This volume implements AFPD 11-2, Aircraft Rules and Procedures; AFPD 11-4, Aviation Service; and AFI 11-202V3, General Flight Rules. It applies to Active Duty, Air National Guard (ANG), and Air Force Reserve Command (AFRC) HH-60 units. Major command (MAJCOM)/direct reporting unit (DRU)/field operating unit (FOA) level supplements to this volume will be coordinated with ACC/A3T and HQ AFFSA/A3OF prior to approval and publishing IAW AFPD 11-2. Copies of MAJCOM/DRU/FOA-level supplements, after approved and published, will be provided by the issuing MAJCOM/DRU/FOA to HQ AFFSA/A3OF, HQ ACC/A3TO, and the user MAJCOM and ANG offices of primary responsibility. Field units below MAJCOM/DRU/FOA level will forward copies of their supplements to this publication to their parent MAJCOM/DRU/FOA office of primary responsibility for approval prior to publication. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual 33-363, Management of Records, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at https://www.my.af.mil/afrims/afrims/afrims/rims.cfm/. Contact supporting records managers as required. Submit suggested improvements to this instruction on AF Form 847, Recommendation for Change of Publication, through Stan/Eval channels, to ACC/A3TV, 205 Dodd Blvd, Suite 101, Langley AFB, VA 23665.
This volume, with its complementary unit-specific Local Procedures Supplement, prescribes standard operational and weapons employment procedures to be used by all pilots operating USAF HH-60 aircraft. CSAR Combined Test Force (CTF) aircraft may deviate from the contents of this volume as outlined in individually approved test plans required for Test and Evaluation purposes. File a copy of all approved waivers with this volume.

**Note:** For the purpose of this instruction, the ANG is considered a MAJCOM. MAJCOM specific guidance is embedded within the text and prefaced with the MAJCOM acronym. Where such guidance applies to both ANG and Air Force Reserve Command (AFRC) the term Air Reserve Component (ARC) is used.

(920RQW) This supplement implements and extends the guidance of Air Force Instruction 11-2HH-60V3, 5 January 2011 and Air Force Policy Directive (AFPD) 11-2, Aircraft Rules and Procedures. It provides guidance and procedures for local operations of 301 RQS HH-60 at Patrick AFB. It applies to all aircrew assigned or attached to the 301st Rescue Squadron (301 RQS), Patrick Air Force Base (AFB), Florida (FL). Coordination/approval at the 920 RQW will be accomplished by an electronically signed AF Form 673, Air Force Publication/Form Action Request (AF Form 673). Do not use e-mails for final coordination/approval, but all e-mails will be maintained as part of the record set. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, Recommendation for Change of Publication; route AF Form 847s from the field through Major Command (MAJCOM) publications/forms managers. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, Management of Records, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at [https://www.my.af.mil/afrims/afrims/afrims/rims.cfm](https://www.my.af.mil/afrims/afrims/afrims/rims.cfm)

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Chapter 1

GENERAL INFORMATION

1.1. General:

1.1.1. This instruction outlines those procedures applicable to the safe operation of the HH-60 Helicopter. Used in conjunction with aircraft flight manuals, FLIP, and other applicable USAF directives it prescribes standard operational procedures for all USAF HH-60 aircrew. It is written for normal, training, and contingency operations.

1.1.2. The ACC Directorate of Aerospace Operations, Flight Training Branch, (ACC/A3TO) has overall responsibility for administration of this instruction.

1.2. Pilot Responsibilities. This regulation, in conjunction with other governing directives, prescribes guidance for HH-60 aircraft under most circumstances, but is not to be used as a substitute for sound judgment or common sense. Operations or procedures not specifically addressed may be accomplished if they enhance safe effective mission accomplishment.

1.3. Deviations. Deviations from this instruction require specific approval of the MAJCOM/A3 (NGB: NGB/A3) unless an urgent requirement or an aircraft emergency dictates otherwise. In this case, the pilot in command will evaluate all options and take the appropriate action to ensure the safe recovery of the aircraft, crew, and survivors.

1.4. Recommended Changes/Waivers:

1.4.1. Recommendations for improvements to this volume will be submitted on AF FORM 847, Recommendation for Change of Publication, to the parent NAF/MAJCOM. Approved recommendations will then be forwarded to HQ ACC/A3TO.

1.4.2. Unless otherwise specified, HQ USAF/A3O-A is the waiver authority for this instruction. EXCEPTIONS: MAJCOM/A3 is the waiver authority for individual aircrew requirements, but may not approve blanket or group (two or more aircrew) waivers. With MAJCOM approval, the Flying Wing CC is the waiver authority for crew complement/management policies. The Wing CC may delegate waiver authority to the OG/CC with operational control.

1.4.3. Request waivers through applicable channels to MAJCOM/A3,(or equivalent). As applicable, MAJCOM/A3s will forward requests to HQ USAF/A3O-A, with an info copy to HQ AFFSA/A3OF.

1.4.4. Waiver authority for supplemental guidance will be as specified in the supplement and approved through higher level coordination authority.

1.5. Terms Explained:

1.5.1. Will and shall indicate a mandatory requirement.

1.5.2. Should indicates non-mandatory desired or preferred method of accomplishment.

1.5.3. May indicates an acceptable or suggested means of accomplishment.

1.5.4. WARNING: Operating procedures, techniques, etc., which may result in personal injury or loss of life if not carefully followed.
1.5.5. **CAUTION:** Operating procedures, techniques, etc., which may result in damage to equipment if not carefully followed.

1.5.6. **NOTE:** Operating procedures, techniques, etc., which are essential to emphasize.

1.6. **Supplements.** All supplements will comply with AFPD 11-2 and AFI 33-360. Consider **Chapter 8** (Local Operating Procedures) and **Chapter 9** (Major Command Operating Procedures) as place holders for MAJCOM and Local Unit Supplements.

1.7. **Development of New Equipment and Procedures.** MAJCOM approval must be obtained prior to the testing of new procedures or equipment. Units are encouraged to suggest new equipment, methods, tactics, and procedures. Test suggestions are made via squadron and wing weapons officers through NAF/MAJCOM to ACC/A3TW using AF FORM 4326, Tactics Improvement Proposal.

1.7.1. Cabin Mission Equipment. Forward requests for approval of new cabin mission equipment (fast ropes, tag lines, etc.) through channels to HQ ACC/A3TV, DSN 574-7713, email: ACC/A3TV Standardization Branch

1.7.2. Cockpit / Electronic Mission Equipment. Forward requests for approval of new cockpit and electronic mission equipment (ELMOs, VTRs, etc.) through channels to ACC/A8RA, DSN 575-9688, email: ACC/A8RA (A4YR) H60

1.8. **Distribution.** HH-60 aircrew and CSAR associated agencies are authorized a copy of this instruction.
Chapter 2

GENERAL OPERATING GUIDANCE

2.1. Aircraft Commander Responsibility and Authority. All flights will have an aircraft commander designated on a flight authorization form, or equivalent, in accordance with AFI 11-401, Flight Management, as supplemented by MAJCOMs. ANG will comply with AFI 11-401, NGB Sup 1. Aircraft commanders are:

2.1.1. In command of all persons aboard the aircraft. Vested with the authority necessary to manage their crew and accomplish the mission.

2.1.2. Responsible for the welfare of the crew and the safe accomplishment of the mission. This begins upon notification and terminates upon mission completion. If the aircraft commander determines that conditions are not safe to prosecute the mission, the aircraft will not depart until the condition is corrected.

2.1.3. The final mission authority and will make decisions not specifically assigned to higher authority.

2.1.4. Charged with keeping the applicable commander informed concerning mission progress and/or difficulties. The final authority for asking for and accepting waivers affecting the crew or mission.

2.1.5. Responsible for ensuring aircraft security when away from home station.

2.1.6. The focal point for interaction between aircrew and mission support personnel.

2.2. Posse Comitatus Act. See AFI 10-801, Assistance to Civilian Law Enforcement Agencies. (N/A for ANG units on State missions in non-Title 10 status). CONUS: In cases of extreme emergencies, in order to prevent the loss of life, prevent human suffering, or mitigate great property loss, a commander may offer assistance to civil authorities and victims necessary to meet immediate needs until civil authorities can arrive. OCONUS: IAW SOFA/ROE. If possible, seek command approval prior to commencing these operations.

2.3. Drug Law Enforcement Agencies (DLEA) Support/United States Coast Guard (USCG). Units receiving requests for operational DLEA/USCG support (flight support, aerial reconnaissance, etc.,) should inform the requesting organization to redirect the request through:

2.3.1. FORSCOM J-3, Counter Drug, Fort McPherson, Ga., 30330-6000, DSN 367-5000 or commercial (404) 669-5000 for CONUS units.

2.3.2. Appropriate theater J-3 for overseas units.

2.3.3. Operational DLEA requests will be routed through appropriate command channels, in turn through MAJCOM, as applicable. Units should not respond directly to drug law enforcement agency requests.

2.3.4. Requests for non-operational support (equipment loans) should be referred to the installation commander who will staff the request through the appropriate Regional Logistics Support Office (RLSO).

2.4. Medical Evacuation.
2.4.1. **Aeromedical Evacuation Missions.** Medical evacuation flights may be operated to transport seriously ill or injured persons, and/or to transport medical personnel, equipment, or supplies under emergency conditions when other means are not suitable or readily available. Ensure all mission requests are coordinated through the appropriate Rescue Coordination Center (RCC).

2.4.2. **Medical Assistance.** If one or more qualified pararescuemen are immediately available, deployment of aircraft will not be delayed pending arrival of a local flight surgeon/physician.

2.5. **Aircrew Qualification.** Crewmembers occupying a primary position during flight must be H-60 qualified and current for the mission events to be flown, or conducting training/recurrency for that crew position/mission IAW AFI 11-2HH-60, Vol 1, *HH-60-Aircrew Training*. Otherwise, AFI 11-202, Vol 1, *Aircrew Training*, AFI 11-401, and MAJCOM supplements apply.

2.6. **Crew Complement.** The minimum crew is two pilots and flight engineer for all flight operations except those specified in Table 2.1 or as waived IAW 1.4.2.1 All low-level maneuvers involving flight below 500 feet AGL, except profiles listed in the table, require two qualified scanners. During engine running crew changes and other ground operations when the engines are running, a minimum of one pilot will be strapped in and monitor the controls at all times. The term “Co-Pilot (CP)” in Table 2.1 is only used to reference a qualified pilot that is not considered an Aircraft Commander qualified in the events being flown. A second Aircraft commander may be used in lieu of a “CP”. In addition, a MAJCOM designated Flight Test Engineer (FTE) may fly in place of a copilot IAW AFI 11-401 para 1.12.1. FTEs will not have control of the aircraft during critical phases of flight.

Table 2.1. **Crew Complement.**

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<td>Peacetime SAR/ALERT</td>
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<td>NVG TAC/NVG WATER OPS/NVG REMOTE/SHIPBOARD OPS/NVG EPs</td>
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<tr>
<td>SIMULTANEOUS AIR REFUELING</td>
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<td>MAINTENANCE GROUND RUN <em>(Note 3)</em></td>
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NOTES:

1. FCF crewmembers must be certified IAW AFI 11-2HH-60V1, AFI 21-101, Aerospace Equipment Maintenance Management, and applicable MAJCOM directives, and designated in writing (AF Form 1381, USAF Certification of Aircrew Training or AF Form 4348, USAF Aircrew Certification). When certified crewmembers are not available, non-certified crewmembers may be designated by the squadron/deployed commander or his/her representative on the flight authorization.

2. Guardian Angel (GA) PJ/CRO personnel will be utilized IAW AFI 16-1202V3 or equivalent when published. The use of medically qualified personnel other than GA is authorized during peacetime SAR or combat MEDEVAC missions based on GA availability.

3. Aircraft taxi or flight is not permitted. FE must be engine run certified. Two pilots are authorized to perform maintenance ground runs without an FE present after a qualified aircrew member has accomplished a preflight. An engine run certified FE or pilot may perform maintenance ground runs with engine run qualified maintenance personnel during non-rotors turning operations. The pilot crew position is considered any HH-60G qualified pilot/copilot.

4. Or an additional HH-60G qualified FE.

5. NVG Water Operations Scanner Certification has been removed from AFI 11-2HH-60v1. Units currently utilizing this position for Left Scanner duties during NWOPS are grandfathered until 31 Dec 2010 to upgrade individuals to NWOPS. Only personnel certified prior to the release date of this publication are grandfathered.

2.7. Passengers. DOD 4515.13-R, Air Transportation Eligibility, establishes criteria for passenger movement on DOD aircraft. AFI 11-401 provides further guidance on orientation and public affairs travel. Refer to these publications directly. In all cases, passengers will be manifested on DD Form 2131, Passenger Manifest.

2.7.1. Passengers will not be carried on flights involving low level, tactical mission events, pilot recurrency, air refueling, AHC, unusual attitudes, or water operations. These restrictions do not apply when passengers are operating under the restrictions of AFI 11-401 and MAJCOM guidance for familiarization flights, are designated as Mission Essential Personnel (MEP), or otherwise approved by the OG/CC. Passengers will not be carried on any flight involving practice emergency procedures. Comply with AFI 11-401 when flying MEP when an unqualified pilot has access to the controls.

2.7.2. Space-required. DOD 4515.13-R lists several categories of passengers, not previously mentioned, who are authorized official travel on DOD aircraft. COMAFFOR determines and approves eligibility for all space required categories and may be delegated to the OG/CC with TACON of the aircraft. The following exceptions do not apply:

2.7.2.1. Restrictions. There are no restrictions on mission events. Passengers will be restrained by the safest means possible within mission constraints/cabin configuration
requirements. Aircraft Commander will ensure that supported forces are briefed on the mission profile and mission events before flight.

2.7.2.2. Restrictions. Both pilots must be fully qualified unless excepted by AFI 11-401, paragraph 1.12 (Requirements for Pilots in Dual-Controlled Aircraft). Simulated EPs are prohibited (Exception: EPs required for the purposes of a functional check flight are authorized. In this context, personnel on board are required for mission accomplishment. Limit personnel to absolute minimum required). Other mission events are authorized. Passengers will be seated with belts fastened during threat maneuvers. Aircraft Commander will ensure that supporting forces are briefed on the mission profile and mission events before flight.


2.8.1. Unless stated otherwise in MAJCOM supplements to AFI 11-401, OG/CC or equivalent with Operational Control (OPCON) is the approving authority.

2.8.2. Crew chiefs and maintenance/logistic support personnel are required to wear nomex flight gear when performing in-flight duties.

2.9. Interfly. Interfly is a temporary arrangement between OG/CCs or equivalent to permit the exchange or substitution of aircrew members and/or aircraft between rescue units to accomplish flying missions. Normally, interfly should be limited to specific operations, exercises, or special circumstances. However, it may be used for events of longer duration such as unit conversion to another model design series (MDS). The MAJCOM/A3 (NGB/A3) is the approval authority for qualified H-60 crewmembers from other US military services. AFI 11-2HH-60V1, HH-60 Aircrew Training, specifies HH-60 difference qualification training for H-60 pilots from other US military services. When qualified H-60 pilots from other US military services fly at a set of controls, a current and qualified Air Force IP will occupy the other set of controls. The training being conducted supports specific flying training not available through AETC formal training courses.

2.9.1. Interfly approval is not required for:

2.9.1.1. 34 WPS Aircrews and Students.

2.9.1.2. CTF aircrews assigned or attached to ACC, AFMC and AFRC.

2.9.1.3. MAJCOM (flying unit owning aircraft) approved Joint Exercises.

2.9.1.4. MAJCOM Realistic Training visits.

2.9.1.5. HHQ Unit Visits, SAVs, Formal Visits, ORIs, and OREs.

2.9.1.6. Senior Supervisory crewmembers approved IAW AFI 11-401.

2.10. Alert Personnel/Duty. Comply with Air Tasking Order (or equivalent) for alert requirements and response times. Squadron/Deployed CC’s determine the length of tours, flight duty periods, crew rest requirements, and scheduling IAW AFI 11-202, Volume 3, General Flight Rules, para 9.4 and MAJCOM supplement.

2.11. Alert Aircraft. Maintain aircraft on alert status as follows:

2.11.1. Park the aircraft in a designated alert parking area to expedite taxi and takeoff.
2.11.2. Plan preflight validity periods to limit the need to update the preflight during an alert period. Should the aircraft remain on alert for more than 72 hours, regardless of whether it has flown or not, a complete aircrew preflight and hover check is required.

2.11.3. The alert aircraft may be flown for purposes other than actual alert missions provided the following conditions are met:

2.11.3.1. Alert requirements can be met with sufficient fuel to meet mission requirements.

2.11.3.2. Communication contact is maintained with the primary controlling agency.

2.11.3.3. Controlling agencies are notified any time the alert aircraft departs the local area.

2.11.4. Rescue Equipment. All hoist equipped alert aircraft will carry an alternate insertion/extraction device on board as an alternate means of insertion/extraction in the event of hoist malfunction/failure.

2.11.5. Thru-Flight Inspections.

2.11.5.1. IAW T.O. 00-20-1-WA-1, the maintenance thru-flight inspection is a between flights inspection and will be accomplished after each flight when a turnaround sortie, continuation flight or continuation of alert is scheduled and a basic post-flight inspection is not required. The thru-flight inspection consists of checking the aerospace vehicle for flight continuance by performing visual examination and/or operational checks of certain components, areas, or systems, according to established TOs to ensure that no defects exist which would be detrimental to further flight. An alert crewmember or other HH-60 aircrew member designated by the Mission Commander will be present during the thru-flight inspection or at the completion of the thru-flight inspection to ensure all cowlings/access doors are secure and to check the areas in which the inspection and/or maintenance was performed.

2.11.6. Aircrews should perform HIT/Hover/Hoist Checks (probe, weapons, IEWS preflights, as required). Once accepted for alert, make the following entry in the AFTO FORM 781A, MAINTENANCE DISCREPANCY AND WORK DOCUMENT: “Aircraft accepted for alert_______(time/date). Hit Check, Hover Check, and Hoist Check performed”. To ensure integrity of the crew preflight, an alert crewmember will be present whenever maintenance is performed, or at the completion of the maintenance, to check the area in which maintenance was performed. If an alert crewmember is not available, Mission Commanders may authorize another HH-60 aircrew member to check the area in which maintenance was performed and ensure the alert crew is briefed on the maintenance actions. The check must be performed prior to flight.

2.12. Alert Procedures. Alert crews will conduct a general briefing at the beginning of each alert period. Alert crews are authorized to prepare TOLD and DD Form 365-4, Record of Weight and Balance Personnel, using the worst weather conditions expected during the alert period. This TOLD will be used only for alert scrambles. If the alert aircraft is flown for other reasons, new TOLD will be accomplished.

2.12.1. When an alert crew change occurs, and the same aircraft remains on alert, there is no requirement to perform another preflight. Should the aircraft remain on alert for more than 72
hrs, regardless if it has flown or not, complete another full Dash 1 aircraft preflight and hover check. When an alert aircraft changes, the alert crew will perform an aircraft preflight, hover check, and cocking of the aircraft. If the alert crew is not available, a “buddy preflight” crew may be used to preflight, hover and cock the aircraft at the Mission Commander’s discretion.

2.13. Reconstitution of Alert. Whenever a squadron’s alert forces have been launched on a mission, the squadron should make every effort to reconstitute its alert capability to assist/meet additional taskings.

2.14. Armed Crewmembers. Squadron commanders may direct arming of crewmembers as deemed necessary by mission threat analysis. During all operations with an aircraft weapon system on board, an aircrew member will be armed. Protect these weapons, and other installed weapons, in compliance with AFI 31-207, **Arming and Use of force by Air Force Personnel**, AFPD 16-8, **Arming of Aircrew, Mobility, and Overseas Personnel** and AFI 31-101, **Integrated Defense**. If a crewmember is armed for the sole purpose of providing security for an aircraft weapon system, they may be armed with any approved Air Force sidearm or GUU-5/M-4/M203.

2.15. Armed Passengers. The aircraft Commander is the final approving authority for armed passengers. At the discretion of the aircraft commander the FE/AG may collect, secure, and transport weapons for passengers who are authorized to carry them.

2.16. Utilization of Civilian Law Enforcement or Medical Personnel. With Wing/CC approval, civilian law enforcement or medical personnel may be transported to mishap/disaster sites. During life or death SAR missions already in progress, when wing commander approval cannot be obtained in a timely manner, the aircraft commander may approve civilian law enforcement/medical personnel to fly aboard their aircraft. (N/A for NGB units on state missions).


2.18. Crew Rest Period. IAW AFI 11-202V3, Chapter 9 and MAJCOM Supplement and Para 2.10

2.19. Deployment Spin-up. Prior to known/anticipated contingencies, units will complete ground and flight pre-deployment spin-up training. Spin-up training will begin within 90 days of required delivery date (RDD). OG/CC is the approval authority for the spin-up training syllabus and waiver authority to begin spin-up training beyond 90 days of the RDD.

2.20. In-Flight Supervision.

2.20.1. Ips and Flight Lead (FL)-qualified squadron supervisors may permit a wingman to lead during limited portions of a CT mission, if appropriately briefed. This provision will only be used to allow wingmen to practice events in which they are already qualified or to help determine if they are ready for FLUG. In either case, the IP/supervisor is responsible for the flight.

2.20.2. FLs may delegate the tactical lead to their wingman for specific tasks or may fly in a chase position on their wingman for authorized events. While leading in this capacity, the wingman may make decisions for the flight, but the FL will retain overall authority and responsibility.
Chapter 3

MISSION PLANNING/FLIGHT PREPARATION

3.1. Responsibilities. The responsibility for mission planning/preparation is shared jointly by the individual aircrew members, and the operations and intelligence functions of the organization.

3.2. Briefing/Debriefing Requirements. Refer to Attachment 2 for briefings. The aircraft commander or flight lead is responsible for presenting a logical briefing that will promote safe, effective mission accomplishment. The aircraft commander or flight lead is responsible for ensuring appropriate mission/event briefings are completed prior to accomplishment. Mission elements/events may be modified and briefed airborne as long as flight safety is not compromised. Flight lead/aircraft commanders will ensure changes are acknowledged by all flight members/crewmembers. If feasible, an alternate mission will be briefed. The alternate mission must be less complex than the primary mission.

3.2.1. Additionally aircraft commanders and/or flight leads will:

3.2.1.1. Ensure all crewmembers/passengers attend the briefing unless previously coordinated with squadron supervisors and aircraft commander/flight lead. Anyone not attending the flight briefing must receive a briefing on mission events, duties and emergency procedures prior to flight.

3.2.1.2. Ensure specific items pertinent to all mission events are covered. Those items understood by all participants, and written in squadron standards, may be briefed as “standard.” Units may augment these guides as necessary and reproduce in user-desired format as long as all items are listed.

3.2.1.3. For all low-level mission briefings (flight below 500’ AGL) and AHC sorties, brief low altitude flight maneuvering, gross weight, the onset of blade stall angle of bank, and maximum sustainable angle of bank at planned maneuvering speed, obstacle/ground avoidance, and aircraft performance limitations based on the worst-case conditions for the intended sortie. For low altitude training over water/featureless terrain, include specific considerations with emphasis on minimum altitudes, and spatial disorientation, and aircraft deconfliction.

3.2.1.4. When dissimilar aircraft are flown in formation, brief flight responsibilities, proper formation position (minimum rotor separation based on the largest rotor diameter), aircraft unique capabilities, tactics, limitations and requirements for each phase of flight.

3.2.2. All missions will be debriefed. Consider using approved, portable VTRs and PFPS trails to enhance capturing lesson’s learned.

3.2.3. Prior to each flight the aircraft commander will ensure all passengers are briefed IAW TO 1H-60(H)G-1CL1 and applicable MAJCOM guidance.

3.2.4. Complete Operational Risk Management prior to flight. Evaluate risk and mitigate appropriately for the flight.

3.3. Weather Minimums:
3.3.1. **VFR Minimums.** The following minimum weather criteria (ceiling/visibility) apply during all VFR training operations (unless higher is specified):

3.3.1.1. **Day training:** 700/1. EXCEPTION: Group CC’s may establish weather criteria less than those specified for flights which only require hover operations (eg. hover checks, FCFs). In no case will weather minimums be less than AFI 11-202V3 requirements.

3.3.1.2. **Night training:**
   - 3.3.1.2.1. 1000/3 for unaided and night practice emergency procedures.
   - 3.3.1.2.2. 700/2 for NVG operations.

3.3.1.3. **Operational Weather Minimums.** In no case will weather minimums be less than AFI 11-202V3 requirements.

3.3.2. **IFR Takeoff Minimums:**

3.3.2.1. **Training Flights.** Weather equal to or higher than published approach minimums (ceiling and visibility), but no less than one-half mile (RVR 2400) at the departure airfield.

3.3.2.2. **Operational Flights:**

   3.3.2.2.1. Without a departure alternate, visibility at the departure point must be at or above the published visibility minimums required for the appropriate aircraft category for an available approach.

   3.3.2.2.2. With a departure alternate, weather at the departure point must be equal to or above one-half the published visibility minimums required for the appropriate aircraft category, but no less than one-quarter mile (1200 RVR) for an available approach. Published visibility is required if a copter-only approach is used at the departure airfield.

   3.3.2.2.2.1. The departure alternate prevailing weather must be equal to or better than the lowest published approach ceiling and visibility minimum (no lower than 1200 RVR), and forecast to remain so for 1 hour after the time you would expect to arrive.

   3.3.2.2.2.2. The departure alternate should be within 60 minutes flight time.

3.3.3. **Life or Death Missions.** Wing commander may approve helicopters to take off with visibility less than the requirements of paragraph 3.3.2.2 if an appropriate course of action is available, and a detailed plan developed and briefed. Weather at the recovery and landing areas must meet the minimum requirements of AFI 11-202V3.

3.3.4. **Destination IFR Requirements.** IAW AFI 11-202, Vol 3.

3.4. **Adverse Weather Planning:**

3.4.1. Comply with AFI 11-202V3 and applicable MAJCOM guidance. Do not fly into rain shafts beneath cumulonimbus clouds.

3.4.2. **Wind Restrictions:** IAW the Flight Manual.

3.5. **Fuel Planning:**
3.5.1. Fuel Conservation. Aircrews will manage aviation fuel as a limited commodity and precious resource. Design procedures for optimal fuel use and efficiency throughout all phases of mission execution, to include ground ops, flight profiles. Incorporate enroute tasks to make maximum use of airborne training opportunities. Terminate the sortie when mission and training objectives are met.

3.5.2. For instrument flight planning purposes, when visibility-only criterion is used, or when destination weather information may be unreliable, fuel requirements for descent, approach, and missed approach will be 500 pounds. Ensure sufficient fuel remains to arrive at the alternate with appropriate reserves.

3.5.3. For all flights, VFR or IFR, plan to arrive at destination with a 500-pound total fuel reserve. This will allow for approximately 20 minutes of usable fuel.

3.6. Area Maps.

3.6.1. Local Area Hazards Map. The squadron commander will appoint one person as OPR for the Local Area Hazards Map and PFPS/FalconView databases. Positive hand-off of Chart update manuals (CHUM) duties will be utilized to ensure continuity and CHUM completion during deployments, TDY’s, etc. Hazards and obstacles to local operations and frequently used areas will be plotted on a suitable chart and displayed. Changes will be made as received and brought to the attention of all crewmembers. The chart will be reviewed monthly with the reviewer annotating new hazards and ensuring PFPS/Falcon View databases are updated as well.

3.6.2. VFR Flight Maps. Aircrew flying VFR will include sectional charts or PFPS/Falcon View (or PFPS/FalconView produced maps) with airports/heliports, airspace boundaries, airways, MTRs, parachute jump and SUAS boundaries displayed during mission planning. Low-level charts and route books used during flight will be annotated with the location and dimensions of Class B/C/D airspace, civil/military airfields and other potential high density traffic areas (e.g., parachute activity areas, ultra light/hang glider sites, etc.) within 5NM of planned route. Annotate and brief applicable airfield approach control frequencies in the vicinity of Class B/C/D airspace, MTR crossing, and any other possible areas of conflict. ECHUM and Manual CHUM overlays will also be displayed on PFPS/FalconView produced VFR Flight maps as the top overlay unless safety or map readability are adversely affected. **WARNING**: Sectional Charts do not accurately depict the location of hazards. Use extreme caution when utilizing Sectional Charts near charted obstacles.

3.7. Landing Zone Surveys:

3.7.1. All landing zone agreements must be approved by the Wing CC/COMAFFOR (or delegated representative). Unit tactics offices must ensure that surveys are conducted and updated IAW AFI 13-217, *Drop Zone and Landing Zone Operations*.

3.7.2. Squadron commanders must ensure thorough site surveys are conducted on all training and operational Helicopter Landing Zones (HLZ). All obstructions and/or terrain that could potentially damage the aircraft must be annotated on the survey.

3.7.3. Single-ship training LZs must provide a minimum of 25-foot clearance from any portion of the helicopter to the nearest obstacle. Multiple-ship LZs must be large enough to
provide a minimum of one rotor diameter width separation between aircraft, and 25 feet of
clearance from all other obstacles.

3.7.4. The following items will be included on survey diagrams: LZ suitability (size, shape,
slope, surface condition), site elevation, obstructions, orientation of the long axis,
recommended approach and departure headings, prominent landmarks, and any
restrictions/limitations (hover operations only, single-/multi-ship operations, etc.).

3.7.5. At a minimum, surveys must be updated/reviewed every 6 months.

3.7.6. **Exercise HLZ surveys.** If an aircrew HLZ survey is not possible, squadron
commanders may authorize one of the following methods, in order of priority: CCT or
ground party, satellite photography survey, or thorough map survey (1:50,000 scale map or
less). Aircrew will exercise extreme caution when operating into sites that were surveyed
with one of these methods.

3.8. **Low Level Surveys:**

3.8.1. Prior to training or exercise operations below 500 feet AGL, a survey of the route/area
will be accomplished as follows:

3.8.1.1. An extensive map study will be made of the selected routes and areas. All
obstacles and hazards 50 feet above terrain or natural vegetation within the boundaries
will be annotated on the flight map. The Chart Updating Manual (CHUM) will be used to
ensure current obstacles are depicted on maps.

3.8.1.2. Surveying an area rather than a specific route for low level navigation will
increase the effectiveness of the training by allowing greater flexibility in planning
navigation legs. If surveying the entire low level area is not possible, ensure the area
within 5 NM of the route is surveyed.

3.8.1.3. The survey will be accomplished during daylight hours, and will be conducted at
the lowest practical altitude.

3.8.1.4. If low-level helicopter flight operations have not been conducted in that
area/route for 6 months, a resurvey will be accomplished.

3.8.1.5. Units deployed for training, operational, and exercise missions do not have to
conduct their own flight surveys if a current master map and flight survey is provided to
them by a DOD or NATO military agency that operates helicopters.

3.9. **Illumination Requirements for Helicopter Landing Areas:**

3.9.1. Night operations into unprepared/unlighted areas may only be conducted using NVGs.
**EXCEPTION:** Helicopters may be authorized by the squadron commander to operate into
prepared/unlighted areas unaided, provided the crew is aware of all obstacles, and aircraft
lighting provides sufficient illumination to clearly see the approach path and landing surface.

3.10. **Altitude Restrictions.** Conduct all operations at or above 500 feet above ground level
(AGL) except when lower altitudes are required for takeoff, departure, arrival, landing,
operational missions, training flights in approved areas or routes, or approved exercise missions.
Pilots must ensure that flights conducted below 500 feet do not create a hazard to persons or
property on the surface.
3.10.1. Helicopters are limited to a base altitude of 100 feet AGL during day and night tactical NVG operations. **EXCEPTION:** Flight down to 50 feet AGL is authorized during preplanned tactical missions. Approval to fly at 50 feet AGL is limited to specific route segments for the purpose of defeating threats. Approval authority is squadron CC/DO/ADO, or any H-60 tactical mission qualified IP.

3.10.2. Minimum en route altitude for unaided night navigation, both operationally and for training, is 500 feet above highest obstacle (AHO) within 5 NM.

3.10.3. Minimum en route altitude for non-tactical NVG flight is 500 feet AGL.

3.10.4. Pilots must compute a minimum safe altitude for each leg of a low-level route. **EXCEPTION:** For flights conducted in a designated low-level area, one minimum safe altitude may be computed for the planned area of operation. The heading and altitude must provide a minimum of 1000 feet (2000 feet in mountainous areas) above the highest obstacle within 5 NM either side of the planned route centerline. This altitude will be used in the event of inadvertent IMC.

3.10.5. Obstacle Clearance. If known obstacles cannot be visually identified prior to 1/2 NM, climb to a sufficient altitude to ensure obstacle clearance, and do not descend to planned en route altitude until obstacle clearance is assured.

3.10.6. NVG low level operations may be conducted down to 100 feet (50 feet on approved flight legs) obstacle clearance with sufficient available ambient illumination equivalent (approximately 5% moon disk) for operations using ANVIS, F-4949s or PNVGs. Even if the minimum illumination as stated above is available, the decision on whether there is sufficient available illumination to safely conduct NVG operations down to minimum altitudes rests entirely with the aircraft commander or flight lead.

3.10.6.1. When sufficient available illumination is not available, the minimum altitude is 500 feet AGL in non-mountainous areas and 500 feet AHO within 2 NM of course centerline in mountainous areas. Approaches should be accomplished with additional light sources (searchlight/LZ lighting). **NOTE:** For NVG VFR low level operations, mountainous areas are defined as areas where a 500-foot elevation change occurs within one-half NM.

3.10.7. With the exception of terminal operations, the minimum altitude for night over water flight is 100 feet AWL.

3.10.8. Helicopter Air to Air Refueling Altitudes. Air refueling training will be accomplished at a minimum of 1000 feet AGL. Training air refueling below 1000 feet AGL requires MAJCOM/A3/COMAFFOR approval.

3.10.8.1. For additional employment procedures and techniques refer to AFTTP 3-3.HH-60G *Combat Aircraft Fundamentals-H60G.*

3.11. **Minimum Equipment for NVG Operations:**

3.11.1. Operable Radar Altimeter at both pilot and copilot stations.

3.11.2. NVG compatible cockpit lighting.

3.11.2.1. Green/Blue chemlites are considered NVG compatible and may be used to augment lighting, or as backup lighting in the event of failed aircraft lighting. Chemlites
should not be used as a routine practice to correct a problem where maintenance should be performed, except for operational missions.

3.11.2.2. During overwater operations install low intensity chemlites over each exit and place a chemlite on all emergency egress window handles.

3.11.3. At least one of the following: an operational IR landing light, IR searchlight, variable intensity searchlight, or FLIR.

3.11.4. All primary crewmembers (pilot, copilot, FE, and AG) must wear approved NVGs. Do not fly with goggles that fail to meet the prescribed visual acuity standards.

3.12. Aircrew Flight Equipment Requirements:

3.12.1. Overwater aircrew flight equipment (HABDs, life preservers, anti-exposure suits, and life rafts) are not required when overwater flight is limited to short distances during takeoff/landing and anytime the aircraft is within autorotational distance of land. Additionally, life rafts are not required when cover is provided by a boat or hoist equipped helicopter. Units will define covership responsibilities in AFI 11-2HH-60 Vol 3, Chapter 8. At a minimum, response times, radio contact procedures and loiter times will be defined. During all other overwater flights aircrew will wear HABDs, all occupants will wear life preservers, a life raft will be carried, and anti-exposure suits will be worn IAW AFI 11-301v1, Aircrew Flight Equipment Program (ALS), and MAJCOM instructions. Battlefield Airmen and Special Operations Personnel are exempt from these requirements when wearing mission equipment and/or clothing that meets or exceeds protection afforded by standard aircrew flight equipment.

3.12.2. Survival Vest Requirements. Helicopter crewmembers will wear survival vests/Load Bearing Vest (LBV) on all flights departing the local traffic pattern (N/A Pararescue and Combat Rescue Officers).

3.13. Tool Kits. The flight engineer will have a tool kit on board for all flights departing the local traffic pattern. Individual units will establish requirements for tools to be included in these kits. As a minimum, the kit will include enough tools to remove and install chip detector plugs. Tool kits will have an inventory list for accountability and will be sealed. If the seal is broken, the flight engineer will inventory the kit and sign the accountability list prior to the next flight.

3.14. Publication Kits. Units will maintain one publication kit per PAI aircraft (N/A for 58 SOW). Prior to departure, the aircraft commander or designated representative will ensure a current kit is aboard the aircraft. Items duplicated in the kit need not be carried by crewmembers. Publication kits are not required during FCFs as long as a flight manual is carried. Units will tailor the contents of the kit to meet local requirements, and list these items in their local


3.14.2. Air Refueling Manual (Dash 20, until rescinded) and appropriate rotary wing sections of ATP-56(B).


3.14.6. DD Form 175, **Military Flight Plan** (CONUS).

3.14.7. DD Form 1801, **DOD International Flight Plan** (OCONUS).

3.14.8. AF FORM 15, **USAF Invoice**.

3.14.9. AF FORM 315, **USAF AVFuels Invoice** or SF 44, **Purchase Order - Invoice Voucher** (Storage Safeguard Form).

3.14.10. **DOD FLIP**: IFR and VFR Supplement, Flight Information Handbook, Enroute Low Altitude Charts for areas of operations (one each), Low Altitude Instrument Approach Procedures for areas of operations (two each), and Maps/Charts (sectionals, etc.)


3.15.1. **Hazardous Medical Equipment Aboard Helicopters**. Nonstandard medical equipment used during air evacuations should be regarded as potentially hazardous. Nonstandard electronic and oxygen equipment is an item designated by a manufacturer and model number that is not listed in the current "Status Report on Medical Material Items Tested and Evaluated for use in the Aeromedical Evacuation System," Brooks AFB, TX 78235. Authorization for medical material not listed in this report will be addressed to MAJCOM/A3/SG on an individual basis.

3.16. **TOLD**. Takeoff and Landing Data (TOLD) will be completed and briefed prior to takeoff. All computations on the TOLD card for takeoff will be annotated for initial takeoff. In-flight computations will be the minimum required for the intended operations. TOLD will be confirmed prior to initial landing to ensure operations are IAW para 4.16 of this instruction. The HOPS features of PFPS may be used to compute TOLD. It is the Flight Engineer’s responsibility for the accuracy of automated TOLD computed using HOPS.

3.17. **Weight and Balance Documentation**:

3.17.1. Units will maintain a current weight and balance book for each assigned aircraft. As a minimum, the book will contain:

3.17.1.1. Computed DD Form 365-4, **Weight and Balance Clearance Form F – Transport**, to reflect all missions. Canned DD Forms 365-4 are authorized.

3.17.1.2. Equipment Weight Listing (list of commonly carried equipment).

3.17.1.3. Standard Configuration Equipment Checklist and/or floor plan drawing.

3.17.2. A copy of the equipment checklist and equipment location drawing will be included in the back of each aircraft AF FORM 781 folder.

3.17.3. A new or corrected DD Form 365-4 need not be recomputed provided the initial takeoff gross weight (item 16) is not changed by more than 500 pounds. The flight engineer will compute in-flight crew/passenger/equipment movement to ensure CG limits are not exceeded. These computations will address the maximum number of personnel/equipment allowed in a specific compartment without exceeding CG limits. Although no written adjustments are required, the flight engineer will compute these changes and brief the aircraft
commander of the new CG and TOLD requirements. These computations will be briefed during the crew/mission brief or during flight, as required.

3.17.4. Use of the approved automated weight and balance system is authorized. Use the most current version of Automatic Weight and Balance System (AWBS) found at the following website: https://awbs.hill.af.mil

3.17.5. Zero fuel weight computations are required on the DD Form 365-4.

3.17.6. Passengers. Item 13 on the DD Form 365-4 will indicate the number of passengers in a compartment/seat/position, their weight, and the compartment/arm/station.

3.17.7. A crew member, normally the flight engineer, will verify basic weight and moment on the DD Form 365-4 matches the Chart C located on the aircraft. One copy of the completed DD Form 365-4 will be on the aircraft for the required mission.

3.18. Required Equipment/Aircraft Configuration:

3.18.1. Reference AFI 21-103, Equipment Inventory, Status and Utilization Reporting, and MAJCOM supplement for Mission Essential Subsystems List (MESL). The MESL is maintained by the respective weapons system manager at HQ ACC/A4MWH.

3.18.2. Aircraft will not be modified to secure, and/or install equipment, unless authorized by aircraft technical orders or DODI 5000-2 AF Sup 1, Operation of the Defense Acquisition System.  

3.18.2.1. Heli-Basket, Rescue Basket and Bambi Bucket are authorized when the crew is certified.

3.18.3. The final responsibility regarding equipment required for a mission rests with the Aircraft Commander. If one AC accepts an aircraft to operate a mission or mission segment without an item or system, this acceptance does not commit that AC, or a different AC, to subsequent operations with the same item or system inoperative. If the AC elects to operate with degraded equipment or aircraft systems, coordinate mission requirements (e.g., revised departure times, fuel requirements, maintenance requirements, etc.), prior to flight with the mission control agency to ensure the decision does not adversely impact follow-on missions.

3.18.4. If a minor inflight AFCS malfunction occurs which can be isolated, the flight may be continued at the pilot's discretion IAW the flight manual.

3.18.5. Additional crewmembers should be in a seat for takeoff and landing unless the installation of seats would compromise safe mission accomplishment.

3.18.6. A hoist cable quick splice device and V-blade knife will be carried on all hoist equipped aircraft.

3.18.7. Cargo/Equipment. Items requiring frequent access weighing less than 200 pounds may be secured with seat belts. Secure cargo/equipment items not requiring rapid removal during an aircraft or medical emergency. Reference TO 1H-60(H)G-5 for loading and restraint criteria.

3.19. Water Operations:

3.19.1. Operable Radar Altimeter at both pilot and copilot stations are required for both day and NVG water operations.
3.19.2. All required water hoist extraction devices will be on board, inspected, and readily accessible prior to low and slow deployments. Additionally, complete required rescue hoist checklists prior to final approach for hoist infiltrations or exfiltrations.

3.19.3. Live water operations training (actual deployment of personnel) requires coverage by a boat, hoist equipped helicopter, helicopter capable of deploying PJs and/or a life raft or H/K/MC-130 rigged for deployment of MA-1 survival kit(s)/ RAMZ. Cover ship will maintain line of sight communications with the deploying helicopter at all times.

3.19.4. Non-Live day water operations require a controlling agency (Coast Guard, ATC, Operations Desk, etc) to know the intended LAT/LONG for water operations, personnel on board and expected completion time prior to commencing. Line of sight communications is not required during actual water operations. Upon completion, the controlling agency will be contacted with your follow-on intentions. Non-live night water operations requires coverage by a boat, hoist equipped helicopter, helicopter capable of deploying PJs and/or a life raft, or H/K/MC-130 rigged for deployment of MA-1 survival kit(s)/ RAMZ. Cover ship will maintain line of sight communications with the deploying helicopter at all times.

3.19.5. Conduct all water training a minimum of 100 yards offshore.

3.20. Alternate Insertion/Extraction Operations (AIE). Reference AFTTP 3-3.HH-60G, Combat Aircraft Fundamentals--H60G, for additional information. WARNING For all AIE operations, it is the aircraft commander's responsibility to ensure all crewmembers are aware of the length of the rope(s). Failure to do so may result in serious injury to deploying personnel and/or damage to the aircraft. WARNING Devices used for non-live AIE training will be clearly distinguishable from operational equipment. Training devices will be configured the same as operational equipment. Only operational equipment will be used for live AIE operations. WARNING HH-60G crews will not use the rope ladder for fly away extractions during training. During contingencies, do not use unless threat to personnel remaining on the ground is higher than risk associated with in-flight rope ladder failure. If used in forward flight, altitude will be the absolute minimum; airspeed will not exceed 40 KIAS.

3.20.1. Alternate Loading. When use of standard seating is not possible due to mission requirements, personnel will be secured to the cabin floor using either a seat belt, gunner’s belt, or unit approved device or sit-harness.

3.20.2. Aircraft Configuration. All nonessential equipment not required for the mission may be removed from the cabin. OG/CC approval is required to remove the FE and AG seats. OG/CC may delegate this authority no lower than SQ/CC.

3.20.2.1. Crews may operate with the cockpit door(s) removed during combat operations, contingency operations and local training with OG CC approval. OG CC may delegate this authority no lower than the SQ CC or deployed Mission Commander. WARNING: Ensure cockpit equipment is secured to preclude inadvertant dropped objects and resultant damage to the aircraft or injury to ground personnel.

3.20.3. For rappelling operations, deploying personnel are responsible for aircraft rigging and proper hookup of rappelers. The deploying team is responsible for providing rappel ropes, harnesses, and rappel devices. FEAs or AGs will inspect all equipment and hookups to ensure configuration is IAW Chapter 6 of this volume.
3.20.4. For rope ladder operations, the flight crew and deploying team are responsible for providing, inspecting, and rigging rope ladders. Rope ladders will be attached using locking carabiners. Ladder(s) will be rolled/stacked and secured prior to flight. Refer to TO-00-25-245, *Testing and Inspection Procedures for Personnel Safety and Rescue Equipment* for guidance on rope ladder inspection and care.

3.20.5. For fast rope operations, the deploying team is responsible for providing the ropes and assisting the FE/AG in inspecting them prior to use, and rigging the aircraft.

3.20.6. Pararescuemen/CROs are authorized to use the Barrelman Hoist Technique IAW AFTTP 3-3.HH-60G.

3.20.7. Authorized Rescue Hoist Devices are: Forest Penetrator, Stokes Litter, Rescue Net, SKEDCO litter and Survivor’s Sling (Horse Collar). Only operational devices will be used for live hoists.

3.21. **Personnel Parachute Delivery:** **WARNING:** Remove rear Chaff/Flare Buckets for static line drops.

3.21.1. When conducting operations with jumpers from other services, the procedures outlined in this AFI and FM 3-21.220/AFMAN 11-420, *Static Line Parachuting Techniques and Tactics* and AFMAN 11-411, *Special Forces Military Free-Fall Operations*, will be used unless different procedures are authorized by the MAJCOM.

3.21.2. **Wind Limitations for Personnel Parachute Delivery.** Wind limits are IAW AFI 13-217, *Assault Zone Procedures*, and will be prebriefed by the jumpmaster.

3.22. **Maintenance Debriefing.** The aircraft commander (or designated crewmember) will debrief maintenance personnel on the condition of the aircraft and equipment. Make the following entries in the AF FORM 781A when appropriate:

3.22.1. Engines subjected to salt spray at __________ feet.

3.22.2. Hoist and (type rescue device) used in salt water.

3.23. **Helicopter Fuel Systems:**

3.23.1. Helicopter operations should not be conducted with any malfunction in the main fuel tank quantity or warning systems, except on emergency missions. In this case, the fuel tank involved must be fully serviced and visually checked.

3.23.2. Malfunctions of the Enhanced Fuel Quantity Indicating (EFQI) system should not affect main fuel quantity indications and do not restrict the crew from flying the aircraft. However, if mission requirements dictate the use of auxiliary fuel with a malfunction in the EFQI, the tank must be visually checked prior to takeoff, and a crewmember must be designated to monitor the transfer of auxiliary fuel to preclude damaging the auxiliary fuel transfer pumps.
Chapter 4

NORMAL OPERATING PROCEDURES


4.2. Equipment in the Cockpit. Ensure the area around and under both collective sticks is clear of all items that may interfere with proper movement of the collective.

4.3. Passengers Occupying Crew Positions. Any passenger occupying a crew position will be on intercom with all appropriate restraint devices worn. Passengers will not occupy a seat with access to a set of flight controls.

4.4. Copilot Maneuvering Policy. The following maneuvers will only be performed for training or currency by copilots under the supervision of a qualified instructor pilot at a set of controls:

4.4.1. Air Refueling Contacts. EXCEPTION: Copilots certified to perform contacts IAW AFI 11-2HH-60V1, HH-60, Aircrew Training, do not require instructor pilot supervision. Copilots may log currency with an aircraft commander while performing copilot duties.

4.5. Deployment of Non-USAF Personnel. Squadron/Deployed CC may authorize current DoD AIE qualified personnel to deploy from aircraft under their control. The squadron commander must ensure the personnel are qualified to perform the event, are fully briefed on, and adhere to USAF procedures and squadron standards.

4.5.1. Non-DoD Personnel. COMAFFORs may authorize non-DoD/DHS/DOT personnel to deploy and recover from USAF aircraft via all approved alternate insertion/extraction techniques provided they are trained on all equipment and adhere to USAF and squadron standards. This authority may be delegated to the OG CC with Tactical Control (TACON) of the aircraft. Refer to AFI 11-401, AFI 16-201 and MAJCOM Supplements for further guidance.

4.6. Seat Belts. Either pilot will have a seat belt and shoulder harness fastened when rotors are engaged. Seatbelts should be on for takeoff and landing except when the wear of the seat belt will hamper the ability to perform essential duties. When essential duties require them to use only gunner's belt or authorized restraint device, the primary flight engineer and aerial gunner will notify the aircraft commander that they are out of the seat belt. A seat belt or authorized restraint harness will be worn by all occupants in the cabin compartment when doors are open during flight. Unit authorized restraint devices will be listed in Chapter 8 of this instruction. On aircraft equipped with the Multi-Functional Operator's Seat (MFOS), the primary flight engineer and aerial gunner should remain in the seat belt to the maximum extent possible. NOTE: The use of a seat belt while seated (forward or aft for the MFOS) will decrease personal injury in the event of an emergency if ground impact occurs.

4.6.1. When gunner's belts or authorized restraint harness are worn they will be properly attached and adjusted to preclude accidental exit from the helicopter.
4.6.2. The gunner’s belt and authorized restraint harness attachment point will be the Crew Overhead Restraint System (CORS), the cabin ceiling rappel rings, or the cargo tiedown fittings. A maximum of two gunner’s belts or restraint harnesses will be attached per cargo tiedown ring or rappel ring. All restraint devices may be attached to anchor points using a locking/auto-locking carabineer and must be adjusted to preclude inadvertent exit from the aircraft. Locking/auto-locking carabineers will have a minimum force rating of 5000 pounds or 23 kilonewtons (kN).

4.7. Aircraft Lighting. Operate aircraft lighting in compliance with AFI 11-202V3; AFI 11-214, Aircrew and Weapons Director Procedures for Air Operations, applicable MAJCOM supplements, and the following:

4.7.1. Aircraft may be flown with one strobe light inoperative.

4.7.2. Landing/searchlights will be on for all unaided night takeoffs and after turning final for night unaided approaches unless safety, weather, excessive glare or operational mission requirements dictate otherwise.

4.7.3. Aircraft may operate in restricted areas and warning areas with reduced lighting; anticollision, strobe lights, and position lights off (all lights off or in any combination) IAW AFI 11-202V3, paragraph 5.17.1.

4.7.3.1. FAA Exemption 5891B (Docket No FAA 2001-9618) allows two or more helicopters to operate with reduced lighting (position lights off or IR) while conducting NVG training at or below 500 feet AGL. Refer to: HQ ACC/A3TV CoP/Waivers for specifics of the waiver. NOTE: At least one aircraft in the flight must carry a visible strobe IAW FAA guidance.

4.7.3.2. HH-60s not operating IAW paragraph 4.7.3.1 or in a warning/restricted area will operate with the following lighting configurations:

4.7.3.2.1. Visible (non-IR) position lights and at least one strobe light that provides full 360-degree lighting.

4.7.3.2.2. For formation flights, the lead aircraft will operate with overt or IR position lights on, as a minimum. Strobe lights usage is optional. The wingman or last aircraft in the formation will operate with position lights on, and at least one strobe light on which is visible for 360 degrees.

4.7.4. For combat operations, aircraft lighting will be commensurate with mission requirements, SPINS and local requirements.

4.8. Aircraft Taxi Restrictions:

4.8.1. Without wing walkers, avoid taxi obstructions by 25 feet; with wing walkers, by 10 feet.

4.8.2. When taxi clearance is uncertain, use a wing walker(s). If wing walkers are unavailable, de-plane a crewmember(s) to maintain obstruction clearance.

4.8.3. Maximum hover taxi speed: 15 knots ground speed, or as required when directed by ATC. (N/A for air taxi.)
4.8.4. Maximum ground taxi speed: 10 knots ground speed, or as required when directed by ATC.

4.9. **Rotor Turning Ground Operations:**

4.9.1. Passengers will be briefed by the aircraft commander, or designated representative, on procedures to be followed.

4.9.2. Except during actual combat operations or combat mission training flights when all personnel have been thoroughly briefed on procedures, one crewmember will escort passengers/MEGP through the safe approach zone.

4.9.3. Rotors turning off and onload for crew changes are authorized. The new crew will review aircraft forms, weight and balance, asterisk items before takeoff items and TOLD.

4.10. **Helicopter Maneuvering.** Helicopter operations are limited to the maximum sustainable bank angle for planned airspeed, except when conducting aircraft handling characteristics (AHC) training, evasive maneuvering, emergency procedures training, or for tactical reasons when altitude and airspeed allow recovery to a sustainable condition prior to reaching minimum altitude. If at any time the aircraft exceeds the maximum sustainable angle of bank for the current conditions, the pilot flying (or anyone else on the crew noticing the condition) must announce "overbank" to the crew.

4.10.1. For all flights, crews will brief blade stall and maximum sustainable bank angles for planned weights and airspeeds using applicable flight manual and energy maneuverability charts. If a pilot or copilot maneuvers beyond maximum sustainable bank angle (negative energy state), they must ensure they have the altitude/airspeed to prevent descent below the established minimum altitude.

4.11. **AF FORM 781, Aircrew/Mission Flight Data Document.**

4.11.1. Review the AFTO Form/AF FORM 781 before applying power to the aircraft or operating aircraft systems. The exceptional release must be signed before flight. A maintenance officer, maintenance superintendent, or authorized civilian will sign the exceptional release. If one of these individuals is not available, the aircraft commander may sign the exceptional release. Ensure the AF FORM 1896, *USAF Ground Fuel Identaplate*, and a US Government Air Card are aboard the aircraft.

4.11.2. Authority to Clear a Red X. The aircraft commander or flight engineer normally are not authorized to clear a Red X. If a situation is encountered where the aircraft is on a Red X and qualified maintenance personnel are not available, the home station chief of maintenance may authorize the flight engineer to clear the Red X condition.

4.12. **Aircraft Refueling.** When not directly involved in the refueling operation, personnel will remain at least 50 feet from the aircraft. (**EXCEPTION:** Approved hot refueling/FARP/contingency operations). Do not taxi another aircraft within 50 feet of a refueling operation.

4.12.1. Aircrew members qualified in refueling may perform refueling duties. Flight engineers/aerial gunners used as refueling supervisors will comply with TO 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*. At bases with MAJCOM support, aircrews will not refuel except in isolated cases when maintenance support is not readily available and the mission would be delayed.
4.12.2. Hot refueling will be conducted in compliance with TO 00-25-172 and the flight manual.

4.13. Forced or Precautionary Landings. If the aircraft commander becomes doubtful of the helicopter's airworthiness or encounters hazardous weather conditions, a precautionary landing should be accomplished. Report all precautionary landings through appropriate chain of command as soon as communications are established.

4.13.1. In the event a forced or precautionary landing occurs at a location where communications are not available, the following procedures apply:

4.13.1.1. If the aircraft commander determines the aircraft is not safe for flight, remain at the landing site and await assistance.

4.13.1.2. If the aircraft is safe for flight, the aircraft commander may authorize a one-time flight to a suitable location for corrective maintenance accessibility or to a location where communications can be established.

4.14. Fuel Dumping. Do not initiate fuel dumping except for life and death rescue missions, operational missions, MAJCOM exercises or emergencies. Except during emergencies, or operational needs dictate due to inability to climb due to threats or weather, fuel will not be dumped below 3,000 feet AGL or over agricultural/populated areas.

4.15. Power Required. All primary flight crewmembers are required to know the power margin for intended operations. Power available versus power required will be briefed prior to final approach. For multiple approaches to the same area, power available/power required will be briefed for the applicable AIE with the smallest power margin. Updates will be briefed if gross weight or temperatures increase.

4.15.1. Power required charts are based on having ground effect. Power figures will be computed using "without wind" charts for unknown or predicted site conditions. Note: Landing to a slope also affects power required due to loss of ground cushion and power margins should be considered.

4.15.2. Landing Zone Power Available Requirements:

4.15.2.1. Clear Escape Route:

4.15.2.1.1. For training, power available must be equal to or greater than power required for the intended hover height (no less than 10 ft) + 5%.

4.15.2.1.2. For operational missions, power available must be equal to or greater than the power required for the intended hover height.

4.15.2.2. Restricted Escape Route:

4.15.2.2.1. For training, power available must be equal to or greater than OGE hover power + 5%.

4.15.2.2.2. For operational missions, power available must be equal to or greater than OGE hover power.

4.15.2.3. Landing to a surface area smaller than the rotor diameter, such as a pinnacle or ridgeline, power for an out of ground effect (OGE) hover must be available. (Training and Operational).
4.15.3. Water Operations:

4.15.3.1. For training, power available must be equal to or greater than OGE hover power + 5%.

4.15.3.2. For operational missions, power available must be equal to or greater than OGE hover power.

4.15.4. Restricted Visibility Approaches: A Restricted Visibility Approach is an approach where the pilot flying (PF) anticipates losing ground references due to sand, dust, snow, or any other obscuration during any portion of the approach and landing.

4.15.4.1. For training, power available must be equal to or greater than OGE hover power + 5%.

4.15.4.2. For operational missions, power available will not be less than 10 foot hover power + 5%. If the LZ has a restricted escape route or when planning to use the High Hover technique, OGE power must be available.

4.15.5. When the anticipated power margin is 10% or less, a second aircrew member will reconfirm power computations using flight manual performance charts or the CDU Calculator Page.

4.15.6. If sufficient power is not available, either lighten the helicopter, locate a more suitable landing site, or abort the mission.

4.15.7. The contingency power switch will be utilized IAW T.O. 1H-60(H)G-1 and Low Level Check in AFI 11-2HH-60, Operations Procedures CL-1. The use of contingency power for pre-mission and in-flight planning purposes is prohibited. Crews should exercise extra vigilance in observing T.O. 1H-60(H)G-1 TGT limitations during contingency power operations. If TGT limits are exceeded, comply with -1 procedures and make an appropriate entry on the AF FORM 781.

4.16. Non-Surveyed/Unprepared Landing Zone Procedures. Operations will be IAW AFI 11-202V3, General Flight Rules, paragraph 5.9.4., and the following procedures will be accomplished when landing to non-surveyed or unprepared landing zones. EXCEPTIONS: Operational/Exercise CSAR missions. For exercises ensure compliance with paragraph 3.7.6 of this instruction and, if conditions permit, terminate the approach to a hover and clear the area beneath the helicopter prior to touchdown.

4.16.1. Landings at other than surveyed LZs require performance of a high and low recon to ensure the area is suitable and meets the requirements of para 3.7.3 Approaches will terminate in a hover and scanners will clear the area directly below the helicopter prior to landing.

4.16.2. Accomplish a high reconnaissance at a minimum of 300 feet above the site at a minimum airspeed of 50 KIAS.

4.16.3. Accomplish a low reconnaissance at a minimum of 50 feet AHO along the flight path at a minimum of 50 KIAS. At the pilot's discretion, the low reconnaissance may be performed on final approach if OGE power is available.

4.16.4. During landing, scanners will clear the area below the aircraft and advise the crew of obstacles or hazards within 25 feet of the aircraft.
4.17. Remote Site Evaluations Not Requiring a High and Low Reconnaissance:

4.17.1. Tactical approaches.
4.17.2. During successive approaches where conditions are equal to or less stringent than a previous approach to the same area.
4.17.3. During a mission where, in the judgment of the aircraft commander, the accomplishment of the high and low reconnaissance would degrade mission accomplishment.

4.18. Unaided Night Approaches. See Paragraph 3.9 of this instruction for restrictions.

4.18.1. Brief and conduct an area and site evaluation prior to beginning the approach.
4.18.2. Under no circumstances will the low reconnaissance be conducted.
4.18.3. Do not leave flight altitude until the location of the LZ has been positively identified.

4.19. Sling Load Operations:

4.19.1. Compare computed power required to lift the load with power available and ensure power margins comply with paragraph 4.15 of this instruction.
4.19.2. Avoid flying over personnel, buildings, or equipment as much as possible.

4.20. Training:

4.20.1. While student FE training is being conducted in the cabin, the instructor FE will not be used as a left scanner.

4.20.2. Live Hoist Training:

4.20.2.1. Unit commanders determine eligibility of personnel authorized to ride the hoist during training. Personnel not familiar with AIE operations require a qualified PJ, CRO or SERE Specialist to act as a safety observer.
4.20.2.2. Accomplish live hoist training at the minimum altitude required to accomplish desired training. Normally hoist riders will not be lifted higher than 25 feet over terrain, obstacles, or water, but may be lifted up to 50 feet to meet unique training requirements with concurrence of both the Aircraft Commander and Team leader. NOTE: Higher hover altitudes may be performed as long as the rider is not lifted more than 25 feet above obstacles.
4.20.2.3. Recommended hoist altitude over water or vessels is the minimum altitude necessary to avoid salt spray and/or shipboard obstacles. Comply with 4.20.2.2 when conducting live hoists.
4.20.2.4. Do not conduct hoist training with the hoist operator's intercom inoperative.
4.20.2.5. Do not conduct simulated hoist emergency procedure training during live hoist.

4.20.3. Contact/Emergency Procedures. Accomplish all simulated emergency procedure training maneuvers according to the flight manual and this chapter.
4.20.3.1. **Prohibited Maneuvers.** In addition to flight manual prohibited maneuvers, the following will not be practiced in the aircraft: actual engine shutdown in flight, power settling, and dual Electronic Control Unit (ECU)/Digital Electronic Control (DEC) malfunctions.

4.20.3.2. **Special Restrictions.** Unusual attitude training, Aircraft Handling Characteristics (AHC) sorties, and autorotations will not be accomplished at night or in IMC. Unusual attitude training and emergency procedures training will only be accomplished when an instructor/flight examiner pilot is in command and occupying a seat with a set of controls. Simulated hoist and gun emergencies may be performed at night with the concurrence of the aircraft commander.

4.20.3.3. Planned entry altitude for approaches will be 300 feet AGL unless specified otherwise in this regulation.

4.20.3.4. A 10-foot main wheel clearance or sufficient altitude to clear obstructions will be used for all hovering maneuvers.

4.20.3.5. Accomplish all emergency procedures to runways, taxiways, helipads, or other areas approved by the squadron commander and listed in the local Chapter 8.

4.20.3.6. **Marginal Power Takeoff.** Initiate from the ground or hover using 10-foot hover power. Simulate a 50-foot obstacle. The maneuver is terminated when clear of the simulated obstacle and above safe single engine airspeed (or 80 knots if safe single engine airspeed is not available).

4.20.3.7. **Maximum Performance Takeoff.** Initiate from the ground or 10-foot hover using a simulated maximum power available of OGE + 5% or as specified by the IP/EP. Simulate a 100-foot obstacle. The maneuver is terminated when clear of the simulated obstacle and above safe single engine airspeed (or 80 knots if safe single engine airspeed is not available).

4.20.3.8. **Rolling Takeoff.** Simulate max power 10% below hover power.

4.20.3.9. **Traffic Pattern.** If a rectangular pattern is flown, the downwind leg will be flown at 500 feet AGL and 100 KIAS. During the turn to base, descend to 300 feet AGL and slow the aircraft to 80 KIAS. These altitudes will be used whenever possible if local conditions will permit, otherwise comply with appropriate local traffic patterns. If required, the before landing checklist will be accomplished prior to turning final.

4.20.3.10. **Normal/Shallow Approach.** Use a 30° apparent angle for a normal approach and a 10° apparent angle for a shallow approach. Initiate the approach from 300 feet AGL and 80 KIAS. The approach may be completed to a touchdown or a 10-foot hover. When terminating to a touchdown, ensure flight manual touchdown limits are not exceeded.

4.20.3.11. **Steep Approach.** Initiate the approach at 300 feet AGL, 50 knots ground speed, and a 45° apparent angle. The maximum rate of descent is 800 feet a minute. The approach may be completed to a touchdown or a 10-foot hover. When terminating to a touchdown, ensure flight manual touchdown limits are not exceeded.

4.20.3.12. **Roll-on Landing.** Use an entry airspeed no less than safe single engine airspeed or 70 KIAS if safe single engine airspeed is not available. Maximum touchdown speed is 60 knots ground speed.
4.20.3.13. **Practice Single-Engine Landing.** Initiation of practice single-engine emergencies will not be lower than 300 feet AGL, 80 KIAS. **NOTE 1:** Practice single-engine emergencies may be initiated below the above listed altitude as long as torque available is limited on both engines versus reducing torque available on the simulated failed engine. Instructors must use caution when simulating single-engine emergencies at low altitudes and airspeeds. **NOTE 2:** When a throttle is retarded for simulated single-engine emergencies, the landing area should be a prepared sod, dry lakebed, or hard surface and should provide ample room for a roll-on landing.

4.20.3.13.1. The following simulated single-engine maneuvers will be practiced by simulating a limited torque available on both engines versus reducing torque by actual throttle manipulation: single-engine air refueling and single-engine approaches to a spot (min-roll).

4.20.3.14. **Stabilator Malfunction.** Do not initiate a stabilator malfunction when aircraft attitude is greater than 10° nose low. Do not exceed the flight manual stabilator placard limits when manually slewing the stabilator.

4.20.3.15. **Boost/SAS-OFF.** Initiate on the ground or in straight and level flight at a minimum of 300 feet AGL and 80 KIAS.

4.20.3.16. **Electronic Control Unit (ECU)/Digital Electronic Control (DEC) Lockout.** Initiate on the ground or in flight at a minimum of 300 feet AGL and 80 KIAS.

4.20.3.17. **Unusual Attitude Training.** Instructors simulating unusual attitudes for training will not exceed 30 degrees of bank, 20 degree nose high attitude, 10 degree nose low attitude, nor initiate the maneuver below 1000 feet AGL (N/A for simulator training).

4.20.3.18. **Practice Autorotations.** Accomplish IAW the flight manual and the following restrictions.

4.20.3.18.1. The maneuver will terminate and a power recovery initiated at the first indication of abnormally high/low rotor RPM, excessive sink rate, low airspeed, ineffective flare, or at any time an inadvertent touchdown might occur.

4.20.3.18.2. All practice autorotations will be terminated with a power recovery no lower than 15 feet AGL with a maximum ground speed of 30 knots.

4.20.3.18.3. Practice autorotations require the aircraft to be aligned within 45 degrees of the wind direction when winds exceed 15 knots, at or below 15 knots, aircraft heading will be within 90 degrees of the wind.

4.20.3.18.4. Do not practice autorotations in excess of 180 degrees when recovery will be below 500 feet AGL.

4.20.3.18.5. Minimum entry altitude for 180-degree autorotations will be 800 feet AGL; 500 feet AGL for all others. The throttles will remain in fly. For all autorotations, the aircraft must be wings level, have a minimum of 80 KIAS, rotor RPM within limits, and be aligned for landing/recovery heading at no lower than 150 feet. Initiate the flare between 125 and 75 feet AGL with a minimum of 80 KIAS. If any of these conditions are not met, initiate a power recovery immediately. The wings level requirement does not prohibit minor heading corrections on final.
4.20.3.19. **Low Altitude Autorotations (LAA).**

4.20.3.19.1. The primary training objectives of the Low Altitude Autorotation are to emphasize the immediate need to establish an autorotative profile in a tactical regime, and to demonstrate limited aircraft maneuvering ability at low altitudes during autorotations.

4.20.3.19.1.1. Conduct LAA in accordance with the restrictions established in **4.21.3.18** and the following:

4.20.3.19.1.1.1. Left scanner, low-level check, and use of VAWS are not required.

4.20.3.19.1.1.2. Descent from normal pattern altitudes to LAA pattern altitudes no earlier than abeam the intended autorotation target point.

4.20.3.19.1.1.3. Minimum entry airspeed of 80 KIAS and rotor RPM within limits.

4.20.3.19.1.1.4. Maximum offset angle should not exceed 30 degrees from the intended landing area.

4.20.3.19.1.1.5. Minimum entry altitude is 100’ AGL.

4.20.3.19.1.1.6. When LAA entry altitude is between 125-100’ AGL, initiate the maneuver by smoothly reducing the collective to full down while simultaneously adjusting the cyclic to establish a nose-up attitude.

4.21. **Aircraft Handling Characteristics (AHC).** Aircraft Handling Characteristics maneuvers are designed to familiarize the aircrew with aircraft performance and limitations. The maneuvers accomplished on the AHC sortie should be performed together as a portion of the overall sortie or on a dedicated sortie. Selective maneuvers should be performed as a warm-up prior to low-level operations. See AFTTP 3-3.HH-60G, *Combat Aircraft Fundamentals, HH-60G* for detailed descriptions of each AHC maneuver.

4.21.1. Aircraft Handling Characteristics Maneuvers General Guidance. Except as noted below, all maneuvers will be entered from a minimum of 1000 feet AGL, at chart or cruise airspeed, and the recovery completed above 500 feet AGL.

4.21.1.1. Pitch Up. Enter at a fixed cruise power setting at a minimum of 500 feet AGL.

4.21.1.2. Pitch Down. Enter from straight and level flight at 60-80 KIAS and at a minimum altitude of 1500 feet AGL.

4.21.1.3. Overbank. Enter at a minimum altitude of 1500 feet AGL.

4.21.1.4. Two Step Climbing Turn. Enter at a minimum altitude of 500 feet AGL.

4.21.1.5. Low-Level AHC maneuvers will be initiated at a minimum of 100 feet AHO, and recovered no lower than 100 feet AHO, except for quickstop (low-level deceleration) maneuvers.

4.21.1.5.1. Initiate quickstops at a minimum of 80 KIAS and 50 feet AHO. Terminate quickstop maneuvers no lower than 50 feet AHO, and at no time will any part of the helicopter be below 50 feet AHO.
4.21.1.5.2. Quickstop training will only be accomplished to open prepared surfaces (runway or taxiway), or surveyed LZs. OGE hover power + 5% power is required for low-level quickstops. Pilots will not perform this maneuver with a tail wind condition of greater than 10 knots.

4.21.2. Airspeed for onset of blade stall must be computed using the chart in TO 1H-60(H)G-1, Flight Manual USAF Series HH-60G Helicopters. AFTTP 3-3.HH-60G energy maneuvering charts may be used for all other computations.

4.22. Shipboard Operations. Units authorized by their MAJCOM to perform shipboard operations will qualify crews IAW AFI 11-2HH-60, Vol 1, and the Memorandum of Understanding (MOU) between the Department of Navy and the Departments of the Army and the Air Force. Conduct Operations IAW Joint Pub 3-04 and AFTTP 3-3.HH-60G.
Chapter 5

INSTRUMENT PROCEDURES


5.1.1. The use of a hood or other artificial vision-restricting device is not authorized for any phase of flight. Simulated instrument flight may be flown and logged without use of a vision-restricting device.

5.2. Advisory Calls:

5.2.1. Nonprecision Approaches. The pilot not flying calls:

5.2.2.1. 100 feet above minimum descent altitude (MDA).

5.2.2.2. “Minimums” at MDA.

5.2.2.3. “Runway in sight” when the runway environment is in sight. Do not call too soon when obstructions to vision (such as fog, haze, low stratus clouds, etc.) are present.

5.2.2.4. “Go-around.” Call at missed approach point if the runway environment is not in sight or if the aircraft is not in a position for a normal landing.

5.2.3. Precision Approaches. Pilot not flying calls:

5.2.3.1. 100 feet above decision height (DH).

5.2.3.2. "Land." Call at decision height if the runway environment is in sight and the aircraft is in a position for a normal landing.

5.2.3.3. "Go-around." Call at decision height if the runway environment is not in sight or if the aircraft is not in a position for a normal landing.

5.2.4. Altitude Advisories (climbs/descents/transition level/fix). Within 1000 feet and 100 feet of intended altitude.

5.2.5. Any crewmember will announce heading deviations of 10 degrees, airspeed deviations of 10 knots, or when altitude deviation exceeds 100 feet. Any crewmember seeing a deviation of 100 feet altitude or potential terrain or obstruction problem will immediately announce over intercom. Also announce deviations from prescribed procedures for the approach being flown.
Chapter 6

COMBAT RESCUE/MISSION OPERATIONS

6.1. Low-Level Operations:

6.1.1. Evasive maneuvers will be performed IAW AFTTP 3-1.HH-60G, *Combat Aircraft Fundamentals, HH-60G*. Training rules (TR's) and maneuvering category will be IAW AFI 11-214.

6.1.1.1. Enroute evasive maneuver training will not be conducted below 100 feet AHO.

6.1.1.2. Aircrew will make crew advisory calls prior to all turns, and will continuously clear the flight path throughout the turn.

6.1.1.3. Prior to making a break call ensure the aircraft is cleared in the direction of turn. If a break is required to the opposite side of the scanner calling the break, the opposite scanner is responsible for immediately clearing the aircraft and calling “CLEAR RIGHT/LEFT” or “STOP TURN.”

6.1.1.4. Flight Lead/Aircraft Commanders are responsible for ensuring that planned evasive maneuver training takes into account aircraft performance, environmental conditions, formation spacing, and crew/flight experience.

6.1.1.5. Simulated ground fire in the LZ is permitted from the ground or at a minimum of 10 foot hover. Crews will ensure compliance IAW para 6.1.1.4 of this AFI.

6.1.2. Unknown Position. During training, if unable to establish aircraft position, climb to a safe altitude and reorient your position before resuming low level navigation.

6.1.3. Tactical low-level approaches will only be flown during tactical training missions and operational missions. Conduct combat rescue terminal operations IAW AFTTP 3-1.HH-60G.

6.1.4. Low Level Checklist and FENCE Check. Crews will accomplish the 11-2HH-60V3, CL-1, Low Level Checklist prior to conducting low-level operations. FENCE checks will be performed at the appropriate times during the mission.

6.1.5. Map annotations. As a minimum annotate course line, waypoints, hazards, MSA, and threats.

6.1.6. Pilots will ensure scanners and deploying personnel are updated on the status of the flight, and advised of events that impact the mission and their duties. As a minimum, the pilot should alert scanners and deploying personnel at 20 minutes, 10 minutes, 5 minutes, and 1 minute prior to the objective.

6.2. Formations. See AFTTP 3-3.HH-60G for formation positions and definitions. The minimum separation between the closest portions of any two helicopters in a formation is one rotor diameter. Maximum formation separation is based on environmental conditions, visibility, illumination, crew experience, threat situation, and mission requirements. Refer to paragraph 6.3 for further formation separation restrictions. Rotor disk (RD) separation will be based on the largest rotor disk diameter.

6.3. Formation Maneuvering. There are eleven basic Tactical Formation Maneuvers (TFM) aircrews may employ: break, shackle, check, split, dig, hook, tac, cross, pinch, cover, and center.
See AFTTP 3-3.HH-60G for maneuver performance and description. TFM should not be conducted from the echelon position.

6.3.1. **Tactical Formation Maneuvering Restrictions.** The following restrictions will be adhered to when conducting TFM:

6.3.1.1. When flying in formation with less than 3-rotor disks separation, the only authorized Tactical Formation Maneuvers are: shackle, split, cover, and dig.

6.3.1.2. Center and cross turns will not be accomplished at night.

6.3.2. **NVG Formation and Maneuvering Restrictions.** Restrictions are defined in terms of the effective available illumination. Low illumination is defined as less than 10% equivalent moon illumination. Medium illumination is defined as 10-40% equivalent moon illumination. High illumination is defined as above 40% equivalent moon illumination. The restrictions in the following paragraphs assume ideal training conditions and aircrew proficiency with the maneuvers listed.

6.3.2.1. **En Route.** The formations and formation separation restrictions below apply when relying on visual means to ensure aircraft deconfliction and determining formation aspect and closure rates relative to the other aircraft. En Route formation spacing and aspect angle may be increased beyond the below restrictions as long as non-visual means are used to ensure aircraft separation/deconfliction. Altitude splits, TACAN, and geographic or timing separation are all means that can be used to ensure deconfliction. Flight leads are ultimately responsible for ensuring the conditions are appropriate for the planned formation spacing/maneuvering and a deconfliction plan is briefed. Aircrews will limit maneuvering at night while over featureless terrain or water since the visual cues required for safe maneuvering are dramatically reduced. When conducting basic tactical maneuvering at night, formation lead will specify roll out headings during break, split, hook, and tac turns.

6.3.2.1.1. **The restrictions for low effective illumination are:**

6.3.2.1.1.1. Aircraft separation of 1-3 rotor disks unless additional non-visual forms of separation are utilized.

6.3.2.1.1.2. Maximum angle offset of 30° left or right except during refueling in echelon formation.

6.3.2.1.1.3. Maneuvering based on staggered and fluid trail formations.

6.3.2.1.2. **The restrictions for medium effective illumination are:**

6.3.2.1.2.1. Aircraft separation 1-10 rotor disks unless additional non-visual forms of separation are utilized.

6.3.2.1.2.2. Maximum angle offset of 45° left or right.

6.3.2.1.2.3. Maneuvering based on staggered and fluid trail formations.

6.3.2.1.3. **The restrictions for high effective illumination are:**

6.3.2.1.3.1. Minimum aircraft separation is 1 rotor disk. The maximum separation is based on environmental conditions, crew experience, threat situation, and mission requirements. Maneuver IAW AFTTP 3-3.HH-60G
6.4. **Dissimilar Formation.** Formation flights with dissimilar aircraft are authorized when all participating crewmembers are briefed and thoroughly familiar with the other aircraft's performance and tactics. Rotor disk separation is based on the largest rotor disk diameter. MAJCOM/A3/COMAFFOR approval is required to fly formation with non-NATO, civilian and Heritage/Historic aircraft.

6.5. **Communication.** Formation flight will not be initiated without positive radio communications capability. Whenever possible, conduct a communication check of all aircraft in the formation prior to takeoff.

6.6. **Taxi.** Aircraft will taxi with a minimum of 100 feet spacing from main rotor to tail rotor.

6.7. **Turning Rejoins.** Maximum angle of bank at night is 20°.

6.8. **Night Formation.** NVGs are the primary method of conducting night formation. Unaided night formation should only be accomplished when environmental conditions preclude the use of NVGs. Unaided formation light settings must be adjusted to provide sufficient illumination and visual references for all aircraft in the formation.

6.9. **Changing Formation.** Unless briefed otherwise, Formation Lead will direct and chalk two will set the formation. Lead changes should only be directed by Flight Lead.

6.10. **Water Operations:**

6.10.1. During NVG water operations do not exceed 30° bank angle when below 100 ft AWL.

6.10.2. **Water patterns:**

6.10.2.1. Initiate climbing turns at a minimum of translational lift airspeed and 50 feet AWL. Do not descend below 50 feet AWL until established on final.

6.10.2.2. Low and slow maximum altitude is 10 feet AWL, and the maximum ground speed is 10 knots. **WARNING:** Wave height/action can make it difficult for aircrew to maintain low and slow parameters, and momentary deviations should be expected. Altitude and ground speeds exceeding 10 feet and 10 knots increase the potential for injuring a swimmer, and altitudes below 10 feet increase the potential of the aircraft contacting the water. When conditions make it difficult to maintain safe parameters, the aircraft commander should evaluate mission urgency and consider other methods of swimmer deployment--such as a fast rope or hoist.

6.10.2.3. If swimmer deployment is not required, make the observation pass above translational lift at a minimum of 25 feet AWL.

6.10.2.4. When conducting NVG Water operations ensure all crewmembers have adequate visual references to assess aircraft position, altitude, and ground speed/drift. Any crewmember that loses visual references will immediately bring it to the attention of the rest of the crew. Except during terminal operations maintain a minimum of 50 KIAS.

6.11. **Mission Essential Personnel Loading/Off Loading:**

6.11.1. Personnel will have weapons pointed down and safetied, and radio antennas collapsed prior to entering the rotor plane. They should enter the rotor plane area only when
cleared by a crewmember and should always enter from the sides of the helicopter (3/9 O’clock when obstacle clearance permits).

6.11.2. Once the aircraft has completed the approach to a hover or landing (as briefed), or when cleared by the Aircraft Commander, the restraint devices may be released. Exit only when cleared by the aircraft commander.

6.12. **General AIE Procedures (Fast Rope, Rappel, Rope Ladder, Hoist):**

6.12.1. **Mission Briefing.** Prior to deployment, the aircraft commander will ensure the applicable items from the alternate insertion/extraction briefing in Attachment 2 are completed for the device to be used.

6.12.2. **Safetyman.** For all AIE operations, one crewmember in the cabin will be designated as the safetyman. The safetyman will monitor intercom and be secured with a crewman's harness. The safetyman will be in a position to observe the entire operation, and will relay commands to the deploying team. The safetyman will continuously evaluate the safety of the operation, and immediately inform the rest of the crew, and take the necessary action to avert a hazardous situation.

6.12.3. **Rope Master.** The rope master is the deploying team leader, and is responsible for making the final determination on the safety of the deployment. During operations where the rope master cannot safely determine operational parameters (aircraft altitude, drift, obstacles, and rope position), the rope master will coordinate with the safetyman for assistance.

6.12.4. During AIE operations, all personnel will ensure that non-essential equipment, and/or personnel, do not interfere with the deployment operations.

6.12.5. **Deployment Procedures:**

6.12.5.1. During all AIE operations, the pilot flying the approach will give the command "ROPE, ROPE, ROPE" when the aircraft is in a position to safely deploy the device and the team. This is the pilot’s clearance for the team to deploy. The device will be deployed on the first command "Ropes."

6.12.5.2. Following the pilot’s clearance for the team to deploy and during operations where the rope master can safely determine operational parameters, the team will deploy at the discretion of the rope master.

6.12.5.3. During operations where the rope master cannot safely determine operational parameters (aircraft altitude, drift, obstacles, and rope position), the safety man will evaluate parameters and advise the rope master when, in the judgment of the safety man, the operation can safely be conducted. The final decision to deploy the team remains with the rope master. **WARNING:** Altitude deviations while personnel are on the ropes will have an adverse effect on their braking ability and can cause serious injury. During the hover, scanners must relay sufficient information to the pilots to ensure the ropes do not leave the ground during altitude deviations.

6.12.6. During NVG operations the safetyman must ensure the rope master can see the appropriate hand signals.

6.12.7. Ropes will be released or retrieved prior to commencing forward flight to prevent possible entanglement.
6.12.8. During night deployments, chemlites will be used to identify all ropes. During night water deployments, additional chemlites will be placed over all exits and on release handles to facilitate egressing the helicopter.

6.13. **Fast Rope:**

6.13.1. If the H-bar/FRIES is used it will be extended and locked prior to final approach.

6.13.2. If requested by the deploying rope master, the aircraft may have a maximum forward ground speed of 5 kts.

6.14. **Rappelling:**

6.14.1. The rappelling ropes will be attached to the cabin ceiling rappel rings, upper cargo net attaching points, or the H-Bar/FRIES release mechanism using locking carabiners with minimum force criteria of 5000 pounds or 23 kN. The H-Bar/FRIES should be extended when the release mechanism is being used to perform rappelling operations to aid in release mechanism operation.

6.14.2. Once hooked to the rappelling equipment, personnel may release other restraints in preparation for the exit. On short final, personnel may position themselves to facilitate immediate deployment.

6.15. **Rope Ladder Operations:** **WARNING:** Use only certified rope ladders for live training.

6.15.1. The rope ladders will be attached to the cabin floor tiedown fittings or cabin ceiling rappel rings using locking carabiners.

6.15.2. The maximum number of personnel on a ladder is limited to three.

6.15.3. In an emergency, or if the aircraft comes under fire, personnel will secure themselves to the ladder and the aircraft may depart the immediate area. Slow forward flight to a safe area may be accomplished if flight characteristics and power requirements allow. Care should be taken during forward flight due to the twisting and turning of the ladder. Airspeed should not exceed 40 KIAS. See WARNING paragraph 3.20 for additional guidance.

6.15.4. If mission conditions permit, close the cabin door not being used for recoveries prior to personnel entering the aircraft.

6.16. **Hoist Procedures:** **WARNING:** Failure to properly inspect, monitor, and report hoist and/or cable deficiencies may result in undetected cable damage that could result in cable failure. All aircrew must thoroughly understand and comply with TO 1H-60(H)G-1 and MAJCOM hoist operating procedures/limitations.

6.16.1. Commanders will ensure live hoist operations are limited to operational missions, aircrew qualification/evaluations, exercises, and proficiency training. Crews will evaluate the potential hazards associated with live hoist operations, and consider all recovery options during operational missions and exercises.

6.16.2. **Hoist Operator Procedures:**

6.16.2.1. All crewmembers must be vigilant for shock loads to the cable. If shock loading is observed, cease live hoist operations and replace the cable prior to the next mission. **NOTE:** During water operations, the dynamic action of waves increases the...
potential for shock loading. Additionally, the increased drag of the stokes litter/personnel in the water increases the total force applied to the cable.

6.16.2.2. During live hoist operations, if the cable contacts the aircraft, operations will cease until a visual check of the cable is complete and no defects are noted.

6.16.2.3. Do not ground the hoist near spilled fuel.

6.16.2.4. Except during water recoveries, lower the stokes litter to the survivor after the helicopter is established in a hover. For water recoveries, the stokes litter may be deployed utilizing low and slow deployment procedures.

6.16.2.4.1. The stokes litter will only be lowered and raised with the hoist from a stabilized hover over the intended target. A maximum airspeed of 40 KIAS may be used with the stokes deployed to stop a swinging or rotating litter during an emergency, or to maintain position in high winds or over a moving vessel. During actual rescue missions, accomplish a thorough risk assessment if speeds in excess of 40 KIAS are required during stokes use, particularly when the stokes is empty.

6.16.2.5. The rescue basket may be lowered on final approach at airspeeds below 30 knots. While in slow forward flight for a water recovery, the 10-foot line may be allowed to contact the water prior to reaching the survivor.

6.16.2.6. Use of a tagline with the SKEDCO litter is mandatory.

6.16.2.7. If mission conditions permit, close the left cabin door prior to conducting live hoists.

6.17. Parachute Delivery Operations:

6.17.1. Mission Briefing. A thorough briefing will be conducted. All aircrew members and the jumpmaster will attend. Ensure the briefing covers the use of restraining devices, exits, and movement in cargo compartment. When conducting operations with jumpers from other services, the procedures outlined in this instruction and FM 3-21.220/AFMAN 11-420, Static Line Parachuting Techniques and Tactics and AFMAN 11-411, Special Forces Military Free-Fall Operations will be used unless different procedures are authorized by the MAJCOM.

6.17.2. Personnel will exit the aircraft on command of a qualified jumpmaster, after clearance is received from the aircraft commander. The primary exit for parachute operations is the left door.

6.17.3. Abort Procedures. When conditions are not safe for the drop, or if the drop is aborted for any reason, the following procedures will apply: The term "Abort" will be used to alert the crew of an aborted deployment. A crewmember will display a closed fist to personnel not on intercom.

6.17.4. The minimum pattern altitude is 1500 feet AGL/AWL. Specific airspeed must be briefed prior to takeoff.

6.17.5. Static lines will not be attached until the aircraft is 1000 feet AGL/AWL.

6.17.6. When delivering parachutists from only one side, ensure the door on the opposite side of the cabin is closed.
6.17.7. The pilot will give 10-minute, 5-minute, and 1-minute warnings prior to reaching the drop zone. The pilot will call 1 minute prior to drop and will announce "clear to drop" after he receives the response "safetyman check completed." The final decision on whether or not to jump rests with the aircraft commander. The jumpmaster will acknowledge all calls from the pilot.

6.18. Air Combat Maneuvering (ACM) Training. Helicopter air combat maneuvering training against fixed wing and rotary wing aircraft is authorized. Training will be conducted IAW AFI 11-2HH-60V1, AFI 11-214, AFTTP 3-1/3-3.HH-60G, and the following:

6.18.1. All crewmembers must be trained and current in Aircraft Handling Characteristics and Basic Helicopter Maneuvering IAW AFI 11-2HH-60V1.

6.18.2. Maneuvering restricted to the Limited Maneuvering Category as described in AFI 11-214 may be conducted by all combat mission qualified H-60 crews.

6.18.3. Maneuvering beyond the Limited Maneuvering Category restrictions of AFI 11-214 may only be conducted when an instructor certified in ACM is in command of the flight, or the entire crew has received initial ACM training and certification IAW AFI 11-2HH-60V1.

6.18.4. All visual NVG air-to-air training requires a discernable horizon.

6.19. Weapons Employment:

6.19.1. Units will ensure that weapon systems employment procedures and training standards are included in the unit weapons and tactics training program. Refer to AFI 11-214, AFTTP 3-1.HH-60G, AFTTP 3-3.HH-60G, and local range procedures/restrictions for guidance. Units will ensure that detailed local weapons procedures are included in their local Chapter 8.

6.20. Reduced Visibility Approaches/Departures: Refer to AFTTP 3-3.HH-60G, Combat Aircraft Fundamentals, HH-60G for techniques and procedures.
Chapter 7

ABNORMAL OPERATING PROCEDURES

7.1. Blind Procedures. Use the following procedures when one or more flight members/elements lose visual contact within the formation in VMC:

7.1.1. Two conditions may result in the formation losing visual contact:

7.1.1.1. An Anticipated Blind is when terrain/environmental factors cause a loss of visual cues for a short duration or when visual cues are lost when using pre-coordinated non-visual station keeping that provides sufficient SA to ensure deconfliction. Examples: Holding one aircraft in terrain while the other unmasks for line of sight to the survivor; Crews see terrain that will come between the formation; Using non-visual means to maintain aircraft separation.

7.1.1.2. An Unanticipated Blind situation is when visual cues are the sole references used for formation separation and these cues no longer provide sufficient distance, aspect or closure rate cues to ensure deconfliction, or when non-visual methods do not provide sufficient SA to ensure positive deconfliction. Examples: The wingman loses lead in ground lights or while maneuvering independently such as during evasive maneuvering.

7.1.2. Anticipated Blind Procedures:

7.1.2.1. If any flight member/element calls "Blind," then the other flight member/element will immediately acknowledge with "Visual" and an informative position call or acknowledge with “Blind”.

7.1.2.2. Flight lead will direct the prebriefed deconfliction plan.

7.1.3. Unanticipated Blind Procedures:

7.1.3.1. If any flight member/element calls "Blind," then the other flight member/element will immediately acknowledge with "Visual" and an informative position call or acknowledge with “Blind”.

7.1.3.2. If the other flight member/element is also "Blind", then the flight lead will take action to ensure separation between flight members/elements. When unable to ensure separation using non-visual means, flight lead will direct an altitude separation of at least 200 feet. The flight lead will specify either AGL or MSL when directing the formation to deconflict with altitude. Climbs/ descents through the deconfliction altitude should be avoided if possible.

7.1.4. If there is no timely acknowledgment of the original "Blind" call, then the flight member/element initiating the call will maneuver away from the last known position of the other flight member/element and alter altitude if unable to ensure aircraft separation by non-visual means.

7.1.5. If visual contact is not regained, the flight lead will take additional positive action to ensure flight path deconfliction within the flight to include a Terminate/Knock-It-Off if necessary. Scenario restrictions such as sanctuary altitudes and/or adversary blocks must be considered.
7.1.6. When using visual cues as the sole means of ensuring aircraft separation, the formation will maintain altitude separation until a visual is regained or non-visual separation methods are coordinated.

7.2. **Lost Wingman Procedures.** When a wingman goes inadvertent IMC and loses sight of the preceding aircraft, all members of the formation must react quickly and precisely to prevent a midair collision. In such a case, the aircraft losing contact will call, "Call Sign, Position, Lost Wingman." Formation lead will immediately initiate the breakup by announcing "Call Sign, Execute," the type of breakup (i.e. mountainous or non-mountainous) unless prebriefed, base “heading” (magnetic), base “airspeed”, and base “Minimum Safe Altitude” (MSA). Formation lead will maintain base parameters and all wingmen will take action based on the base heading, airspeed and MSA. Wingmen will acknowledge lead's call. Once the formation executes the IMC breakup, lead will announce or brief any changes to magnetic headings, airspeed, and MSA.

7.2.1. If another aircraft in the formation calls lost wingman and you still have sight of the preceding aircraft, execute lost wingman procedures for your original position in the formation.

7.2.2. If a wingman calls lost wingman and lead is still VMC and able to ensure terrain/obstacle clearance, lead should stay VMC. Formation lead must still make heading, airspeed, and MSA calls for the wingman executing the lost wingman procedure.

7.2.3. **Non-Mountainous Procedures.** The following lost wingman procedures are for non-mountainous operations (Figure 7.1). In operational situations, where the risk of actual enemy detection/engagement is greater than low altitude marginal weather operations, alternate breakup procedures may be briefed/executed.

7.2.3.1. Formation lead maintains base heading (usually straight-ahead), airspeed, and climbs to MSA.
7.2.3.2. Wingmen turn away from the preceding aircraft and climb according to the following procedure: multiply your position by 10° for your heading offset, lead aircraft will climb to MSA, Chalk 2 will climb to MSA plus 300, Chalk 3 will climb to MSA plus 600 feet, Chalk 4 will climb to MSA plus 900 feet, etc. Timing for all wingmen is 30 seconds and starts when you reach your altitude. At the end of your timing, return to the announced heading.

7.2.4. Mountainous Procedures. The following lost wingman procedures are for mountainous operations (Figure 7.2). In operational situations, where the risk of actual enemy detection/engagement is greater than low altitude marginal weather operations, alternate breakup procedures may be briefed/ executed.

7.2.4.1. Formation lead will maintain announced base airspeed or higher and climb as prebriefed. If possible, lead should accelerate to allow the formation more maneuvering room and to avoid excessively slow airspeeds for wingmen.
7.2.4.2. Aircraft number two will adjust to maintain announced airspeed minus 10 knots, and climb 300 feet above MSA.

7.2.4.3. Aircraft number three will adjust to maintain announced airspeed minus 20 knots, and climb 600 feet above MSA.

7.2.4.4. Aircraft number four will adjust to maintain announced airspeed minus 30 knots, and climb 900 feet above MSA.

7.2.4.5. As each aircraft reaches its assigned altitude, maintain heading and assigned airspeed for 3 minutes, then accelerate to a base airspeed.

Figure 7.2. Mountainous Procedures.
Chapter 8

LOCAL OPERATING PROCEDURES

8.1. Requirements. This chapter is reserved for unit local operating procedures. Procedures herein will not be less restrictive than those contained elsewhere in this instruction, nor is this chapter intended to be a single source document for procedures contained in other directives or instructions. Unnecessary repetition of guidance provided in other established directives should be avoided; however, references to those directives is acceptable when it serves to facilitate location of information necessary for local operating procedures. The title of this supplement will be IAW AFI 33-360, Publications and Forms Management, (e.g., "AFI 11-2HH-60V3_41RQS"). Follow instructions on page 1 of this volume for approval/distribution of supplements. Individual squadron Local Operating Procedures are required for all HH-60 units. If more than one HH-60 squadron is co-located at the same installation, only one Chapter 8 is required but all Squadron Commanders must approve and gain approval through their appropriate chains of command.

8.2. Organization. The local chapter will be organized in the following format and will include, but is not limited to, the following:

8.2.1. Introduction.

8.2.1. (920RQW) The purpose of this chapter is to describe local operating procedures. Directives contained within this chapter are not intended to either supersede other AFI guidance, or relieve aircrew from using sound judgment and common sense.

8.2.2. General Policy.

8.2.2. (920RQW) All aircrew are responsible for ensuring they maintain qualified, current and mission ready status. Deviations to the following guidelines must be coordinated and approved by the unit Director of Operations Officer (DO) or Commander (CC).

8.2.2.1. (Added-920RQW) Scheduling

8.2.2.1.1. (Added-920RQW) Priorities: Scheduling priorities are listed in order of precedence from highest to lowest: SAR, 45 SW Range Support, Regain Combat Mission Ready (CMR) Status, Evaluation, Formal Upgrade Training, Continuation Training, and Media Events (to include Air Shows).

8.2.2.1.2. (Added-920RQW) Individual Availability: To maintain currency, CMR, Rated Aircrew Program (RAP) look-back and a level of proficiency, aircrew members are required to provide the squadron with minimum amounts of flight availability each month. Crewmember minimum availability is maintained within the 301 RQS Standard Operating Procedures (SOP) under scheduling as directed by the Commander. Availability worksheets are due by the 24th of each month. Availability of Traditional Reservists (TR) and Air Reserve Technicians (ART) will be calculated against Rated Aircrew Program (RAP) Tasking and Flying Hour Program. Each aircrew member will review their currency status and ensure schedulers are providing them ample opportunity to maintain currency, CMR status and increase availability during in-unit upgrades.
8.2.2.1.3. (Added-920RQW) Within two workdays of the 22nd of each month, 301RQS/DO will produce a monthly schedule outlining key events. In addition, they will produce a completed two-week rolling schedule. The monthly/rolling two-week schedule is available for member’s review via Patriot Excalibur (PEX). The 920th Wing Commander approves the finalized weekly flying schedule at 1400 on Friday proceeding the upcoming week. DOS will ensure the Wing’s final schedule is posted to PEX and distributed via e-mail. Changes after this schedule is finalized will be coordinated with the affected members via phone or e-mail by the schedulers.

8.2.2.1.4. (Added-920RQW) For recurring evaluations, each aircrew member should ensure that they make every effort to complete all flight evaluation requisites prior to the end of their fourth month in phase. It is incumbent upon each individual to ensure that they are scheduled for their flight evaluation prior to the end of the fifth month in their phase period. Evaluations to include No-notices can be scheduled within the member’s availability without member coordination.

8.2.2.2. (Added-920RQW) Aircrew desiring to reschedule their UTA must start coordination with 301 RQS/DOT two (2) weeks prior, but no later than one (1) week prior to the scheduled UTA. DOT will complete the reschedule worksheet with coordination through scheduling, Stan/Eval, and supervision. Members will be notified NLT the Wednesday prior to the UTA of the status of their reschedule request. Reschedule requests within 1 week of UTA will be dealt with on an individual basis and must first be approved by 301 RQS/DO/CC.

8.2.3. Mission Planning/Preparation.

8.2.3. (920RQW) All aircrew are responsible to ensure thorough and detailed mission planning is accomplished prior to every flight. Refer to 301 RQS Standard Operating Procedures (SOP) to assist in accomplishment of mission planning.

8.2.3.1. (Added-920RQW) Aircraft Commander (AC) Responsibilities.

8.2.3.1.1. (Added-920RQW) Aircraft Commanders will ensure that all GO/NO-GO requirements (FCIF, Boldface, flight Physical, Alt Chamber, Egress and basic currency) are “GO” prior to stepping to the aircraft. Any changes to the flight orders, to include adding new crewmembers, will also be “GO.” All currency dates may be checked by either referring to PEX, the 301st training site, GO/NO-GO flying currency product furnished by Flight Management contained within the Mission Folder, or by referring to the latest currency products posted in the Rescue Operations Center (ROC). Regardless of the method, aircrew should insure they are using current products. As a last resort to ensure FCIF review, aircrew members can initial Flight Authorization by annotation of FCIF number on the same line as their name appears. Aircraft Commanders will initial Flight Authorization (FA) to verify crewmembers are current and qualified for the mission (and mission tasks). A signature is required for all crewmembers added to the printed FA.

8.2.3.1.2. (Added-920RQW) Aircraft Commanders and Flight Leads should review all crew members’ currency to ensure all necessary training is accomplished. Additionally, instructors should review initial qualification or certification syllabus when beginning to mission plan to ensure all training events are accomplished. Flight
Engineer, Aerial Gunner instructors, and Pararescue trainers should inform the A/C or FL of training requirements one day prior to ensure adequate planning time.

8.2.3.1.3. **(Added-920RQW)** Aircraft Commanders are responsible to ensure that any mission requiring a mission identifier (MI) is executed in accordance with higher headquarters guidance. These responsibilities are outlined in AFRCI11-201, *FLIGHT INFORMATION PUBLICATIONS*, and include but are not limited to opening/closing the MI, updating the MI, and coordinating changes to an MI. MI’s can be opened and closed by 920 RQW/45 SW Combined CP by radio transmission or telephone call. MIs are required for the following type missions:

8.2.3.1.3.1. **(Added-920RQW)** Landings away from home station, except at local training bases when no RON is planned.

8.2.3.1.3.2. **(Added-920RQW)** Carry passengers/cargo regardless of destination.

8.2.3.1.3.3. **(Added-920RQW)** Participation in aerial events as defined in AFI 11-209 Participation in Aerial Events

8.2.3.1.3.4. **(Added-920RQW)** In maintenance away from home station (depot, phase, etc).

8.2.3.1.3.5. **(Added-920RQW)** Deploy and redeploy as defined in AFRCI 11-201 *Flying Operations Procedures*

8.2.3.1.3.6. **(Added-920RQW)** Special tasking or high interest missions (such as Range Mission and Shuttle support).

8.2.3.1.4. **(Added-920RQW)** ACs must insure any passengers, guest aircrew, or mission essential personnel (MEGP) flying on unit aircraft have been properly authorized by the appropriate authority.

8.2.3.1.4.1. **(Added-920RQW)** Any individual flying as a passenger must be approved in accordance with AFI 11-401 and the appropriate supplements. Additionally, the flight will be conducted IAW AFI 11-2HH-60, V3.

8.2.3.1.4.2. **(Added-920RQW)** IAW AFI 11-2HH-60, V3 the Group Commander is the approval authority for mission essential authorization. Crew chiefs accomplishing functional test flights and unit assigned personnel acting as survivors will be typically authorized as MEGPs.

8.2.3.1.4.3. **(Added-920RQW)** Visiting aircrew. Aircrew not assigned to the unit and flying unit assigned aircraft will go through the same GO/NO-GO process as assigned aircrew. They will annotate FCIF accomplishment by initialing by their name on the flight order. They will hand carry a copy of individual training summary (ITS) and individual data summary (IDS). Without ITS and IDS the individual must supply copies of AF 1042 (Medical Clearance), AF 702 (Altitude Chamber), Aeronautical Orders (AO) and individual training reports to show currencies.

8.2.3.1.5. **(Added-920RQW)** Operational Risk Assessment. Aircraft Commanders and flight leads must accomplish a comprehensive review of the operational risk for each flight. Flight briefs will include the significant risk factors, assessed level of risk,
and a mitigation plan. The Risk Assessment Worksheet can be used to help guide the aircrew in the identification of hazards and weigh the risk of the mission plan. Aircraft Commanders will complete a 301 RQS Risk Assessment Worksheet for each Flight and turn that copy into the Operations Supervisor prior to the crew stepping to the aircraft.

8.2.3.1.5.1. (Added-920RQW) Hazards.

8.2.3.1.5.1.1. (Added-920RQW) During flight, all observed hazards will be checked against the chart (printed or electronic). If new hazards are observed, record the lat/long, height (Above Ground Level (AGL) & Mean Sea Level (MSL)), and a description of the hazard. Notify Flight Safety (301 RQS/SE) or 301 RQS/DOV of the hazard and they will be responsible for updating the local area hazards map and Manual; Chart Updating Manual (CHUM.)

NOTE: Bulb replacement of lighted antennas and towers now include light emitting diodes (LEDs) which can be Night Vision Goggle (NVG) compatible. This effectively makes lighting appear OFF and the tower/antenna difficult to visually acquire. If possible, annotate if the hazard appears in this manner using unaided vision. Safety and Standard Evaluation should post hazard to draw attention to the hazard.

8.2.3.1.5.1.2. (Added-920RQW) Bristow Academy, Titusville, uses the Northern area for student training. Aircrews should monitor 121.95 Bristow Operations Frequency (Ops Freq) to maintain Situational Awareness (SA) on traffic in the area. While operating in the Northern remote sites located in the Tocohatchee State Reserve, should aircrew need to contact Park Service helicopters they should utilize 32.375 FM. Park rangers do not routinely monitor this frequency, but they will use it in the event they wish to contact you. The mission planning section has provided falcon view overlays outlining the established training areas utilized by Bristow Academy.

8.2.3.2. (Added-920RQW) Aircrew Show Times

8.2.3.2.1. (Added-920RQW) Training Missions: All aircrew training show time is a minimum of 1 hour prior to the briefing. Flight Engineer and Aerial Gunner Students will coordinate with their instructors for a show time, but not less than 1 hour. Crew show times are the minimum time prior to briefing time. It does not include mission preparation time other than last minute check of weather, Notice to Airman (NOTAM), filing Flight Plans, calculations of Takeoff and Landing Data (TOLD) and Weight and Balance.

8.2.3.2.2. (Added-920RQW) Range Surveillance Missions: For unmanned launches, crews may show up to 12 hours prior to the end of the launch window but no later than one hour prior to brief time. For an example: If the end of a Delta Launch is 2300 local, crews may show no earlier than 1100 local and no later than 1 hour prior to brief. Aircrew may coordinate with the 301 RQS/CC/DO to adjust their show time outside of this requirement.

8.2.3.3. (Added-920RQW) Portable Flight Planning Software (PFPS)/Falcon view/Smart Multi Function Color Display (SMFCD) / Electronic Linked Mission Overlay
Prior to accomplishing any mission planning, aircrew will ensure they are using current Electronic Chart Update Manual (E-CHUM), MANUAL Chart Update Manual (CHUM), Digital Aeronautical Flight Information File (DAFIF), draw and local waypoint files. Mission Planning Section with the Tybrin Representative will ensure the DAFIF and CHUM files are updated monthly. SMFCD and ELMO computers will have, at a minimum, E-CHUM, manual CHUM, and local draw file displayed during flight. Refer to SOP for expanded mission planning and execution. The most current files are listed near each Mission Planning Computer (desktop computers). NOTE: If using ELMO for planning, it is your responsibility to use the most current files.

8.2.3.4. **(Added-920RQW) Weather.** Aircrew must receive either a verbal weather briefing or a DD Form 175-1 *Weather Procedures* by calling the 45th Space Wing weather shop (3-8485). Aircrew may request to have the DD Form 175-1 sent to the unit via FAX (4-2711). Additionally, extensive weather planning information is contained on the 45 SW website and via the 301st mission planning intranet site.

8.2.3.5. **(Added-920RQW) Standard Mission Planning Tools.** The 301 RQS SOP should be used as a guide for planning and creation of kneeboard (smart pack) cards, charts, handouts, and briefings. Reference to SOP can be found on 301 RQS Valley Website (printed copies are available in CCV and FCIF). Mission Planning Computers are normally configured to accomplish these items.

8.2.3.6. **(Added-920RQW) Assigned Frequencies.** The 301 RQS is assigned the frequencies listed in Table 8.1. IAW AFI 33-118 and AFRC allocation.

<table>
<thead>
<tr>
<th></th>
<th>UHF</th>
<th>VHF</th>
<th>FM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>255.0</td>
<td>138.475</td>
<td>32.325</td>
</tr>
<tr>
<td>Secondary</td>
<td>259.0</td>
<td>135.125</td>
<td>32.235</td>
</tr>
</tbody>
</table>


8.2.3.6.2. **(Added-920RQW) Component 2 mission kits are maintained in the Rescue Operations Center (ROC)/Mission Planning Area and are to be carried to the aircraft for all flights except FCF. Component 2 consisting of Instrument Flight Rules (IFR) and Visual Flight Rules (VFR) Supplement, Flight Information Handbook, Enroute Low Altitude Charts for Florida (one each), Low Altitude Instrument Approach Procedures for Florida (two each), and Sectionals covering North and South Florida (with Terminal Charts for Tampa/Orlando and Miami). Aircrew will ensure that all Flight Information Procedure (FLIP) material is current. During preflight of the aircraft, flight engineers will ensure that the component 1 publications stored on the aircraft are current. For flights outside the local area, Component 2 kits must be supplemented with appropriate Enroute Low Altitude
Charts, Low Altitude Instrument Approach Procedures, Terminal Area Charts, and Sectionals.

8.2.3.7. (Added-920RQW) Call Signs: The 920 RQW is authorized to use the call signs listed in Table 8.2 IAW USAF Voice Call Sign (VCS) Program.

Table 8.2. (Added-920RQW) 920 RQW Call signs.

<table>
<thead>
<tr>
<th>Agency</th>
<th>Call sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>301 RQS Operations Supervisor</td>
<td>Rescue Ops</td>
</tr>
<tr>
<td>HH-60 (first local flight/formation)</td>
<td>Jolly 1X (note 1)</td>
</tr>
<tr>
<td>HH-60 (second local flight/formation)</td>
<td>Jolly 2X</td>
</tr>
<tr>
<td>HH-60 (X-Country flight)</td>
<td>Jolly 5X</td>
</tr>
<tr>
<td>HH-60 (FCF)</td>
<td>Jolly 8X</td>
</tr>
<tr>
<td>39 RQS Operations</td>
<td>King Ops</td>
</tr>
<tr>
<td>HC-130</td>
<td>King XX (note 2)</td>
</tr>
<tr>
<td>Guardian Angel (deployed)</td>
<td>Gondola Charlie</td>
</tr>
<tr>
<td>920 MXS Ops Center</td>
<td>MOC</td>
</tr>
<tr>
<td>920 RQW/45 SW Command Post</td>
<td>Barrier</td>
</tr>
</tbody>
</table>

**Note:** 1. Add sequential numbers for X in Jolly call sign. Example: Jolly 11 would be flight lead with Jolly 12 as wingman. Jolly 21 and Jolly 22 would be the second formation of the day.

**Note:** 2. Use the last two digits of tail number for the XX in the King Call sign.

8.2.3.6. (Added) Mission Kits. The contents of the publications kits will be IAW AFI 11-2HH-60V3. Unit mission kits have two discrete components.

8.2.3.7.1. (Added-920RQW) Aircraft Configuration. Aircraft will be configured IAW Technical Orders and AFI 11-2HH-60V3. Normal daily configuration is Rescue Configured as determined by aircraft configuration monitor. This is normally: aux tank, stokes with floatation, raft, Life Preserver Units (LPUs), 2 Strop, Penetrator with floatation, no PAX seating, mission kit, and basic aircraft items such as first aid kits, fire extinguisher, etc. Alternate Insertion / Extraction equipment is added by Flight Engineer/Gunner for training and/or PJ for live work.

8.2.3.7.2. (Added-920RQW) Standard Weapons Configurations for is listed in Table 8.3.

Table 8.3. (Added-920RQW) Standard Weapons Configuration.

<table>
<thead>
<tr>
<th>CODE</th>
<th>WEAPON</th>
<th>AMMO</th>
<th>CODE</th>
<th>WEAPON</th>
<th>AMMO</th>
</tr>
</thead>
<tbody>
<tr>
<td>H-1</td>
<td>2 X M-240</td>
<td>1000 rds/side</td>
<td>H-6</td>
<td>GAU-2 RT M-240 LT</td>
<td>2250 rds</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1000 rds</td>
</tr>
<tr>
<td>H-2</td>
<td>2 X GAU-2</td>
<td>2250 rds/side</td>
<td>H-7</td>
<td>GAU-2 RT GAU-18 LT</td>
<td>2250 rds</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>600 rds</td>
</tr>
<tr>
<td>H-3</td>
<td>2 X GAU-18</td>
<td>600 rds/side</td>
<td>H-8</td>
<td>GAU-18 RT GAU-2 LT</td>
<td>600 rds</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2250 rds</td>
</tr>
</tbody>
</table>
8.2.3.7.3. **Added-920RQW** Unmanned Rocket launch configuration: Standard rescue configuration without weapons, chaff or flares. The preferred auxiliary fuel tank is two 185 gallon.

8.2.4. Normal Operations.

8.2.4.1. **Added-920RQW** Low Altitude Training Navigation (LATN) is defined by an area bounded by coordinates listed in Table 8.4. This is the primary training area for all local flight training and includes Avon Park range complex as well as Cape Canaveral training sites. A northern corridor connects the north edge of the LATN to the Atlantic Ocean. Flights into Cape Canaveral Air Station must be coordinating with Cape Control for airspace.

### Table 8.4. **Added-920RQW** LATN.

| N 28° 32.340' | W 081° 00.000' |
| N 28° 32.418' | W 080° 59.210' |
| N 28° 43.865' | W 081° 00.196' |
| N 28° 47.364 | W 080° 43.720' |
| N 28° 43.016' | W 080° 40.718' |
| N 28° 40.063' | W 080° 54.171' |
| N 28° 32.720' | W 080° 53.650' |
| N 28° 09.680' | W 080° 42.480' |
| N 27° 45.050' | W 080° 42.280' |
| N 27° 10.110' | W 080° 53.230' |
| N 27° 10.110' | W 081° 04.090' |
| N 27° 42.400' | W 081° 24.330' |
| N 27° 55.950' | W 081° 24.440' |
| N 28° 00.090 | W 081° 21.930' |
| N 28° 00.190' | W 081° 15.050' |
| N 28° 32.340' | W 081° 00.020' |

8.2.4.2. **Added-920RQW** Landing Zones (LZs). A complete listing with coordinates can be found in the 301 RQS In-flight Guide and the 301 RQS LZ Book. 301st Safety Officer is responsible for maintaining copies of current surveys and making the surveys readily available to aircrew the 301 RQS LZ Book. Any pilot can make reviews of LZ surveys. Contact the Safety Officer by any means (voice, written, electronic) to update a review.

8.2.4.3. **Added-920RQW** Water Training Areas. The primary training areas for Day/Night Water Operations Training are approximately 6 miles east of the base (North Water Operations (WOPS)/South WOPS) and 1 mile northwest of the base (Judy DZ). All are found within Personal Flight Planning Software PFPS data base in mission planning. However, water training may be accomplished anywhere offshore (greater than
100 yards from the beach) at the discretion of the AC. Ensure that covering aircraft or surface craft are aware of geospatial position of the operation and does not pose any obvious hazard to persons or property. Flight lead or Operations Supervisors are reminded to call US Coast Guard with position of water training if flares or sea dye markers are being used.

8.2.4.3.1. **(Added-920RQW)** Night Water Operations with U.S. Coast Guard/Florida Wildlife Fish and Game (USCG/FWFG). IAW AFI 11-2HH-60G, V3 night water operations may be accomplished single ship with a boat. Aircrew may elect to utilize USCG/FWFG boats/ships. USCG / FWFG boats/ships must be underway (not on alert in port) to be able to respond to ditching site. Aircrew must coordinate with the duty officer to ensure adequate response time. Once airborne and ready to begin water training, aircrew will contact the Supporting Coast Guard station or Fish and Game on maritime channel 16 and switch to a coordination frequency as directed by the Coast Guard or Fish and Game. Once on a working frequency, the aircrew will, “Request you take my watch on CH##; will check-in every 15 minutes.”

8.2.4.4. **(Added-920RQW)** Local area Parachute drop zones are Judy (Banana River), Ferrar (Skid Strip) and Bam-Bam located on Patrick AFB for live drops. Bam-Bam is also used for bundle drops. For all local Patrick/Cape drop zones, base operations must be contacted for scheduling and/or to file a Notice to Airman (NOTAM) 24 hours in advance. The Drop Zone requestor (i.e. PJ) will be responsible for scheduling and filing the NOTAM.

8.2.4.5. **(Added-920RQW)** The training bases listed below may be utilized when not on an approved Air Force Reserve Command (AFRC) mission identifier. Aircrews are encouraged to utilize these bases for continuity training on an as capable basis. Local training bases require a Modification instruction (MI) if aircraft remain over night. 920 OGV will maintain a master list of approved training bases.

8.2.4.5.1. **(Added-920RQW)** Cape Canaveral Air Force Station (AFS) Skid Strip, FL (KXMR)

8.2.4.5.2. **(Added-920RQW)** Gainesville Regional, FL (KGNV)

8.2.4.5.3. **(Added-920RQW)** Homestead Air Reserve Base (ARB), FL (KHST)

8.2.4.5.4. **(Added-920RQW)** Hunter Army Airfield (AAF), GA (KSVN)

8.2.4.5.5. **(Added-920RQW)** Jacksonville Naval Air Station (NAS), FL (KNIP)

8.2.4.5.6. **(Added-920RQW)** Key West NAS, FL (KNQX)

8.2.4.5.7. **(Added-920RQW)** MacDill Aux Field (Avon Park), FL (KAGR) and its LZs

8.2.4.5.8. **(Added-920RQW)** Mayport Naval Station, FL (KNRB)

8.2.4.5.9. **(Added-920RQW)** Melbourne International, FL (KMLB)

8.2.4.6. **(Added-920RQW)** Functional Check Flights (FCF). FCFs will normally be accomplished west of I-95 and in the LATN north of Lake Washington. Be cautious of light VFR training aircraft from Florida Institute of Technology and Titusville AP operating in this vicinity. Truncated FCF (not full profile) can be conducted within or
above the Class D airspace of Patrick AFB. Example would be an autorotation Nr speed check.

8.2.4.7. (Added-920RQW) Hot Refuel. Hot Gas Operations will be conducted IAW T.O. 1H-60(H) G-1, USAF Series HH-60G Helicopter, T.O. 00-25-172, and Ground Services of Aircraft. Patrick AFB Hot Refueling locations are located in the 45 SWI 13-203. Hot Refuel procedures are contained within the 920 OG Space Operations Guide. Aircrews will comply with local procedures while conducting Hot Refuel at other locations.

8.2.4.7.1. (Added-920RQW) Minimum distance between refueling truck and receiver rotor will be 25 feet. (Ramp lines at Patrick AFB Hot Pits provide 29 foot rotor to truck clearance). A marshaller is not required between two helicopters moving into position at Patrick AFB.

8.2.4.7.2. (Added-920RQW) The Presence of hot cargo on Patrick Air Force Base (PAFB) may restrict use of certain Hot Refueling (HR) areas. Avoidance distances are 5000 or 3000 feet, depending on type of cargo. Hot Cargo is typically parked on RWY 11/29. The SUP will coordinate the avoid areas with Base Operations.

8.2.4.7.3. (Added-920RQW) Refueling operations require one 150lb Halon 1211 fire extinguisher positioned within 10 feet of the fuel receptacle of the helicopter. The fire bottles will be positioned near the India and Juliet HR areas, and near the North West (NW) corner of the Fire Station ramp for Alpha HR area. The bottles must be moved into position by the flight crew, and restored to their original position. The Alpha HR area fire bottle cannot be left adjacent to taxiway alpha due to aircraft taxi obstruction. Additionally, a fire crash and rescue vehicle will be on standby just outside the Fueling Supervisor Safety Zone (FSSZ), or on the fire station ramp.

8.2.4.7.4. (Added-920RQW) Transient parked aircraft may affect selection of the areas and coordination between OPS SUP/Aircraft Commander and Base Operations is required to ensure non-confliction.

8.2.4.8. (Added-920RQW) There are two authorized local refueling tracks, Air Refueling (AR) 15V and Marion Bassinger Military Operations Area (MOA) Air Refueling Track. Coordinates for 15V can be found in AP 1B, and Personal Flight Planning Software (PFPS) local database. Coordinates for Marion Bassinger Air Refueling Track can be found in the PFPS local database. Radio frequency for 15V, from Area Planning (AP) 1B, is 363.9 (primary) and 252.8 (Secondary). Secure communications are not authorized as the primary frequency for AR15V. Frequencies can be changed during mission planning if coordinated between receiver and tanker. Frequently 920th crews will use King Operations (321.0 MHz) as primary and 138.475 MHz as secondary for both Marion MOA and 15V tracks.

8.2.4.9. (Added-920RQW) No Fly/Avoid Areas. Do not fly below 500’ AGL within the designated no-fly areas.

Table 8.5. (Added-920RQW) No Fly Areas.

<table>
<thead>
<tr>
<th>Location</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Radius</th>
</tr>
</thead>
<tbody>
<tr>
<td>River Ranch</td>
<td>N 27 46.72</td>
<td>W 081 12.14</td>
<td>1.5 NM</td>
</tr>
</tbody>
</table>
8.2.4.10. *(Added-920RQW)* Run-up/Taxi/Take-off/Landing. All 301st aircraft are parked on the “Valley Ramp” (aka 750 Ramp). Unit aircraft routinely use either Golf Pad or the intersection of taxiway Mike and Zulu for take-off and landing. Routine crew changes are normally conducted in front of life support building. As a reminder, aircrew need notify Patrick ground to leave your flight plan open when taxiing in for a crew change.

8.2.4.11. *(Added-920RQW)* Departure/Arrival. The standard departure and arrival procedures are via the “Pineda Arrival/Departure.” When contacting Patrick tower, either when ready for take-off or prior to penetrating Class D airspace, state your intention to utilize the “Pineda Departure or Arrival.” Plan to fly at 500’ AGL or above along the causeway, ensuring that while passing over the Merritt Island the aircraft is directly over the causeway. Minimum altitude is 1000’ AGL when not on Pineda and over Merritt Island. If possible, fly 1000’ AGL or above while over residential areas for noise abatement. Clearance for the departure or arrival assumes no active runway crossing required. If, when taking off or landing, you need to cross the active runway you must request specific clearance for this airspace.

8.2.4.12. *(Added-920RQW)* Transition/Contact/Emergency Procedures (EP) training. Contact and EP training will normally be conducted at Patrick AFB. The Cape Canaveral Skid Strip is an alternate location requiring prior coordination to ensure tower manning and the availability of crash fire rescue (CFR). Call 45th Space Wing (SW) Range Scheduling at 3-5941 to coordinate use of the Skid Strip. Melbourne Initial Aiming Point (IAP) can also be used for Contact, EP, and instrument (CEPI) training. Crews are reminded to use Melbourne IAP during times of lower density air traffic. During cross-country flights, airports having CFR immediately availability can be used on a case by case basis. Ensure the OPS Sup/DO/CC is aware of the planned off-station EP training.

8.2.4.13. *(Added-920RQW)* Patrick AFB Traffic Pattern/Cargo Sling. The airfield procedures will all be in accordance with 45 SWI 13-203.

8.2.4.13.1. *(Added-920RQW)* Traffic Pattern. Local traffic patterns are contained in 45 SWI 13-203. Helicopters will typically fly 500 foot downwind with 300 foot base legs while in the pattern at Patrick AFB. Higher patterns can be requested for training such as turning auto rotations. Low level auto rotations are normally flown with 300 feet downwind and descents to 100 feet on final.

8.2.4.13.2. *(Added-920RQW)* The Cargo Sling area is “at member’s own risk”. Patterns to the Sling area should not conflict with normal local patterns. Patterns with actual sling loads will avoid over flight of persons, equipment, and buildings (to include boats in the river), unless the sling load to be placed on equipment, building, or vehicle.

8.2.4.14. *(Added-920RQW)* Flight Following: “Ops Normal” calls will be made to Rescue Ops, every 60 minutes (138.475 or 255.5). If radio communication with Rescue
Ops is not possible, then attempt to contact them through an Air Traffic Control (ATC) agency. As an example, while flying in Marion Military Operation Area (MOA) or AVON Gunnery Range, contact AVON Operations and request they call the Rescue Ops with an Ops Normal call. If lost contact is anticipated, call Rescue Operations prior, with the estimated return to contact time.

8.2.4.15. (Added-920RQW) Recovery. Prior to recovery, pass to Rescue Operations the aircraft maintenance status and number of minutes until expected landing. Include “Alpha” status and a short description of reason. 15 minute prior notification is optimal. The maintenance status codes are listed in Table 8.6.

<table>
<thead>
<tr>
<th>Code A-1</th>
<th>No Discrepancies (Salt exposure within 10 miles, below 3000 feet) an AFTO 781 entry is not considered a discrepancy in this situation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code A-2</td>
<td>Minor Discrepancies (i.e. avionics, Salt exposure below 30’).</td>
</tr>
<tr>
<td>Code A-3</td>
<td>Major Discrepancy in mission-essential equipment (repair required before next flight)</td>
</tr>
</tbody>
</table>

8.2.4.15.1. (Added-920RQW) The bird bath is located near Mike/Zulu for aircraft rinsing at the end of a sortie. The bird bath may be activated by keying the mike 5 times on 148.45 or by requesting Patrick ground to activate the bird bath. Crews are highly encouraged to rinse the aircraft at the conclusion of every mission, especially after salt water operations (Day or Night Water Ops) with consideration to external stores and weapons.

8.2.4.16. (Added-920RQW) Unmanned Launch Coordination Briefing. Normally, the ACs of both aircraft will attend the Coordination briefing. This briefing is typically at least three days prior to the launch. DOS will ensure the meeting and required aircrew will be annotated on the weekly schedule.

8.2.5. Instrument Procedures.

8.2.5. (920RQW) Aircrew should make every attempt to accomplish all instrument training while participating in the Instrument Flight Rule(s) (IFR) route structure. Additionally, training profiles should include full procedure approaches, holding, and unusual attitude training. Local “Tactical” Global Positioning System (GPS) approaches can only be accomplished Visual Flight Rules (VFR) during Visual Meteorological Conditions (VMC) under see and avoid rules. If you are using “Tactical” GPS approach system, contact Tower requesting “Long Visual Straight-In”.

8.2.6. Combat Rescue Operations.

8.2.6. (920RQW) Effective Combat Rescue Operations training and employment is based on thorough mission planning, succinct aircrew briefings, focused flight execution and positive mission debriefs.

8.2.6.1. Weapons Employment
8.2.6.1. **(920RQW)** Local weapons employment is restricted to Off Shore Gun Ranges and Avon Park. Gunnery at other DoD approved ranges must comply with local directives.

8.2.6.1.1. **(Added-920RQW)** Avon Park Range: All gunnery will be IAW technical data, AFI 11-2HH60V3, and the Avon Park Range user’s guide. Avon Range uses a website (https://avonpark.acc.af.mil/) as the complete guide. Paper copies of Avon Range user’s guides will be maintained by DOW, available in the flight briefing rooms. But targeting information must be extracted from Online Data. 301 RQS/DOW will periodically compare online information to In-Flight Guide and Extracted Information for accuracy. During mission planning and the aircrew briefing, aircrew will identify the intended gunnery targets and associated restrictions. Extracts of North and South TAC ranges will be maintained in the 301 RQS In-Flight Guide. Helicopter Approved Targets are also consolidated within the 301 RQS Standard Mission Briefing (PowerPoint).

8.2.6.1.2. **(Added-920RQW)** Off-Shore Gunnery Range: Conduct gunnery IAW technical data, AFI 11-2HH60V3, and 301 RQS In-Flight Guide. The gunnery range is normally considered as defined by a north – south line defined by mission planning database (approximately 15 Nautical Miles (NM) east of Patrick AFB). Surface vessels should not be within 10 NM of intended gunnery area. No vessel will be within 7 NM. If the area is fouled due to surface vessels, gunnery must cease until vessel is clear of 7 NM or a new area further North, East or South will be established. 301 RQS aircraft do not have the authority to impede or alter vessels on the high seas for gunnery training. Once the range is clear and prior to commencement of firing, broadcast “SECURITE” call on marine band channel 16 as outline in the In-Flight Guide or contained within the ELMO. After completion of firing, broadcast the “All Clear” as outline within the In Flight Guide and/or ELMO. Operations Supervisors are reminded to call US Coast Guard with position of firing especially if tracer or flares are being used.

8.2.6.1.3. **(Added-920RQW)** Hot Gun Procedures: If a Hot Gun is to return to Patrick AFB, pilots are to maneuver the helicopter to minimize the population areas on the side with the Hot Gun. Flight Engineer/Aerial Gunner with the Hot Gun will keep the weapon pointed in a safe direction at all times. Normally, that would be downward nearly perpendicular to the ground. Pilots should limit bank angles away from the Hot Gun (to minimize the gun elevation). Banking into the Hot Gun is preferred. The helicopter will announce to Patrick Tower and Rescue Operations of the Hot Gun as far out as possible. Inform the Tower to close 11/29 traffic and alert the Fire Chief the landing will be at the Cargo Sling Area. Make a request to tower to stop all traffic on the perimeter road. Approach the airfield as if landing on the west end of Runway 11/29 and land at the West end of Runway 11/29, with the Hot Gun side of the aircraft pointed west. Flight Engineer/Aerial Gunner controlling the Hot Gun will keep the barrel of the weapon pointed down and into a ditch, if available, with an angle away from the airfield (angle toward the river). Weapons Maintenance will approach from the non-Hot Gun side of the aircraft and complete Hot Gun clearing using appropriate checklist and technical order data. Extracted information is contained within the 301 RQS In-Flight Guide with pictorial description.
8.2.6.1.4. (Added-920RQW) The following special procedure will apply to live Infiltrate/Exfiltrate/ (Infil/Exfil/AIE) training and live fire GAU 18 training: To ensure no cook-off during live Infil/Exfil/AIE training, the FE or Gunner performing the Infil/Exfil/AIE will ensure the GAU-18 is SAFE and CLEAR of rounds prior to conducting the Infil/Exfil/AIE. Announce over intercom when action is complete. The crew member not performing the Infil/Exfil/AIE will maintain positive control of their weapon ensuring no personnel are in the line of sight of the GAU-18. 

**WARNING:** The GAU-18 can have a cook-off as much as 5 minutes after sustained firing. Positive control of the GAU-18 must be maintained whenever rounds are in the chamber.

8.2.6.1.5. (Added-920RQW) Hung Flare Procedures: If flares or chaff are dispensed during any sortie, a hung ordinance check will be accomplished. A hung ordinance check will be accomplished by a crewmember visually inspected each chaff/flare bucket for partially ejected ordinance. Aircraft with suspected hung chaff/flare at Patrick AFB will land and remain on an approved landing surface (Golf/Runway/Mike-Zulu) and EOD notified via ATC. This check may be accomplished at an approved LZ and if suspected ordinance found, the aircraft will be flown back to PAFB or suitable military station avoiding population as much as possible and as safety/situation dictates.

8.2.6.2. (Added-920RQW) Combat Mission Planning: Use the 301 RQS SOP, AFTTP 3-1 Vol 24, and 3-3 Vol 24 as guidelines to develop mission planning. Communications Monitoring Report (CMR) currency, evaluations, and upgrade should be used to determine mission events.

8.2.6.2.1. (Added-920RQW) Additional Briefing/Debriefings requirements.

8.2.6.2.1.1. (Added-920RQW) Blade Stall/EM Data: AFI 11-2HH-60 V3 contains the requirement of onset of blade stall and Energy Maneuver chart data. 301 RQS standard EM Ps Chart values will be the 1000 line of data. This will forgo any intrusion into Onset of Blade Stall that can occur with Ps = 500 or less.

8.2.6.2.1.2. (Added-920RQW) Training Rules: All tactical briefings will incorporate the general training rules as outlined by AFI 11-214. Extracted Training Rules are contained in the Standard Mission Briefing as contained in 301 RQS SOP.

8.2.6.2.1.3. (Added-920RQW) Debrief: Mission debriefings should concentrate on specific areas of the sortie when additional discussion can enhance training. Use Mission Objectives (aka Desired Learning Objectives (DLO)) as debriefing areas. Examples would be action/reaction of formation interplay between the separated crews. Aircraft Commanders and Flight Leads should keep the debriefing to issues within the sortie.

8.2.6.3. (Added-920RQW) EM Warm up: EM warm-up, if desired by flight lead, is typically flown immediately after entering the LATN in the vicinity of Lake Washington. EM warm-up should be completed as a single ship maneuver. Normally the flight will split up at Lake Washington, complete individual EM Warm-up, Low Level and FENCE
checks then call for rejoin with status checks. The specific procedure for accomplishing “EM warm-up” will be in accordance with 301 RQS SOP or as briefed.

8.2.7. Abnormal Procedures

8.2.7.1. Blind Procedures

8.2.7.1. (920RQW) Abnormal Procedures: Blind Procedures: See 301 RQS/ SOP

8.2.7.2. Lost Wingman Procedures

8.2.7.2. (920RQW) Lost Wingman Procedures will be IAW with AFI 11-2HH-60, Vol 3 and 301 RQS/ SOP.

8.2.8. Squadron Briefing Standards (May be published as a separate document)

8.2.8. (920RQW) Squadron Briefing Standards are published within the 301 RQS SOP

8.2.9. This chapter will include procedures for the following, if applicable:

8.2.9.1. Filing flight plans.

8.2.9.1. (920RQW) Filing Flight Plans: Aircrew will file in accordance with 45SWI 13-203. Normally flight plans will be completed and faxed to Base Operations. 301 RQS does have a filed Memorandum of Agreement (MOA) with 45 OSS Airfield Operations for telephonic filing of VFR Local Flight plans. Filing authority (AC, Ops SUP, or Top Three) can call Base Operations (4-2222) with Call Sign, Type, Tail Number, Takeoff Time, Local VFR, Estimated Time Enroute (ETE.)

8.2.9.2. Taxi/parking procedures.

8.2.9.2. (920RQW) Local Taxi/parking procedures: HH-60 helicopters may taxi into outlined parking positions on “the Valley” (750) Ramp without ground marshallers. Aircrew are exempt from the 25 foot rule IAW AFI 11-218, Ground Movement of Aircraft, by using the taxi lines, rotor circle, and aircraft ground equipment markings. Note: The Ground Power Unit is marked at 22 foot on the right side of the aircraft.

8.2.9.3. Scramble procedures.

8.2.9.3. (920RQW) Scramble procedures: During times of increased alert and if a scramble is anticipated, normal hover checks and aircraft cocking procedures will be used. During a scramble, all crew members will report to the flight lead. Copilots, Flight Engineers, and Gunners will be sent to aircraft and complete checklist items to engine start. Communication checks will be completed with all aircraft, PJ radios, and ROC. Aircraft Commanders and Pararescue Team Leaders (PJ) will confirm mission, final flight planning, and the commander’s intent then depart to the aircraft. ELMO and flight mission electronic data maybe pre-positioned with the copilot or carried with aircraft commander depending on situation of alert.

8.2.9.4. Traffic pattern and landing areas.

8.2.9.4. (920RQW) Local traffic pattern and landing areas are covered in Normal Operations above and within Air Traffic Control 45SWI 13-203.

8.2.9.5. Air operations security.
8.2.9.5. (920RQW) Air Operations Security at Patrick: Aircraft are protected on the Ramp by Restricted Area Quarantine and Security Police Patrols. Aircrews are reminded to possess and display Restricted Area Badge while on the Valley Ramp. There are two entry control points, one near Life support (south side) and the other is directly opposite (north side of ramp) near the MX hanger, to be used for entry and exit of the flight line. During hours of darkness, either a reflective vest or belt should be worn by all personnel. If reflective material is not available, aircrew should use a visible light source to mark their position on a darkened ramp. Additionally the Aerial Gunner will carry a side arm when aircraft are uploaded with armament. Additional guidance is available in AFI 13-207, Preventing and Resisting Aircraft Piracy.

8.2.9.6. Local gunnery and range procedures/restrictions.

8.2.9.6. (920RQW) Local gunnery and range procedures/restrictions are contained within paragraph 8.2.9.1 Weapons Employment and its sub-paragraphs.

8.2.9.6.1. Discarding of spent/jammed rounds while clearing weapons (rotors turning/static).

8.2.9.7. OPSEC/COMSEC procedures.

8.2.9.7. (920RQW) OPSEC/COMSEC: Flight Management will maintain COMSEC materials for flight use. Aerial Gunners will assist in loading transfer devices (like SKL) for aircraft use. Aerial Gunner will maintain control of transfer device from issue, through the flight, until device is zeroed and/or turned in to 301 RQS/FM or the Operations Supervisor (Ops Sup). Note: SKL normally retain codes and must be returned to COMSEC Safe in Operations.

8.2.10. Overwater flight covership/boat procedures:

8.2.10. (920RQW) Adverse Weather. Patrick Base Weather will issue advisories and warnings pertaining to the different phases of lightning. Phase I is issued when conditions exist for lightning. The flight line is not restricted for ground operations (preflight, equipment on-load, etc.). Phase II is issued when lightning has been observed within 5 miles of the airfield. The flight line is closed to all operations of external ground personnel. This does not restrict the movement of an aircraft. If returning from a flight, the crew will taxi into parking without the assistance of ground maintenance personnel. The aircraft commander will minimize personnel exposure to the lightning conditions. (Example: call Ops Sup for vehicle support to recovery aircraft from flight line).

8.2.10.1. Response times.

8.2.10.2. Radio contact procedures.

8.2.10.3. Loiter time requirements.

8.2.11. Unit approved restraint devices and inspection criteria/intervals IAW T.O. 00-25-245.

8.2.11.1. (Added-920RQW) Aircrews will obtain and monitor Bird Watch Condition (BWC) advisories prior to departure, low-altitude flight (if available) and arrival. Aircrews will adhere to the following BWC guidance:

8.2.11.1.1. (Added-920RQW) BWC SEVERE: Takeoffs and landings are prohibited.

8.2.11.1.2. (Added-920RQW) BWC MODERATE: Takeoffs and full stop landings are allowed if the departure and arrival route avoids identified bird activity. Traffic pattern activities to include planned low approaches are prohibited (other than takeoff and full stop landing).

8.2.11.1.3. (Added-920RQW) BWC LOW. No restrictions to aircraft operations.

8.2.11.1.4. (Added-920RQW) 920 OG/CC (or higher) is authorized to deviate from these guidelines based on mission priority and risk assessment.

8.2.12. (Added-920RQW) Tower Closed Operations. During times when the control tower is not operational, aircrew will contact the 45th/920th Wing Command Post, call sign “BARRIER”, on 383.00. All operations will be IAW 45th SWI 13-203. In general, 301 RQS Helicopters are allowed to conduct Tower Closed Operations for Search and Rescue and Range Support Missions. Pilots are responsible for See and Avoid takeoff, flight and landing operations. The 45/920 Wing Command Post will coordinate operations within the restricted ramp with security police. Additionally, Command Post can control airfield lighting if required.

8.2.13. (Added-920RQW) Base Security. At the direction of the 920 OG/CC and 301 RQS/CC/DO, the 301 RQS may provide base surveillance flights. These flights will include 45 SW assigned security personnel flying in MEGP status. Flights should be accomplished at 500’ AGL and above.

8.2.14. (Added-920RQW) Cape Security. The 301st will, at the direction of the Director of Operations, provide Cape surveillance flights. The mere presence of US Air Force helicopters provides a visible deterrence and an observation platform that is useful in safeguarding Cape Canaveral Facilities. All flights must be coordinated with 45 SW Range Scheduling at 3-5941. These flights will not routinely require 45 SW security personnel.

8.2.15. (Added-920RQW) Bambi Bucket Training and Operational Use: The Bambi Bucket is a subgroup of Cargo Sling Certification. 301 RQS aircrew utilizing Bambi Bucket must first be certified in Cargo Sling Operations. Bambi bucket training and clearance to use the bucket are IAW 301RQS local training guidance and Letter of X. Documentation of training will be maintained within the individual training records. The currency for Bambi Bucket is to maintain Cargo Sling Currency. There will be no additional currency for the Bambi Bucket. The Bambi Bucket will be employed using the Bambi Bucket Supplement to the 301 RQS In-Flight Guide.

8.3. Forms Adopted. AF Form 15, USAF Invoice; AF Form 315, USAF AVFuels Invoice; SF 44, Purchase Order - Invoice Voucher (Storage Safeguard Form); USAF Ground Fuel Identaplate; AF Form 781, Aircrew/Mission Vehicle Flight Data Document; AF Form 781A, AF Form 847, Recommendation for Change of Publication; AF Form 1381, USAF Certification of Aircrew Training; AF Form 1896, Maintenance Discrepancy and Work Document; DD Form
175, Military Flight Plan; DD Form 365-4, Weight and Balance Clearance Form F – Transport; DD Form 1801, DOD International Flight Plan, AF Form 4326, Tactic Improvement Proposal, DD Form 2131, Passenger Manifest, AF Form 4348, USAF Aircrew Certifications

PHILIP M. BREEDLOVE, Lt Gen, USAF
DCS, Operations, Plans and Requirements

(920RQW)

JEFFREY L. MACRANDER, Colonel, USAFR
Commander
Attachment 1
GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

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**Abbreviations and Acronyms**

(Added-920RQW) 32.375FM—Aircraft Radio Tuning Station

(Added-920RQW) A/C—Aircraft Commander

AC—Aircraft Commander

ACC—Air Combat Command

ACM—Air Combat Maneuvering

ADO—Assistant Director of Operations

AETC—Air Education Training Command

AF—Air Force

(Added-920RQW) AFB—Air Force Base
AFCS—Automatic Flight Control System
AFE—Aircrew Flight Equipment
AFRC—Air Force Reserve Command
(Added-920RQW) AFS—Air Force Station
AFTO—Air Force Technical Order
(920RQW) AFTO—Air Force technical order
AG—Aerial Gunner
AGE—Aircraft Ground Equipment
AGL—Above Ground Level
AHC—Aircraft Handling Characteristics
AHO—Above Highest Obstacle
AIE—Alternate Insertion or Extraction
(920RQW) AIE—Alternate Infiltration/Exfiltration
ANG—Air National Guard
ANVIS—Aviator Night Vision Imaging System
AR—Air Refueling
(Added-920RQW) ARB—Air Reserve Base
ARCP—Air Refueling Control Point
ARCT—Air Refueling Control Time
AREP—Air Refueling End Point
ARIP—Air Refueling Initial Point
(Added-920RQW) ART—Air Reserve Technician
(Added-920RQW) ATC—Air Traffic Control
ATF—Aircraft Torque Factor
ATIS—Airport Terminal Information System
AWL—Above Water Level
(Added-920RQW) BWC—bird watch condition
CAF—Combat Air Forces
CC—Commander
CCT—Combat Control Team
(Added-920RQW) CCV—Squadron Stan/Eval
CG—Center of Gravity
CHUM—Chart Update Manual
CM—Countermeasures
(Added-920RQW) CMR—Combat Mission Ready
COMSEC—Communications Security
CORS—Crew Overhead Restraint System
CP—Copilot
(920RQW) CP—Command Post
CRM—Cockpit/Crew Resource Management
CRO—Combat Rescue Officer
CSAR—Combat Search and Rescue
CSARTF—Combat Search and Rescue Task Force
CW—Continuous Wave
(Added-920RQW) DAFIF—Digital Aeronautical Flight Information File
(Added-920RQW) DD—Department of Defense
(Added-920RQW) DDMS—Department of Defense Military Support Squadron
DEC—Digital Electronic Control
DH—Decision Height
DLEA—Drug Law Enforcement Agencies
DO—Director of Operations
(920RQW) DO—Operations Officer
DOC—Designed Operational Capability
DOD—Department of Defense
(Added-920RQW) DSN—Defense Switched Network
ECU—Electronic Control Unit
EFQI—Enhanced Fuel Quantity Indicator
(Added-920RQW) ELMO—Electronic Link Mission Overlay
EM—Energy Maneuverability
(920RQW) EM—Energy Management
EMCON—Emissions Control
(Added-920RQW) EOD—Explosive Ordnance Disposal
EP—Emergency Procedure
EPA—Evasion Plan of Action
(Added-920RQW) ETE—Estimated Time of Arrival
ETF—Engine Torque Factor
(Added-920RQW) Exfil—Exfiltration
(Added-920RQW) FA—Flight Authorization
FAA—Federal Aviation Administration
FARP—Forward Area Refueling Point
(Added-920RQW) FAX—Facsimile
FCF—Functional Check Flight
FCIF—Flight Crew Information File
FE—Flight Engineer
(Added-920RQW) FL—Florida
(Added-920RQW) FLIP—Flight Information Procedure
FLIR—Forward Looking Infrared
(Added-920RQW) FREQ—Frequency
GA—Guardian Angel
GS—Ground Speed
GSI—Glide Slope Indicator
HEED—Helicopter Emergency Escape Device
HHQ—Higher Headquarters
HIT—Health Indicator Check
HLZ—Helicopter Landing Zone
(Added-920RQW) HR—Hot Refueling
HSI—Horizontal Situation Indicator
IAW—In Accordance With
ID—Identify/Identification
(Added-920RQW) IDS—Individual Data Summary
IFE—Inflight Emergency
IFF—Identification Friend or Foe
IFR—Instrument Flight Rules
ILS—Instrument Landing System
IMC—Instrument Meteorological Conditions
(Added-920RQW) IMT—Information Management Tool
IP—Instructor Pilot or Initial Point
IR—Infrared

(Added-920RQW) Infil—Infiltration
IRCM—Infrared Counter Measures

(Added-920RQW) ITS—Individual Training Summary
KIAS—Knots Indicated Airspeed
LARS—Lightweight Airborne Recovery System

(Added-920RQW) LATN—Low Altitude Tactical Navigation
LBV—Load Bearing Vest

(Added-920RQW) LED—Light Emitting Diode
LOC—Localizer
LZ—Landing Zone

MAJCOM—Major Command
MB—Marker Beacon
MDA—Minimum Descent Altitude
MEA—Minimum En Route Altitude

(Added-920RQW) MEGP—Mission Essential Ground Personnel
MEP—Mission Essential Personnel

(Added-920RQW) MI—Mission Identifier

(Added-920RQW) MOA—Military Operating Area

(Added-920RQW) MOC—Maintenance Operations Center
MSA—Minimum Safe Altitude

(Added-920RQW) MSL—Mean Sea Level
N/A—Not Applicable

(Added-920RQW) NAS—Naval Air Station

(Added-920RQW) NASA—National Aeronautics and Space Administration

NATO—North Atlantic Treaty Organization
NBC—Nuclear, Biological, and Chemical
NM—Nautical Mile

NOTAM—Notice to Airman
NT—Night
NVD—Night Vision Device
NVG—Night Vision Goggles

(Added-920RQW) OG—Operations Group

OGE—Out of Ground Effect

OPCON—Operational Control

OPR—Office of Primary Responsibility

OPSEC—Operations Security

(Added-920RQW) Ops Sup—Operations Supervisor

ORE—Operational Readiness Exercise

ORI—Operational Readiness Inspection

(Added-920RQW) ORM—Operational Risk Management

PACAF—Pacific Air Forces

PAI—Primary Aircraft Inventory

PAR—Precision Approach Radar

(Added-920RQW) PEX—Patriot Excalibur

(Added-920RQW) PFPS—Portable Flight Planning Software

PJ—Pararescue Jumper

QUAL—Qualification

RAMZ—Rigging Alternate Method Zodiac

(Added-920RQW) RAP—Ready Aircrew Program

RD—Rotor Disk

RLSO—Regional Logistics Support Office

(Added-920RQW) ROC—Rescue Operations Center

RPM—Revolutions Per Minute

RQS—Rescue Squadron

RVR—Runway Visibility Range

RWR—Radar Warning Receiver

SA—Situational Awareness, Strategic Attack

(920RQW) SA—Situational Awareness

SAV—Staff Assistance Visit

SAR—Search and Rescue

(920RQW) SAR—Search Air Rescue

SCUBA—Self-Contained Underwater Breathing Apparatus
(Added-920RQW) SLF—Shuttle Landing Facility
SM—Statue Miles
(Added-920RQW) SMFCD—Smart Multi Function Color Display
(Added-920RQW) SOP—Standard operating Procedures
SPINS—Special Instructions
(Added-920RQW) Stan/Eval—Standard/Evaluation
TACAN—Tactical Air Navigation
TACON—Tactical Control
(Added-920RQW) TCTO—Time Compliance Technical Order
TO—Technical Order
TOLD—Takeoff and Landing Data
(920RQW) TOLD—Take off and Landing Data
TOT—Time Over Target
TR—Training Rules
(920RQW) TR—Traditional Reservist
T/R—Transmit/Receive
USAF—United States Air Force
USAFR—United States Air Force Reserve
USAFWS/WSR—United States Air Force Weapons School HH-60 Division
USCG—United States Coast Guard
(Added-920RQW) VCS—Voice Call Sign
VFR—Visual Flight Rules
(920RQW) VFR—Visual Flight Records
(Added-920RQW) VHF—Very High Frequency
VMC—Visual Meteorological Conditions
VOR—VHF Navigation Aid
VSI—Vertical Situation Indicator
WOPS—Water Operations

Terms

Aircraft Commander (AC)—The aircrew member designated by competent authority as being in command of an aircraft and responsible for its safe operation and accomplishment of the assigned mission.
Air Taxi—Helicopter/VTOL aircraft movement conducted above the surface but normally not above 100 feet above ground level. The aircraft may proceed either via hover taxi or flight speeds more than 20 knots. The pilot is solely responsible for selecting a safe airspeed/altitude for the operation being conducted.

Buddy Preflight—When crewmembers, other that the primary aircrew for a mission, complete an aircraft preflight up to and may include hover checks. This is a Mission Commander’s tool used to expedite departures or to ensure alert postures are maintained.

Certification—The process of qualifying aircrew to perform tactical employment and special weapons capabilities, procedures, and rules.

Chaff—Passive form of electronic countermeasure used to deceive airborne or ground based radar.

Combat Profile—Normally, a mission designed to penetrate and operate within a combat environment (training or operational). The specific profile that will be flown is predicated on type and degree of threat.

Crew Resource Management (CRM)—Training concept that emphasizes team effectiveness by enhancing individual and aircrew performance in communication, situational awareness, effective leadership and management, and crew coordination.

Formation Flight—More than one aircraft which, by prior arrangement between crews, operates as a single aircraft with regard to navigation and position reporting. Separation between aircraft within the formation is the responsibility of the flight leader and the crews of the other aircraft in the flight. This includes transition periods when aircraft within the formation are maneuvering to attain separation from each other to effect individual control and during join up and breakaway. Such a group is treated for air traffic control purposes as a single aircraft.

Hover Taxi—Helicopter/Vertical takeoff-landing aircraft movement conducted above the surface and in ground effect at airspeeds less than approximately 20 knots. The actual height will vary, and some helicopters may require hover taxi above 25 feet above ground level to reduce ground effect turbulence or provide clearance for sling loads.

Low-Level Operations—Flight conducted below 500 feet above ground level.

Operational Mission—Any mission not designated as a unilateral training mission.

Tactical Mission—A mission designed to penetrate and operate within a combat or threat environment.
Attachment 2

HH-60 CREW BRIEFING GUIDE/CHECKLISTS

A2.1. GENERAL AIRCREW BRIEFING.
A2.1.1. Roll Call
A2.1.2. Time Hack
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  A2.1.3.1. Primary and Alternate
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  A2.1.5.2. Fuel Load, Bingo Fuel, and Aircraft Configuration
    A2.1.5.3. Weight and Balance
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    A2.1.5.5. NOTAM, FCIF, Passengers, Special Interest Items
    A2.1.5.6. Anti-Hijacking
    A2.1.5.7. Performance Data/TOLD
    A2.1.5.8. Increased Mission Risk Factors (Unfamiliar area, weather, crew complement, etc.) / Risk Mitigation
A2.1.6. Crew Duties and Responsibilities
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  A2.1.6.2. Emergency Actions/Intentions
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A2.1.6.4. Scanner’s Duties
A2.1.7. Equipment
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   A2.1.7.2. Aircrwe Flight Equipment
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A2.1.8. Specialized Mission Briefings

A2.2. ALERT CREW BRIEFING.
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   A2.2.2. Response Time
   A2.2.3. Notification Procedures
   A2.2.4. Scramble Procedures

A2.3. MISSION BRIEFING. NOTE: This briefing guide is intended for Tactical, Formation, and NVG missions. It incorporates the essential elements of the General Aircrew and AIE briefings.
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      A2.3.5.1. Primary/ Alternate
      A2.3.5.2. Mission Objectives
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            A2.3.5.4.1.2. High Density Traffic Areas
         A2.3.5.4.2. Mid-air Collision Avoidance
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A2.3.6.2. Fuel Load, Mission Capable Fuel, and Bingo

A2.3.6.3. Aircraft and Load Configurations

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A2.3.6.9. Increased Mission Risk Factors (Unfamiliar area, weather, crew complement, etc.)/Risk Mitigation

A2.3.7. Weight and Balance

A2.3.8. Performance Computations/TOLD

A2.3.8.1. Takeoff and Worst Case

A2.3.8.2. EM Data and Dash One Blade Stall numbers

A2.3.9. Departure Taxi, Takeoff, and Join Up

A2.3.9.1. Lineup/ Positions

A2.3.9.2. Communications Procedures

A2.3.9.3. Type of Formation

A2.3.9.4. Aborts/ Bumps

A2.3.9.5. Goggle Up Procedures

A2.3.10. En Route

A2.3.10.1. Navigation Responsibilities

A2.3.10.2. Altitudes/Airspeeds

A2.3.10.3. Type Formation(s)/ De-confliction plan

A2.3.10.4. Lead Changes

A2.3.10.5. HIT Check

A2.3.10.6. Communications(Ops Normal, ATC, MSN CC, etc.)

A2.3.10.7. Evasive Tactics/ Scatter Plans/ Rejoin Procedures

A2.3.11. Terminal Operations-Primary/Alternate

A2.3.11.1. Objective/ TOT

A2.3.11.2. Communications Procedures/ Authentication methods
A2.3.11.3. LZ Options (IAW AFTTP 3-1/3-3.HH-60G, or as briefed)
A2.3.11.4. Approaches and Landings
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A2.3.14. Contingencies
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  A2.3.14.2. VMC Blind
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  A2.3.14.4. Lost Communications/ Degraded Communications
  A2.3.14.5. Equipment
    A2.3.14.5.1. Flight Publications
    A2.3.14.5.2. Aircrew Flight Equipment
      A2.3.14.5.3. NVD’s
      A2.3.14.5.4. Maps/Charts/ELMO
      A2.3.14.5.5. Chemlites
  A2.3.14.6. Personal Equipment
    A2.3.14.6.1. ID Tags
    A2.3.14.6.2. Personal Weapons
A2.3.14.6.3. Classified Material/ COMSEC

A2.3.15. Crew Duties and Responsibilities
   A2.3.15.1. Changing Control of the Aircraft
   A2.3.15.2. Scanners Duties
   A2.3.15.3. Emergency Actions/ Intentions
      A2.3.15.3.1. Takeoff
      A2.3.15.3.2. En Route
      A2.3.15.3.3. Objective
      A2.3.15.3.4. NVD Malfunction
      A2.3.15.3.5. Crash Landing
      A2.3.15.3.6. Ditching
   A2.3.15.4. FE Responsibilities
   A2.3.15.5. Aerial Gunner Responsibilities
   A2.3.15.6. Crash/ Forced Landing Procedures
      A2.3.15.6.1. Water
      A2.3.15.6.2. Medical Kits
      A2.3.15.6.3. NBC Gear
      A2.3.15.6.4. EPA
   A2.3.15.7. Sanitization/Destruction of Classified/ Aircraft Destruction
      A2.3.15.7.1. Weapons/ Ammunition
      A2.3.15.7.2. Shot Records/ ID Card

A2.3.16. Questions

A2.4. ALTERNATE INSERTION/EXTRACTION BRIEFING.
   A2.4.1. Load
   A2.4.2. Pickup Point and Destination
   A2.4.3. Site Description
   A2.4.4. Go Around
   A2.4.5. Device To Be Used, Intended Hover Height, and Rope Length(s)
   A2.4.6. Protective Equipment
   A2.4.7. Power Available/Required
   A2.4.8. Emergency Procedures
      A2.4.8.1. Loss of Power (Aircraft/Hoist)
A2.4.8.2. Equipment Malfunction
A2.4.8.3. Oscillation
A2.4.8.4. Damaged Cable (Shock-loaded/Overloaded/Abrasion)
   A2.4.8.4.1. Identifying/Reporting
   A2.4.8.4.2. Alternate Recovery Options
A2.4.8.5. Communication Failure

Table A2.1. Team/Helicopter Hand Signals.

<table>
<thead>
<tr>
<th>MEANING</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affirmative</td>
<td>Thumbs Up</td>
</tr>
<tr>
<td>Cease Operations</td>
<td>Slashing Motion Across Throat</td>
</tr>
<tr>
<td>Deploy Medical Kit</td>
<td>Crossed Wrist</td>
</tr>
<tr>
<td>Deploy Backup Swimmer</td>
<td>Breast Stroke Motion</td>
</tr>
<tr>
<td>Deploy Raft</td>
<td>Paddling Motion</td>
</tr>
<tr>
<td>Deploy Stokes Litter</td>
<td>Hands Cupped Then Arms Out-stretched</td>
</tr>
<tr>
<td>Deploy rope ladder</td>
<td>Fists Shoulder Width Apart, Climbing Motion</td>
</tr>
<tr>
<td>Emergency</td>
<td>MK-13/124 Flare and/or Overt Strobe</td>
</tr>
<tr>
<td>Helicopter Move In/Out</td>
<td>Wave In/Out</td>
</tr>
<tr>
<td>Lower Rescue Cable Without Device</td>
<td>Climbing Rope Motion</td>
</tr>
<tr>
<td>Lower Penetrator/Device</td>
<td>One Arm Extended Overhead Fist Clenched</td>
</tr>
<tr>
<td>Parachute nearby</td>
<td>Closed Fist, Pumping Arm, Point With Other Arm</td>
</tr>
<tr>
<td>Ready for Pickup</td>
<td>Arms Waving/Strobe</td>
</tr>
<tr>
<td>Raise Cable</td>
<td>Thumbs Up/Chemlight, Pumping Motion</td>
</tr>
<tr>
<td>Sharks</td>
<td>Hand-Clapping Motion</td>
</tr>
<tr>
<td>Team Recall</td>
<td>Circling Arm Over Head Finger Pointing Skyward</td>
</tr>
<tr>
<td>Unable to Recover Must Depart</td>
<td>Flashing Landing Light</td>
</tr>
<tr>
<td>Movement of Aircraft</td>
<td>Direction of Palm</td>
</tr>
</tbody>
</table>

**for NVG operations, Team Leader/Aircraft Commander will specify light signals to be used.

A2.5. AIR REFUELING BRIEFING.
   A2.5.1. Tanker/Receiver Call Signs/Number of Receivers
   A2.5.2. AR Options (Cell or Individual Tactics)
   A2.5.3. Rendezvous/AR Radio Frequencies
   A2.5.4. Tanker/Receiver Light Configuration
   A2.5.5. IFF/TACAN/Altimeter Settings
   A2.5.6. Type of Rendezvous
   A2.5.7. ARIP, ARCP, AREP or Track
A2.5.8. ARCT
A2.5.9. Join Up/Refuel Altitude/Airspeed
A2.5.10. EMCON Procedures
A2.5.11. Lost Visual Contact Procedures/MSA
A2.5.12. Abort Point/End Air Refueling Point
A2.5.13. Emergency Recovery Bases
A2.5.14. Fuel Transfer Requirements and Pressure Limitations
A2.5.15. Air Traffic Control Clearance Limits
A2.5.16. Weather (Destination and Emergency Bases)
A2.5.17. Helicopter Power Limitations/bank angle due to High DA or High GWT
A2.5.18. Mission Abort Criteria
A2.5.19. Standby Tanker Requirements
A2.5.20. Air Refueling Light Signals

**A2.6. TANKER TO RECEIVER.**

A2.6.1. One Green – Clear to Contact (Wet/Dry) and/or Clear to Crossover to other side.
A2.6.2. One White – Go to Observation position.
A2.6.3. Two White – Crossover to other hose.
A2.6.4. One Amber – Prepare to Turn.
A2.6.5. Two Amber – Unable to Refuel, proceed to/wait for Spare Tanker.
A2.6.6. Flashing Red – Breakaway

**A2.7. RECEIVER TO TANKER.**

A2.7.1. One Flash – Reset Reel Response
A2.7.2. Multiple Flashes – Require More Gas

**A2.8. ORDNANCE DELIVERY BRIEFING.**

A2.8.1. Range/Mission Number/Range Time
A2.8.2. Range Clearing Operations
A2.8.3. Range Restrictions
   A2.8.3.1. LASER Procedures
A2.8.4. Arming Procedures
A2.8.5. Patterns
   A2.8.5.1. Altitude/Airspeed
   A2.8.5.2. Fields of Fire
A2.8.6. Communications  
  A2.8.6.1. Air-To-Air/Air-To-Ground  
  A2.8.6.2. Interplane  
A2.8.7. Weapons Malfunction  
A2.8.7.1. Hot Gun Route/Dearming Location  
A2.8.8. Chaff/Flare Operations  
A2.8.9. Smoke Deployment  
A2.8.10. Range Exiting Procedures  
A2.8.11. Safety Considerations  

A2.9. FORWARD AREA REFUELING POINT (FARP) BRIEFING.  
A2.9.1. Location  
A2.9.2. TOT  
A2.9.3. Communications  
  A2.9.3.1. Call Signs  
  A2.9.3.2. Air-To-Ground Frequencies  
A2.9.4. Marshalling Procedures  
A2.9.5. Onload  
A2.9.6. Equipment  
A2.9.7. Emergency Procedures  
A2.9.8. Departure Instructions  

A2.10. AIRDROP BRIEFING—PERSONNEL.  
A2.10.1. Type Of Drop  
A2.10.2. Drop Zone  
  A2.10.2.1. Markings  
  A2.10.2.2. Visual Signals  
A2.10.3. Communications  
  A2.10.3.1. Air-To-Ground  
  A2.10.3.2. Intercom  
  A2.10.3.3. Hand Signals  
A2.10.4. Drop Procedures  
  A2.10.4.1. Altitude/Airspeed  
  A2.10.4.2. Drop Order
A2.10.4.3. Track
A2.10.4.4. Door Procedures
A2.10.5. Emergency Procedures
  A2.10.5.1. Hung Jumper
  A2.10.5.2. Inadvertent Chute Deployment
A2.10.6. Post Deployment Procedures

A2.11. SLING LOAD/EXTERNAL LOAD OPERATIONS BRIEFING.

A2.11.1. Load Description
  A2.11.1.1. Anticipated Weight
  A2.11.1.2. Rigging
  A2.11.1.3. Location
A2.11.2. Power Available/Required
A2.11.3. Sling Arming/Dearming
A2.11.4. Hand Signals
A2.11.5. Hookup
  A2.11.5.1. Grounding
  A2.11.5.2. Eye Protection
  A2.11.5.3. External Lighting
A2.11.6. En Route
  A2.11.6.1. Airspeed/Altitude
A2.11.7. Destination
A2.11.8. Release
A2.11.9. Emergency Actions
A2.11.10. Safety Considerations

A2.12. SEARCH BRIEFING.

A2.12.1. Objective
  A2.12.1.1. Number of Survivors/Description/Medical Condition
  A2.12.1.2. Signaling Devices/Equipment
  A2.12.1.3. Specialized Aircraft Equipment Required
A2.12.2. Search Area
A2.12.3. On Scene SAR Forces/On Scene CC (OSC)
  A2.12.3.1. Establish Contact with OSC; if none, accomplish OSC Duties below:
A2.12.3.2. Inventory Status: Fuel/Wingman/Assets Available
A2.12.3.3. Establish Comm Plan
A2.12.3.4. Initial Contact with Survivor: Reassurance/Turn Locator Beacon Off/Etc.
A2.12.3.5. Authenticate (Combat)
A2.12.3.6. Relay Info: Pass Location To Appropriate Agency
A2.12.3.7. Threats In Area (Combat): # / Type / Location
A2.12.3.8. Ground Forces (Combat):Number / Location / Friendly? Enemy? /What Did Survivor See While in the Chute? Have They Seen the Survivor?
A2.12.3.9. Condition: Injuries/Ability To Move/Previous Instructions
A2.12.3.10. Signaling Devices (Prep Survivor: Find and Have Ready Devices in Kit/Vest, Radio, Batteries - Est Time?, Mirror - Keep Covered Until Ready To Use)
A2.12.4. Weather (En Route/On Scene/Recovery)
A2.12.5. Method of Search (Visual/Electronic)
  A2.12.5.1. Type of Pattern
  A2.12.5.2. Altitude/Airspeed
  A2.12.5.3. LARS Frequency/Code
A2.12.6. Bingo Fuel
  A2.12.6.1. Refueling Options
A2.12.7. Actions Upon Sighting Objective
A2.12.8. Medical Facilities

A2.13. NAVIGATION EQUIPMENT CHECK.

A2.13.1. VOR SELF TEST
  A2.13.1.1. Tune and identify a VOR Frequency
  A2.13.1.2. HSI CRS - set 315°
  A2.13.1.3. VOR/MB TEST switch - Down and hold (MB light on VSI should illuminate)
  A2.13.1.4. HSI VOR/LOC course bar and VSI course deviation pointer centered ± 1 dot
  A2.13.1.5. NO.2 bearing pointer - Centers @ 315° ± 5°
  A2.13.1.6. TO - FROM arrow should indicate – TO
A2.13.1.7. VOR/MB TEST switch – Release

A2.13.2. **TACAN SELF-TEST NOTE: Allow 90 seconds for warm-up**

A2.13.2.1. Function Selection Switch - T/R
A2.13.2.2. Set - 180° Course in HSI CRS window
A2.13.2.3. Depress the test button and observe:
   A2.13.2.3.1. Indicator Light - 1 Sec
   A2.13.2.3.2. DME indicates _ _ _ . _ for 7 Seconds
   A2.13.2.3.3. NO. 2 bearing pointer - 270°
      A2.13.2.3.3.1. DME - 0 0 0 . 0 ± . 5
      A2.13.2.3.3.2. NO. 2 bearing pointer - 180° ± 3°
      A2.13.2.3.3.3. CDI - Centered ± 1/2 Dot
   A2.13.2.3.3.4. To/From Indicator – TO  **NOTE:** If indicator light stays on during test, reaccomplish the check in the REC mode. If check is good, the malfunction is in the transmitter and bearing information is valid.

A2.13.3. **ILS. (Tune and Identify prior to check)**

A2.13.3.1. Check Marker Beacon Volume Control - On
A2.13.3.2. Nav Mode Switch - As Required
A2.13.3.3. Select Proper Approach Course
A2.13.3.4. Check CDI and GSI Indications

A2.13.4. **ADF. (Tune and Identify prior to check)**

A2.13.4.1. TEST switch - TEST and hold
A2.13.4.2. NO. 2 bearing pointer changes about 180° (ARN 89) or 90° (ARN 149) and stops TEST switch – release
A2.13.4.3. NO. 2 bearing pointer should return to original bearing
A2.13.5. Anti-Ice. Check As Required
A2.13.6. Pitot Heat. Check As Required

A2.14. **GROUND CHECKPOINT TEST.**

A2.14.1. **TACAN/VOR. (Tune and Identify prior to check)**

A2.14.1.1. Nav Mode Switch. As Required
A2.14.1.2. Bearing Pointers - Point To Station ± 4° Error from Known Checkpoint
A2.14.1.3. DME - 1/2 Mile Or 3 % Error, Whichever Is Greater
A2.14.1.4. CDI - Check Centered, Right and Left, ± 4° Error From Known Checkpoint
A2.14.1.5. Check - To/From Indicator Ambiguity
A2.15. **INSTRUMENT DEPARTURE BRIEFING.** Note: Accomplished immediately before initial simulated/actual instrument profile.

A2.15.1. Navigation/Communication Radio Settings
A2.15.2. Departure Instructions/Restrictions
A2.15.3. Emergency Return Approach
   A2.15.3.1. DH/MDA
   A2.15.3.2. Inbound Course
   A2.15.3.3. Emergency Safe/Sector Altitude
A2.15.4. Hazardous Terrain/Obstacles
A2.15.5. Emergency Intentions

A2.16. **INSTRUMENT APPROACH BRIEFING.**

A2.16.1. ATIS/Airport Information
A2.16.2. Type Of Approach/Weather Required
A2.16.3. Navigation and Communication Radio Settings
A2.16.4. Heading and Attitude Systems
A2.16.5. Altimeter–Barometric/Radar
A2.16.6. Final Approach Fix/Final Approach Course
A2.16.7. DH/MDA/Descent Rate
A2.16.8. Missed Approach Point and Intentions
A2.16.9. Airdrome Sketch
A2.16.10. Crew Duties
A2.16.11. Lost Comm Intentions
A2.16.12. Backup Approach
A2.16.13. Before Landing Checklist/Landing Light. **NOTE:** When accomplishing successive approaches, brief items that changed.

A2.17. **MISSION CHECKLISTS.**

A2.17.1. **H-60 Low Level Checklist:**
   A2.17.1.1. Performance Data - Compute/Confirm
   A2.17.1.2. Visors, NVGs, or eye protection – Down or On as required
   A2.17.1.3. VAWS – As required
   A2.17.1.4. Shoulder Harness – As required
   A2.17.1.5. Before Landing Checklist – Complete
A2.17.2. **FENCE IN/OUT CHECK** - See AFTTP 3-1/3-3. HH60G for expanded information.

A2.17.2.1. F - Fire Power/Fuel - check weapons, fuel computations
A2.17.2.2. E - Emitters - (radar, radar altimeter, TACAN, Doppler, lighting) as required
A2.17.2.3. N - Navigation equipment - check accuracy and set as required
A2.17.2.4. C - Communications - set up as required
A2.17.2.5. E - Electronic Countermeasures/Self Protection - IRCM, Chaff/Flares, RWR, Armor wings as required

**A2.18. MISSION DEBRIEF GUIDE.**

A2.18.1. Roll Call
A2.18.2. Classification
A2.18.3. Mission Objectives
A2.18.4. Mission Accomplishments
A2.18.5. Mission Reconstruction
  A2.18.5.1. Preflight
  A2.18.5.2. Ground Procedures
  A2.18.5.3. Departure
  A2.18.5.4. En Route
  A2.18.5.5. Terminal Operations and AIE
  A2.18.5.6. Mission Events
  A2.18.5.7. Recovery
A2.18.6. Flight Discipline/Effectiveness
A2.18.7. Communications
A2.18.8. Lessons Learned
A2.18.9. Comments/ Questions

**A2.19. MISCELLANEOUS BRIEFINGS/INFORMATION.**

Table A2.2. **SIGNALS/COMMUNICATIONS/EQUIPMENT.**

<table>
<thead>
<tr>
<th>Visual Detection Chart (ranges Shown in Miles)</th>
<th>Equipment Item</th>
<th>Down Sun</th>
<th>Cross Sun</th>
<th>Up Sun</th>
<th>Overcast</th>
<th>Night</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow Life Raft (1 or 7 Man)</td>
<td>1.9</td>
<td>1.4</td>
<td>1.1</td>
<td>1</td>
<td></td>
<td>----</td>
</tr>
<tr>
<td>Signaling Mirror</td>
<td>6.3</td>
<td>7.0</td>
<td>4.8</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Dye Marker</td>
<td>3.8</td>
<td>2.5</td>
<td>2.2</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Smoke</td>
<td>8.3</td>
<td>7.4</td>
<td>7.1</td>
<td>6.7</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Life Jacket</td>
<td>0.2</td>
<td>0.18</td>
<td>0.16</td>
<td>0.15</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Life Jacket Light</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>0.5</td>
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<td>-----</td>
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<tr>
<td>2 Cell Flashlight</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>2.4</td>
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<tr>
<td>Hand Held Star Signal</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>32.0</td>
<td></td>
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<tr>
<td>Ferry Cartridge</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>17.5</td>
<td></td>
</tr>
</tbody>
</table>

**Table A2.3. FORMATION LIGHT SIGNALS SIGNAL MEANING.**

<table>
<thead>
<tr>
<th>Signal Flash (Tail Postion Light)</th>
<th>Trail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two Flashes (Tail Postion Light)</td>
<td>Stagger Left</td>
</tr>
<tr>
<td>Three Flashes (Tail Postion Light)</td>
<td>Stagger Right</td>
</tr>
<tr>
<td>..</td>
<td>Return to Base</td>
</tr>
<tr>
<td>--</td>
<td>Lead Change*</td>
</tr>
<tr>
<td>-.</td>
<td>Slow Down</td>
</tr>
<tr>
<td>.-</td>
<td>Speed Up</td>
</tr>
<tr>
<td>---</td>
<td>Lights Increase</td>
</tr>
<tr>
<td>...</td>
<td>Lights Decrease</td>
</tr>
<tr>
<td>.-.</td>
<td>Lights Check</td>
</tr>
<tr>
<td>....</td>
<td>Lost Comm**</td>
</tr>
<tr>
<td>Circular Motion</td>
<td>Attention Signal</td>
</tr>
<tr>
<td>Move light in a Vertical movement.</td>
<td>Yes</td>
</tr>
<tr>
<td>Move light in a Horizontal movement</td>
<td>No</td>
</tr>
<tr>
<td>Momentary flash from light will be</td>
<td>Dot ‘.’</td>
</tr>
<tr>
<td>Two second hold down will be a</td>
<td>Dash ‘-‘</td>
</tr>
<tr>
<td>A flash from the tail position light will be switch On to Off for the H-60.</td>
<td>All signals will be echoed by the receiver back to the sender.</td>
</tr>
<tr>
<td>*Execute signal – Infinity symbol (horizontal 8 motion). This signal follows the lead changes light signal for execution. **Assume radio responsibilities</td>
<td></td>
</tr>
</tbody>
</table>

**Table A2.4. Distress/Emergency Frequencies.**

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 kHz</td>
<td>International Distress</td>
</tr>
<tr>
<td>2182 kHz</td>
<td>Maritime Mobile Distress</td>
</tr>
<tr>
<td>2670 kHz</td>
<td>USCG Emergency Coordination</td>
</tr>
<tr>
<td>8364 kHz</td>
<td>International SAR</td>
</tr>
<tr>
<td>40.50 MHz</td>
<td>VHF-FM Emergency</td>
</tr>
<tr>
<td>121.5 MHz</td>
<td>International Aeronautical Emergency</td>
</tr>
<tr>
<td>123.1 MHz</td>
<td>NATO/ICAO Scene of Action (SAR)</td>
</tr>
<tr>
<td>156.8 MHz</td>
<td>International Maritime Mobile Safety and Distress (Channel 16)</td>
</tr>
</tbody>
</table>
243.0 MHz | International Aeronautical Emergency  
282.8 MHz | International Scene of Action (SAR)

**AIR/SHIP/AIR Calling Frequencies.** May be used by any aircraft to communicate with stations/ships in the maritime mobile service.

- 4192 kHz
- 6273 kHz
- 12546 kHz
- 16728 kHz
- 22245 kHz

| Table A2.5. Equipment Required for Flight. |
|------------------|------------------|------------------|
| **EQUIPMENT**    | **DAY**          | **NIGHT/IMC**    | **OVERWATER** |
| Barometric Altimeters | 1    | 2    | 2    |
| VSI's            | 1    | 2    | 2    |
| HSI's            | 1    | 2    | 2    |
| Airspeed Indicators | 1    | 2    | 2    |
| Engine Instruments | YES  | YES  | YES  |
| Communication Radios | YES  | YES  | YES  |
| Mode 3/C Transponder | YES  | YES  | YES  |
| Radar Altimeters | 1    | 2/(1 IMC) | 2    |
| Anti-Collision Lights | 1    | 1    | 1    |
| Position Lights | YES  | YES  | YES  |
| Landing/Search Lights | 1    | 1*   | 1    |
| Cockpit Instrument Lights | NO  | YES  | NO  |
| Pitot Heat /Anti-Ice/ Blade De-Ice | IAW TO 1H-60(H)G-1 based on Environmental Conditions |

* NVG flight requires, in addition to visible landing or search light, an operational FLIR, or IR or variable intensity landing or search light.

**Note:** When only one instrument is available it must be on the side occupied by the pilot in command.