such as whether he plans a forced landing off airport or attempt to fly to the closest airport. High Bird should also fly in the direction of the aircraft's location while advising the IC of the emergency. High Bird should be ready for both instructions from the IC and to relay information from the aircraft in distress.

E. Media Aircraft

The media will likely be monitoring our frequencies and will be well aware of our operations. On occasion media aircraft will fly to the search area to obtain film footage or more information about the effort. If they detect that we have found the target, they may attempt to fly into the search area. As with the convergent volunteer, High Bird should advise the media aircraft that their presence in the search area poses a danger to other incident aircraft and should request that the media leave the area immediately.

High Bird may advise the media aircraft to report to the mission base and contact the Incident Public Information Officer for information about the search effort. If the media insists on staying in the search area, then advise them the Incident Commander may impose a TFR over the search area. **At no time will High Bird or any other search aircraft provide information to media aircraft or other parties about the search effort over the radio.** They should refer any inquiries from the media to the Incident PIO.

NOTE: Sometimes media aircraft have been utilized in providing assistance to the incident air operations or may have been cleared by the Incident Commander, prior to arrival, to enter the search area so they can accomplish their news gathering mission.

F. Other Emergency Operations in the Search Area

There may be situations when other emergency operations may be taking place in the same area of operations or in an adjacent area that our incident aircraft may have to transit through to their assigned search areas. These situations may include a law enforcement incident or a wildland firefighting situation. In some cases, a TFR may be established by another agency, especially when firefighting aircraft are involved. Though Mission Base staff will be briefing aircrews of these situations, High Bird should be proactive in assisting incident aircraft in navigating around these areas as they transit between mission base and their assigned search areas. They should also keep the IC and mission base staff updated as these situations develop.

G. Aircraft Transiting Area of Operations

High Bird should be alert for general aviation aircraft that transit through the incident area of operations. Though the State Aviation SAR Coordinator can establish a TFR to allow incident aircraft to safely perform their missions without interference, this should only be done when absolutely necessary. All aircrews should always be situationally aware of air traffic in their area of operations. However, the High Bird aircrew can assist the incident aircrews by keeping an eye out for other aircraft in the area and alerting aircrews of their presence. The use of G-1000 aircraft equipped with TIS for the High Bird mission is one means of helping them establish situational awareness and allow them to alert incident aircraft of traffic in the vicinity. High Bird should also assist incident aircraft as they fly toward their assigned grid or search area to avoid transiting a grid to which an incident aircraft is already assigned. Identifying a flight corridor through the search area is the responsibility of the Mission Air Operations Staff. But the High Bird crew can assist by alerting inbound aircraft of which grids are occupied and where other incident aircraft are located.

7. POST MISSION PROCEDURES

A. Relief/Handoff Procedures.

The High Bird handoff will occur as described in Section 3 – C in this SOP when High Bird is relieved in-flight by another aircraft. However, there may be situations when there is no relief aircraft available. In those situations, the High Bird crew should announce to all aircraft that they are relieved as High Bird and that there is no replacement High Bird. They should direct all incident aircraft to communicate directly with the ground Communications Unit.

B. Debriefing and Documentation Procedures.

Upon completion of the High Bird mission and return to mission base, the High Bird crew should complete all ICS 220/CAPF104s and submit them to Air Operations with their High Bird worksheet and fuel receipts as appropriate. GPS tracks will be downloaded and the aircrew should be provided a print of their tracks. The crew should provide a PIREP on weather conditions in the search area and any possible safety hazards reported to them or observed. The departing High Bird aircrew should also make recommendations on how the next aircrew can better perform the mission.

8. SUMMARY

The intention of this SOP is to provide those aircrews tasked with the mission of High Bird the necessary information and guidance to perform this mission efficiently and effectively. This in turn helps make it possible for the overall incident objectives to be accomplished both safely and successfully. This document will standardize the High Bird procedures used in an incident involving multiple agencies.

It is important that aircrews tasked to perform this mission become very familiar with the principles, processes, and procedures outlined in this SOP. Attempting to learn the procedures outlined in this SOP while performing the High Bird mission is neither practical or safe.

As crews gain experience performing this important mission they may be able to provide lessons learned that can improve this document. Aircrews and other agencies are encouraged to submit recommended changes or additions to the WSDOT Aviation Emergency Services program manager.

APPENDIX 2 – WSDOT HIGH BIRD SORTIE CHECKLISTS

HIGH BIRD

A. Pre-Flight Operations

1. Determine orbit area or grid and magnetic heading to reach orbit area.
2. Determine orbit altitude.
3. Check in with Air Operations to record all aircraft from CAP, WASAR and other agencies on the High Bird log.
4. Note on gridded sectional grid assignments of all aircraft.
5. Check in with Ground Branch Director and record all ground teams on High Bird worksheet
6. Confirm that aircraft check-in will be at the bottom and top of the hour or altered because of multiple bases.
7. Confirm that Ground Team check-in will be at 15 minutes before and after the hour or combined with aircraft.
8. Check in with incident communications to confirm frequencies to be used as well as alternate frequencies.
9. Also check with incident communications to double check aircraft assignments.

B. In-Flight Pre-High Bird Procedures

1. Contact Incident CP with wheels up and call sign.
2. Contact High Bird (if you are not the first High Bird launched) and confirm which aircraft and assignments that they are currently monitoring.
3. Conduct formal hand over when in position to assume High Bird mission.
4. Contact all aircraft and Incident CP to announce that you have assumed High Bird role and that your new call sign will be "High Bird"

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HIGH BIRD

C. Conducting High Bird Operations

1. Contact all aircraft and ground teams five minutes and two minutes prior to roll call and announce, "All aircraft this is High Bird, roll call in 2 minutes (or five minutes)."
2. Begin roll call with, "Attention all aircrews, this is High Bird. Roll call will now begin."
3. Conduct roll call by tail number for WASAR aircraft, CAP 46XX for CAP aircraft and assigned call signs for other agencies such as County Sheriffs or WSP aircraft.
4. An example of how roll call should go :
High Bird – "**CAP 4635, over.**"
4935 responds – "**4635, Ops normal, out.**"
High Bird – "**WASAR 34E, over.**"
N2234E responds – "**34E, Ops normal, out.**"
5. If an aircraft misses roll call, attempt to contact them twice before moving on to the next aircraft. At the conclusion of roll call, come back to the missed aircraft and attempt to contact again. Take appropriate action per SOP if unable to contact.
6. Conduct roll call for ground teams using the same format.

D. Post-Flight Operations

1. Complete ICS-220/CAPF-104, High Bird worksheet & obtain fuel receipts for submission to Air Operations.
2. Submit GPS tracker & camera to download tracks & photos. Obtain screen print of tracks.
3. Submit PIREP for updated weather observations in search area.
4. Report any potential safety hazards observed or reported in the search area.
5. Submit recommendations to improve High Bird operations for the next aircrew.

