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HH-60 OPERATIONS PROCEDURES

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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.

(KADENAAB) Air Force Instruction (AFI) 11-2HH-60, Volume 3, *HH-60--Operations Procedures*, 5 January 2011, is supplemented as follows: Section 8.2 of this instruction covers local operating procedures, general information, and training restrictions for the 33d Rescue Squadron (33 RQS), Kadena Air Base (AB), Japan. It is a standalone publication and must be read in conjunction with AFI 11-2HH-60, Volume 3. All 33 RQS assigned personnel will comply with this instruction. This instruction also applies to visiting rotary wing aircrew members. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). All aircrew are encouraged to make recommendations for improvements to this supplement via AF Form 847, *Recommendation for Change of Publication*, to HH-60 Branch (18 OG/OGV). Waiver authority for this supplement is the 18 OG/CC.

SUMMARY OF CHANGES

This document has extensive revisions and must be thoroughly reviewed. Administrative changes throughout the document update AF-wide directorate designations. Major changes include: Paragraph Changed 2.6. Crew Complement, Changed Table 2.1. Crew Complement, Added 2.7.-2.7.2.2.1.Passengers, Changed 2.9.-2.9.1.5. Interfly, Changed 2.11.-2.11.6 Alert Aircraft, Changed 2.12.1. Added 2.20. In-Flight Supervision Alert Procedures, Changed 3.5.1. Fuel Conservation, Changed 3.11.1. Minimum Equipment for NVG Operations, 3.18.2.1., Changed 3.18.7. Cargo/Equipment, Changed 3.19.1. Water Operations, Added 3.20.2.1. Aircraft Configuration and Caution, Changed 3.21.1. Personnel Parachute Delivery, Changed 4.7.3.2.2. Aircraft Lighting, Changed 4.12.1. Aircraft Refueling, Changed 4.16-4.16.1.3. Power Required, Changed 4.21.3.2. Special Restrictions, Changed 6.12.8. Deployment Procedures, Changed 6.16.2.5. Hoist Operator Procedures, Changed 6.17.1. Parachute Delivery Operations, Changed 7.2.3.2. Non-Mountainous Procedures, Changed 7.2.4.2 Mountainous Procedures, Added Attachment 2 HH-60 Crew Briefing Guide/Checklist

(KADENAAB) This document has been substantially revised and must be completely reviewed. Major changes include: **8.2.3.3** Changed Mission Folder. **8.2.3.6** Changed Cross-Country Flights. **8.2.4.1.1** Kadena AB Changed. **8.2.4.2.1** Changed/Added. **8.2.4.3** Added. **8.2.4.5** Changed/Added. **8.2.9.1** Filing flight plans Added/Changed. **8.2.9.3.1** Changed. **8.2.9.3.2** Changed. **Attachment 1** Changed. **Attachment 3** Changed. **Attachment 4** Changed.

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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.

MISSION	**CREW POSITION**				
	P	**CP**	**FE**	**AG**	**GA**
Functional check flight (FCF) **(Note 1)**	1	1	1		
EP/INSTRUMENT/DAY WATER/ DAY REMOTE/NON-SIMULTANEOUS AIR REFUELING	1	1	1		
CSAR/ALERT	1	1	1	1 **(Note 4)**	**(Note 2)**
Peacetime SAR/ALERT	1	1	1	1 **(Note 4)**	**(Note 2)**
DAY TAC/FORMATION	1	1	1	1 **(Note 4)**	
NVG TAC/NVG WATER OPS/NVG REMOTE/SHIPBOARD OPS/NVG EPs	1	1	1	1 **(Note 4), (Note 5)**	
SIMULTANEOUS AIR REFUELING	1	1	1	1 **(Note 4)**	
MAINTENANCE GROUND RUN **(Note 3)**	1		1		

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 off 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. Mission Essential Personnel (MEP). Refer to AFI 11-401 and AFI 11-401, MAJCOM Supplement. Guidance in preceding reference applies regardless of qualification of pilots.

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, *MAINTENACE 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).

2.17. Maximum Flight Duty Period. IAW AFI 11-202V3, **Chapter 9**, and MAJCOM Supplements.

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

3.14.1. Aircraft Dash 1 Technical Order.

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

3.14.3. AFI 11-202V3, *General Flight Rules* (with MAJCOM Supp).

3.14.4. AFI 11-2HH-60V3, *HH-60 Operations Procedures.*

3.14.5. DoDM 4140.25-M, Vol II, **Chapter 16**, *Government Fuel Card Program Management Office DoD Fleet Card, Air Card, and Sea Card*

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. Hazardous Cargo Procedures. Normally, helicopters will not transport hazardous cargo. Should an aircraft be called upon to transport such cargo, consult AFJI 11-204, *Operational Procedures For Aircraft Carrying Hazardous Materials*/AFJMAN 24-204, *Preparing Hazardous Materials for Military Air Shipments*.

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. FEs 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 carabineers. 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

4.1. Checklists. Accomplish all Flight Manual checklists using the Challenge-Response (C-R) method for normal checklist procedures, and the Challenge-Response/Response (C-R/R) for emergency procedure checklists.

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; anti-collision, 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.

4.19.3. Reference AFJMAN 11-223V1, *Multiservice Helicopter Sling Load: Basic Operations and Equipment*, AFJMAN 11-223V2, *Multiservice Helicopter Sling Load: Single-Point Rigging Procedures*, and AFJMAN 11-223V2C2, *Multiservice Helicopter Sling Load: Single-Point Rigging Procedures* for amplifying information.

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. Simulated Instrument Flight. The following procedures supplement AFM 11-217, *Instrument Flight Procedures*, Volumes 1 & 3.

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 "ROPES, ROPES, ROPES" 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 carabineers 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 carabineers.

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 liter 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.

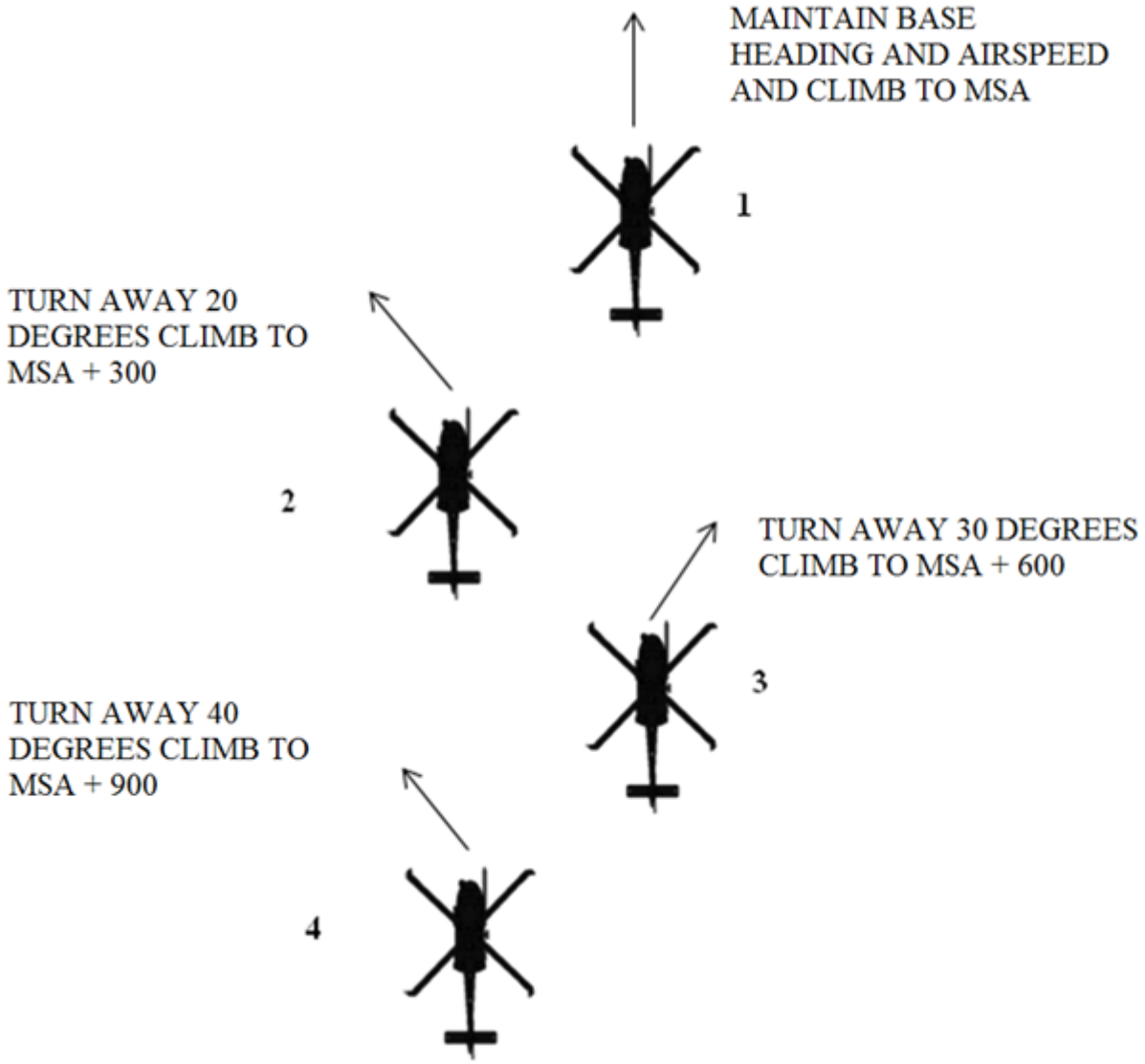
7.2.1. If another aircraft in the formation calls lost wingman and you still have sight of the preceding aircraft, maintain formation position on that aircraft. If you then lose sight of the preceding aircraft, execute lost wingman procedures for your original position in the formation.

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.

Figure 7.1. Non-Mountainous Procedures.



7.2.3.2. Wingmen turn away from the preceding aircraft and climb according to the following procedure: multiply your position by 10º 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.

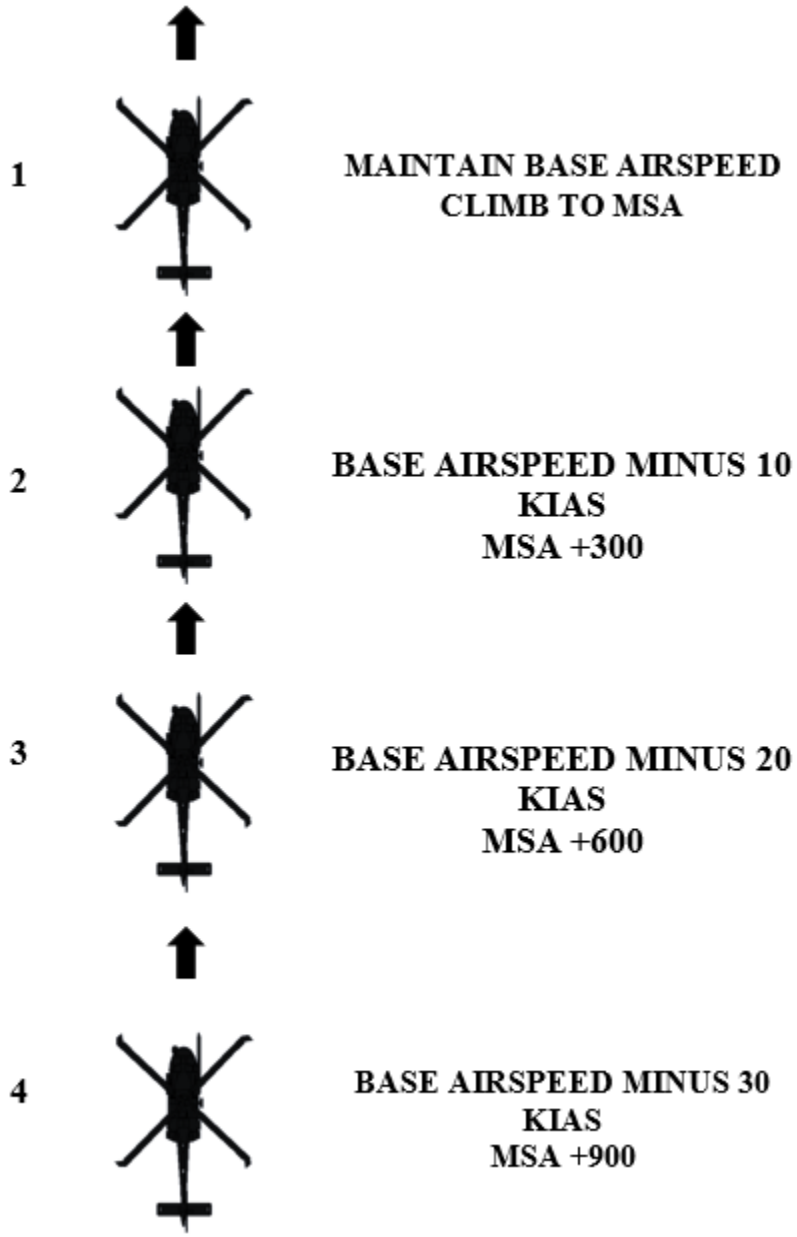
7.2.4.2. Aircraft number two will adjust to maintain announced airspeed minus 10 knots, and climb 300 feet above MSA.

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. **(KADENAAB) Introduction.** Section 8.2 of this supplement provides procedural guidance, general information, and training restrictions pertinent to helicopter operations at Kadena AB and off station. This supplement is not a single source document and must be used in conjunction with Kadena Air Base Instruction (KADENAABI) 13-204, *Airfield Operating Instruction*, *MCAS Futenma Airfield Operations Manual*; USMC Base Order P3500.1B, *SOP for CTA*; and AFI 13-212, Kadena AB Supplement (AFI13-212_KADENAABSUP), *Range Planning and Operations*.

8.2.2. General Policy.

8.2.2. **(KADENAAB) General Policy.** All aircrew, whether at home station or deployed, will operate within AFI 11-202, Volume 3, *General Flight Rules*, AFI 11-2HH-60, Volume 3, and all general published guidance with a particular sensitivity to host-nation requirements and restrictions. Any conflicts will be identified and elevated to the appropriate commander prior to mission prosecution unless safety-of-flight or a life-saving operational necessity dictates otherwise.

8.2.3. Mission Planning/Preparation.

8.2.3. **(KADENAAB) Mission Planning.**

8.2.3.1. **(Added-KADENAAB) Preparation.** All aircrew must be familiar with KADENAABI 13-204, *Airfield Operating Instruction*, Marine Corps Air Station (MCAS) Futenma Airfield Operations Manual, BO P3500.1B, *SOP for CTA*, and AFI 13-212, Kadena AB Supplement, prior to participating in flight operations.

8.2.3.2. **(Added-KADENAAB) Operational Risk Management (ORM).** The 33 RQS ORM worksheet should be completed prior to the Aircrew Briefing. The sheet will be completed, approved and briefed to the crew prior to flight.

8.2.3.3. **(Added-KADENAAB) Mission Folders.** Flight authorizations, weight and balance, currency products, ORM, and passenger manifests will be placed in the flight folder prior to the flight. The Operations Supervisor and Aircraft Commander (AC) are responsible to confirm the aircrew go/no-go status to include monthly boldface, Flight Crew Information Files (FCIF), Duties Not to Involve Flying (DNIF), and ground/flight currency. After the flight, the AC will ensure all copies of the flight documents are placed in the flight folder and turned in to the Operations Duty Officer (ODO).

8.2.3.4. **(Added-KADENAAB) Low-Level Surveys.** Master Chart Update Manual (CHUM) maps will consist of a 1:250,000 map [Joint Operations Graphic (JOG)] of the Okinawa area and 1:50,000 maps of the Northern Training Area (NTA) and Central Training Area (CTA). Master CHUM maps will be maintained in the flight planning room and posted monthly by Weapons and Tactics (DOW) with CHUM updates. Aircrews will only use low-level training maps that have current and annotated CHUM information. Aircrews will post newly identified hazards on the map immediately after the flight and notify the squadron Safety Officer. Low-Level flight training is authorized in the NTA, CTA, Ukibaru, W-174, W-176, W-178 and all over water areas. DOW will ensure that the CHUM and hazard overlays for the Falcon View/Combat Flight Planning Systems are posted.

8.2.3.5. **(Added-KADENAAB) Preflight.** Scheduled aircraft should be crew ready not later than 2 hours prior to scheduled takeoff. SMAs should not begin a preflight inspection until the aircraft is crew ready (includes scheduled munitions configuration and forms at aircraft) unless approved by the Ops Supervisor. Ops (ODO/aircrew) should request a power cart be available for use during the preflight and run-up.

8.2.3.6. **(Added-KADENAAB) Cross-Country Flights.** At non-DoD airfields, all ground handling and servicing will be conducted or supervised by a 33 RQS Special Missions Aviator (SMA) or crew chief.

8.2.4. Normal Operations.

8.2.4. **(KADENAAB) Normal Operations.**

8.2.4.1. **(Added-KADENAAB) Hot Refueling.** Hot refueling is available at Kadena AB or Futenma MCAS. Prior coordination is required for both locations. If a scheduled hot refueling is canceled for any reason, the aircraft commander will ensure the ODO is notified to cancel the refueling request. All personnel not directly involved in the refueling or receiving training will exit the aircraft and remain clear until the aircraft clears the refueling zone.

8.2.4.1.1. **(Added-KADENAAB) Kadena AB.** On the hot refuel day, the ODO will call the Maintenance Operations Control Center (MOCC) at 634-4139 not later than 2 hours prior to the refuel time. Any changes to the hot refuel time will be coordinated with Petroleum, Oils, Lubricants (POL) not later than 2 hours prior to the new request time, whichever is earlier. POL phone number is 634-3773. Hot refuel can be conducted either single ship or two ship on Papa 3 on the Papa Row. A marshaller is required to taxi the aircraft onto the refuel spot. Once in position the Hot Refueling Supervisor (HRS) and fire guard will extend the refueling hose and position the fire bottles as required.

8.2.4.1.2. **(Added-KADENAAB) Futenma MCAS.** Prior Permission Required (PPR) is desired (but not required during normal duty hours) for hot gas and may be obtained by calling Hot Gas operations desk at DSN 636-3248/3412. Fuel pits are normally open Monday through Friday 0700L to 2200L. Coordinate with the Air Operations Officer at 636-3066 for refueling outside normal duty hours. Plan on landing in the vicinity of taxiway D/Helo Spot "3" or as directed by Futenma Tower. Contact ground for taxi into the pits. The pilot on the controls will wait until a marshaller is in position and ready to direct the aircraft prior to taxiing forward into the fuel pits.

8.2.4.2. **(Added-KADENAAB) Personnel Airdrop Deployments.** Drop zones [Ie Shima (W-178), Ourawan DZ, Ridout DZ (Kadena) and Tsuken DZ] will be scheduled in advance and a Notice to Airman (NOTAM) will be posted.

8.2.4.2.1. **(Added-KADENAAB)** When performing personnel deployments in the local area, a boat or a hoist equipped helicopter with a Day Water Operations (DWO)/ Night Water Operations (NWO) qualified crew (appropriate for the time of day) will be immediately available in order to recover off-DZ drops.

8.2.4.3. **(Added-KADENAAB)** Pyrotechnic devices will not be used for land operations other than W-174 unless specific approval is obtained from the controlling agency.

8.2.4.4. **(Added-KADENAAB) Flight Following.**

8.2.4.4.1. **(Added-KADENAAB)** Crews will pass an "Operations Normal" and position report every 30 minutes (if on alert) or 1 hour (if non-alert or air refueling) to Jolly Operations for flight following. Line of sight communications (LARS/VHF) should be used to the maximum extent possible. If direct contact is not possible, and Satellite Communications (SATCOM) is not available, calls should be made to the nearest agency for relay to Jolly Operations. If the aircrew expects to be off radios for more than 30 minutes (i.e., shutdown or extended ground operations), pass the expected time for continued communications to the flight following agency. Alert crews may pre-coordinate airborne contact times in excess of 30 minutes with the ODO, but in no case will time between calls exceed 60 minutes. Calls "in the blind" do not constitute an Ops Normal call. Crews should pass Operations Normal report every 1 hour during Cross Country flights. AC will call at each intermediate stop and upon arrival at final destination.

8.2.4.4.2. **(Added-KADENAAB)** Approximately 10 minutes prior to landing at home station, chalk 2 will pass flight lead their aircraft's alpha status and flight lead will pass the flight status to Jolly Ops. Aircrews will provide applicable information to the ODO (i.e., estimated time of arrival, alpha status, request for maintenance specialists); the ODO will pass info to the maintenance production supervisor.

8.2.4.5. **(Added-KADENAAB) Simulated Emergency Procedures (EPs)**. With appropriately qualified crews, simulated EPs may be conducted at all approved Landing Zones (LZs) with a current survey. **Exception:** Roll-On landings and practice single-engine maneuvers with a throttle dragged must terminate to a paved runway/taxiway or the W-178 runway. Auto rotations must terminate to a paved runway/taxiway, the W-178 runway, or a Kadena AB helipad.

8.2.5. Instrument Procedures.

8.2.5. **(KADENAAB) Instrument Procedures.** Due to the limited availability of suitable alternate airfields and their close proximity to Kadena AB, aircrews must pay particular attention to weather conditions and alternate airfield requirements prior to accepting an Instrument Flight Rules (IFR) clearance.

8.2.6. Combat Rescue Operations.

8.2.6. **(KADENAAB) Combat Rescue Operations.**

8.2.6.1. Weapons Employment

8.2.6.1. **(KADENAAB) Weapons Employment.** The primary weapons employment ranges are W-173, W-174 and W-176. Refer to AFI 13-212, Kadena AB Supplement, and Shogun In-flight Guide, Volume 6, for range-specific procedures. During night or marginal weather gunnery training, aircraft commanders will pay particular attention to the hazards of over water weapons pattern maneuvering and potential for target fixation and/or inadvertent descents.

8.2.6.1.1. **(Added-KADENAAB) Live Ammunition.** Weapons will be armed only after the range is cleared and clearance is given by the aircraft commander. When weapons are not being fired and the pattern puts the gunner on the opposite side of the target, weapons will be pointed in a safe direction.

8.2.6.1.2. **(Added-KADENAAB) Blank Ammunition.** Weapons will not be armed with blanks until the aircraft is in the CTA, NTA, Ukibaru or over water. Blank ammunition will not be fired in the immediate vicinity of any boats, vehicles, civilian populous or non-participating military personnel. Blank ammunition will not be fired at participating military personnel [i.e., aggressors during Combat Search and Rescue (CSAR) training] when they are within 100 feet of the weapon.

8.2.6.1.3. **(Added-KADENAAB) Foreign Object Damage (FOD) Prevention.** Following gunnery training (both live and blank), the aircrew will pause at their next landing for a visual inspection and a general cabin look-over to remove any possible FOD hazard. During taxi the crew should close the cargo doors to prevent FOD. After shutdown, use all available light sources to visually inspect the entire aircraft and the surrounding ramp area. Crews should pay particular attention to the landing gear strut and brake/wheel areas of the aircraft. If required to land on the runway, the crews should close the cabin doors prior to commencing the approach. Terminate the approach in a hover abeam the desired landing pad, hover taxi to the pad and accomplish FOD inspection.

8.2.6.2. **(Added-KADENAAB) Chaff/Flare Employment.** Aircraft with chaff and flare should be self-tested on the ground to verify payload count and mag IDs. Chaff and flares will only be expended at an approved range. Aircrews will inspect for hung flares following flare operations at the next landing site. If this inspection is conducted at Kadena AB, land adjacent to Pad 1 or 2, taxi onto Pad 1or 2 and visually inspect for hung flares. When flying outside an approved range, the system will be entirely disabled and safed by selecting MODE – OFF on the CMDS and by inserting the Chaff/Flare Safety

Pins. Aircraft configured without Chaff and/or Flares are authorized flights with the ALE-47 in Training Mode.

8.2.6.3. **(Added-KADENAAB) Water Operations Training.** Authorized training areas are depicted in the Shogun In-Flight Guide and graphically depicted in **Attachment 3** of this supplement. Limit expendables used to sea dye and chem lights only, unless a boat and Explosive Ordnance Disposal (EOD) personnel are available for pyro recovery. Pyrotechnic smokes may be used in W-173, W-174, W-176, and North and South water training areas without recovery.

8.2.6.3.1. **(Added-KADENAAB)** Open-Ocean (non-protected water areas) live training must be approved by 33 RQS/DO or Operations Supervisor. For the purposes of this paragraph, all areas other than Tsuken Jima, Ourawan DZ (Bay), and Ukibaru are considered unprotected.

8.2.6.3.2. **(Added-KADENAAB) Helicopter Cover-Ship Requirements and Safety Considerations.** Cover-Ships will maintain constant line-of-sight communications with the deploying helicopter at all times and remain within 10 NM. Each aircrew will pass their operating location to the other. Aircraft should maintain A/A TACAN DME with each other. When using the "cover ship capable of deploying PJs and/or a life raft" option, the cover ship crew must be mission qualified for low-level flight (raft deployment) and will carry a second life raft for deployment.

8.2.6.3.3. **(Added-KADENAAB) Cover (Safety) Boat Procedures.** The boat party and helicopter will maintain positive visual contact at all times and minimize the distance to the deploying team to ensure prompt response. In addition to visual contact, night water operations require positive radio contact. Aircrew will positively identify the boat party with pre-briefed signals (strobe lights, chem lights, flashlights, etc.). The boat party will ensure the specific training area is clear of all water hazards and direct changes as necessary. During live deployments, the aircrew will conduct operations/deployments in such proximity to the boat party as to allow visual monitoring of deployed personnel and adequate response time.

8.2.6.4. **(Added-KADENAAB) Air Refueling.** The primary air refueling tracks are defined in the Shogun In-Flight Guide and graphically depicted in **Attachment 3** of this supplement. Other over water tracks can be arranged between tanker and receiver provided no restrictions exist in the areas chosen. Ensure the ODO is informed which are to be used.

8.2.6.5. **(Added-KADENAAB) Alternate Insertion and Extraction (AIE) Operations.** Day/Night AIE training (live or simulated) is authorized at any of the training sites listed in the Flight Crew Information File (FCIF) Site Book and this publication, to include tower-approved locations on Kadena AB or Futenma MCAS. Live Stabilized Body Position (STABO) and short-haul operations are not authorized without specific 33 RQS/CC or DO approval.

8.2.7. Abnormal Procedures

8.2.7. **(KADENAAB) Abnormal Procedures.**

8.2.7.1. Blind Procedures

8.2.7.1. **(KADENAAB) Blind Procedures.** Refer to AFI 11-2HH-60, Volume 3, and *USAF HH-60G Combat Rescue Forces Standard Operating Procedures*.

8.2.7.2. Lost Wingman Procedures

8.2.7.2. **(KADENAAB) Lost Wingman Procedures.** Refer to AFI 11-2HH-60, Volume 3, and *USAF HH-60G Combat Rescue Forces Standard Operating Procedures*.

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

8.2.8. **(KADENAAB) Squadron Briefing Standards.** Refer to *USAF HH-60G Combat Rescue Forces Standard Operating Procedures*.

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

8.2.9. **(KADENAAB) Other Procedures.**

8.2.9.1. Filing flight plans.

8.2.9.1. **(KADENAAB) Filing flight plans.** All 33 RQS local and cross-country flights will have a flight plan on file and signed. The ODO will email the flight plan to base operations prior to crew step. For local Visual Flight Rules (VFR) flights, the ODO will send in the Schedule Report generated by ePEX for that day. IFR flights and VFR flights outside the local area will file using a Department of Defense (DD) Form 1801, *International Flight Plan, DoD*. Rescue missions will use "Air Force Rescue" and the last 3 digits of the tail number. Functional Check Flights (FCF) will use the designated "Test" call sign. All scheduled flights will have a posted call sign.

8.2.9.2. Taxi/parking procedures.

8.2.9.2. **(KADENAAB) Taxi/parking procedures.** Aircraft will normally be parked in the Valley. FCF aircraft are normally parked on Papa 1C unless there is sufficient room in the Valley. Papa 1C is within a restricted area and personnel must use the entry control point for access. Ground Control must be called for engine start as well as taxi clearance beyond the Throat. The pilot on the controls will signal the marshaller with a flash of the landing light when ready to taxi out of parking. Hover checks are normally conducted on the Throat but may be conducted in other locations in accordance with KADENAABI 13-204. Spot turns on the center parking spot in the Valley are not authorized.

8.2.9.3. Scramble procedures.

8.2.9.3. **(KADENAAB) Scramble Procedures.** The squadron will maintain 30-minute aircrew response capability during all 18th Wing night fighter operations (not including cross-country arrivals/departures).

8.2.9.3.1. **(Added-KADENAAB)** Aircraft will be fully configured, hover checked and placed on alert prior to the start of the alert period. The Operations Supervisor and Aircraft Commanders will coordinate with the Supervisor of Flying (SOF) for situational awareness on fighter launch/recovery windows and operating areas. If the alert crews and aircraft will be flying during the alert period, the crew will step early enough to ensure the aircraft are ready for takeoff before the start of the alert period and the spare will be H3'd and on alert before the start of the alert period.

8.2.9.3.2. **(Added-KADENAAB)** All scheduled alert crews will conduct a crew briefing to include individual crewmember duties during a scramble launch.

8.2.9.3.3. **(Added-KADENAAB)** Upon mission notification, the ODO will immediately contact ops and mx supervision, coordinate with PJs as required and run the Search and Rescue Quick Reaction Checklist. The phrase "TOKYO, TOKYO, TOKYO" is used to alert all necessary personnel of the potential SAR mission. All available non-alert aircrew will report to the Ops Desk and make themselves available for any support tasks by alert aircrew or ops supervision (mission planning, preflight, additional aircraft, etc.).

8.2.9.3.4. **(Added-KADENAAB) Launch Procedures.** Alert aircraft will not launch on a SAR without authority from 33 RQS/CC or higher. SAR aircraft may take-off from the Throat with Air Traffic Control (ATC) clearance.

8.2.9.4. Traffic pattern and landing areas.

8.2.9.4. **(KADENAAB) Traffic Pattern and Landing Areas.**

8.2.9.4.1. **(Added-KADENAAB) Kadena AB.** Traffic patterns, arrival, departures, and other airfield information are found in KADENAABI 13-204. Traffic pattern altitude is 800' MSL. FCF areas are found in AFI 21-101, Air Combat Command, USAF in Europe, and PACAF Supplement, Kadena AB Supplement (AFI21-101_COMBATAIRFORCESUP_KADENAABSUP), *Aircraft and Equipment Maintenance Management.*

8.2.9.4.1.1. **(Added-KADENAAB)** On occasions when flights are approved and scheduled to recover after 2200L, the aircrew will recover to the runway environment using one of the methods listed below for noise abatement. After recovering to the runway environment, aircrews may conduct aircraft wash, Forward Air Refueling Point (FARP) operations, hover checks, etc. with no restrictions.

8.2.9.4.1.1.1. **(Added-KADENAAB)** Recover using any published instrument approach.

8.2.9.4.1.1.2. **(Added-KADENAAB)** Recover via a visual straight-in approach that emulates straight-in instrument approach track using runway headings (under tower control).

8.2.9.4.1.1.3. **(Added-KADENAAB)** Recover via BOLO 5 arrival, flying the arrival 1NM offshore paralleling the coastline to a point where a straight-in visual approach can be made to the runway or helipad.

8.2.9.4.2. **(Added-KADENAAB) MCAS Futenma.** Traffic patterns, arrival, departures, and other airfield information are found in *MCAS Futenma Airfield Operations Manual*. Traffic pattern altitude is 1000' MSL, 1300' MSL for auto rotations. All non-Futenma assigned aircraft require a PPR. No live ordnance of any kind is authorized.

8.2.9.4.3. **(Added-KADENAAB) Landing Zones.** Areas include the NTA, CTA, and various other operating areas/sites. Site descriptions and restrictions are contained in the LZ Books located in the Flight Planning/Reference Library (OPR - DOW).

Advisory frequencies for NTA and CTA are published in the in-flight guide and should be continuously monitored when not in contact with ATC. Advisory calls with position and intentions should be made as appropriate. Aircraft commanders will ensure that updated site surveys are provided to DOW. The helicopter LZs in the CTA and NTA can be used without prior scheduling, as long as they are not listed as unavailable in the Range Bulletin.

8.2.9.4.3.1. **(Added-KADENAAB)** Other Operating Areas/Sites. Numerous other Landing Zones are included in the LZ Site Books. Aircraft commanders will verify status of site surveys and all restrictions prior to use.

8.2.9.5. Air operations security.

8.2.9.5. **(KADENAAB) Air Operations Security.** In accordance with KADENAABI 13-204.

8.2.9.6. Local gunnery and range procedures/restrictions.

8.2.9.6. **(KADENAAB) Local Gunnery and Range Procedures/Restrictions.** Refer to AFI 13-212, Kadena AB Supplement, and Shogun In-flight Guide, Volume 6, for range-specific procedures and paragraph **8.2.6.1**

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. **(KADENAAB)** Operations Security (**OPSEC)/Communications Security (COMSEC) Procedures.** The left seat SMA (or right seat SMA if no left seat SMA is on board) is responsible for obtaining COMSEC and keying aircraft radios.

8.2.10. Overwater flight covership/boat procedures:

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.

8.3. 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

(KADENAAB)

BARRY R. CORNISH, Brigadier General, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

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Abbreviations and Acronyms

AC—Aircraft Commander

(Added-KADENAAB) AB— Air Base

ACC—Air Combat Command

ACM—Air Combat Maneuvering

ADO—Assistant Director of Operations

AETC—Air Education Training Command

AF—Air Force

AFCS—Automatic Flight Control System

AFE—Aircrew Flight Equipment

AFRC—Air Force Reserve Command

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

(Added-KADENAAB) AIE— Alternate Insertion and Extraction

ANG—Air National Guard

ANVIS—Aviator Night Vision Imaging System

AR—Air Refueling

ARCP—Air Refueling Control Point

ARCT—Air Refueling Control Time

AREP—Air Refueling End Point

ARIP—Air Refueling Initial Point

(Added-KADENAAB) ATC— Air Traffic Control

ATF—Aircraft Torque Factor

ATIS—Airport Terminal Information System

AWL—Above Water Level

CAF—Combat Air Forces

CC—Commander

CCT—Combat Control Team

CG—Center of Gravity

CHUM—Chart Update Manual

CM—Countermeasures

COMSEC—Communications Security

CORS—Crew Overhead Restraint System

CP—Copilot

CRM—Cockpit/Crew Resource Management

CRO—Combat Rescue Officer

CSAR—Combat Search and Rescue

CSARTF—Combat Search and Rescue Task Force

(Added-KADENAAB) CTA— Central Training Area

CW—Continuous Wave

DEC—Digital Electronic Control

DH—Decision Height

DLEA—Drug Law Enforcement Agencies

(Added-KADENAAB) DNIF— Duties Not to Involve Flying

DO—Director of Operations

DOC—Designed Operational Capability

DOD—Department of Defense

(Added-KADENAAB) DOW— Director of Operations, Weapons

(Added-KADENAAB) DWO— Day Water Operations

ECU—Electronic Control Unit

EFQI—Enhanced Fuel Quantity Indicator

EM—Energy Maneuverability

EMCON—Emissions Control

(Added-KADENAAB) EOD— Explosive Ordinance Disposal

EP—Emergency Procedure

EPA—Evasion Plan of Action

ETF—Engine Torque Factor

FAA—Federal Aviation Administration

FARP—Forward Area Refueling Point

(Added-KADENAAB) FARP— Forward Air Refueling Point

FCF—Functional Check Flight

(Added-KADENAAB) FCF— Functional Check Flights

FCIF—Flight Crew Information File

FE—Flight Engineer

FLIR—Forward Looking Infrared

(Added-KADENAAB) FOD— Foreign Object Damage

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-KADENAAB) HRS— Hot Refueling Supervisor

HSI—Horizontal Situation Indicator

IAW—In Accordance With

ID—Identify/Identification

IFE—Inflight Emergency

IFF—Identification Friend or Foe

IFR—Instrument Flight Rules

ILS—Instrument Landing System

IMC—Instrument Meteorological Conditions

IP—Instructor Pilot or Initial Point

IR—Infrared

IRCM—Infrared Counter Measures

KIAS—Knots Indicated Airspeed

LARS—Lightweight Airborne Recovery System

LBV—Load Bearing Vest

LOC—Localizer

LZ—Landing Zone

MAJCOM—Major Command

MB—Marker Beacon

(Added-KADENAAB) MCAS— Marine Corps Air Station

MDA—Minimum Descent Altitude

MEA—Minimum En Route Altitude

MEP—Mission Essential Personnel

(Added-KADENAAB) MOCC— Maintenance Operations Control Center

MSA—Minimum Safe Altitude

N/A—Not Applicable

NATO—North Atlantic Treaty Organization

NBC—Nuclear, Biological, and Chemical

NM—Nautical Mile

NOTAM—Notice to Airman

(Added-KADENAAB) NOW— Night Water Operations

NT—Night

(Added-KADENAAB) NTA— Northern Training Area

NVD—Night Vision Device

NVG—Night Vision Goggles

(Added-KADENAAB) ODO— Operations Duty Officer

OGE—Out of Ground Effect

OPCON—Operational Control

OPR—Office of Primary Responsibility

OPSEC—Operations Security

ORE—Operational Readiness Exercise

ORI—Operational Readiness Inspection

(Added-KADENAAB) ORM— Operational Risk Management

PACAF—Pacific Air Forces

PAI—Primary Aircraft Inventory

PAR—Precision Approach Radar

PJ—Pararescue Jumper

(Added-KADENAAB) POL— Petroleum, Oils, Lubricants

(Added-KADENAAB) PPR— Prior Permission Required

QUAL—Qualification

RAMZ—Rigging Alternate Method Zodiac

RD—Rotor Disk

RLSO—Regional Logistics Support Office

RPM—Revolutions Per Minute

RQS—Rescue Squadron

RVR—Runway Visibility Range

RWR—Radar Warning Receiver

SA—Situational Awareness, Strategic Attack

(Added-KADENAAB) SATCOM— Satellite Communications

SAV—Staff Assistance Visit

SAR—Search and Rescue

SCUBA—Self-Contained Underwater Breathing Apparatus

SM—Statue Miles

(Added-KADENAAB) SMA— Special Missions Aviator

SPINS—Special Instructions

TACAN—Tactical Air Navigation

TACON—Tactical Control

TO—Technical Order

TOLD—Takeoff and Landing Data

TOT—Time Over Target

TR—Training Rules

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

VFR—Visual Flight Rules

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

(Added-KADENAAB) Throat— Northern most portion of Charlie Taxiway; North of Papa, but short of the Valley.

(Added-KADENAAB) Valley— 33 RQS Parking Area; at the Extreme North End of Charlie Taxiway.

Attachment 2

HH-60 CREW BRIEFING GUIDE/CHECKLISTS

A2.1. GENERAL AIRCREW BRIEFING.

A2.1.1. Roll Call

A2.1.2. Time Hack

A2.1.3. Mission

A2.1.3.1. Primary and Alternate

A2.1.3.2. Mission Objective

A2.1.3.3. Sequence of Events

A2.1.3.4. Route of Flight/Hazards to Flight

A2.1.3.4.1. Visual Search Responsibilities

A2.1.3.4.1.1. Departure/En Route/Recovery

A2.1.3.4.1.2. High Density Traffic Areas

A2.1.3.4.2. Mid-air Collision Avoidance

A2.1.3.4.2.1. From Other Military Aircraft

A2.1.3.4.2.2. From Civilian Aircraft

A2.1.4. Weather

A2.1.5. Flight Planning

A2.1.5.1. Aircraft Number, Call Sign

A2.1.5.2. Fuel Load, Bingo Fuel, and Aircraft Configuration

A2.1.5.3. Weight and Balance

A2.1.5.4. Seat Time, Start Time, Takeoff, Duration

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

A2.1.6.1. Changing Control of Aircraft

A2.1.6.2. Emergency Actions/Intentions

A2.1.6.2.1. Landing/Ditching

A2.1.6.3. Primary FE

A2.1.6.4. Scanner's Duties

A2.1.7. Equipment

A2.1.7.1. Flight Publications

A2.1.7.2. Aircrwe Flight Equipment

A2.1.7.3. ID Tags

A2.1.8. Specialized Mission Briefings

A2.2. ALERT CREW BRIEFING.

A2.2.1. Alert Period

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.

A2.3.1. Roll Call

A2.3.2. Time Hack (give source)

A2.3.3. Classification

A2.3.4. Situation/ Orders of Battle

A2.3.5. Mission

A2.3.5.1. Primary/ Alternate

A2.3.5.2. Mission Objectives

A2.3.5.3. Sequence of Events

A2.3.5.4. Route of Flight/Hazards to Flight

A2.3.5.4.1. Visual Search Responsibilities

A2.3.5.4.1.1. Departure/En Route/Recovery

A2.3.5.4.1.2. High Density Traffic Areas

A2.3.5.4.2. Mid-air Collision Avoidance

A2.3.5.4.2.1. From Other Military Aircraft

A2.3.5.4.2.2. From Civilian Aircraft

A2.3.5.4.3. Mission Precedence (Mandatory, Emergency, Priority, Routine)

A2.3.5.4.4. Smart Packs/ Kneeboard Cards/ Comm Card

A2.3.6. Flight Planning

A2.3.6.1. Aircraft Numbers, Call Signs, Positions, Support Assets Weather

A2.3.6.1.1. Takeoff/ En Route/ Destination

A2.3.6.1.2. Sunset/Sunrise/ Moonrise/ Moon set/% Illum/Azimuth/Elevation/Isothermal Crossover Times

A2.3.6.2. Fuel Load, Mission Capable Fuel, and Bingo

A2.3.6.3. Aircraft and Load Configurations

A2.3.6.4. Personnel (MEGP), Ordnance, Chaff load and Settings, IRCM, AIE Devices

A2.3.6.5. Aircraft Taping and Lighting

A2.3.6.6. Seats time, Communication Check-In, Start, Taxi, Takeoff, Duration

A2.3.6.7. NOTAMS, FCIF, Special Interest Items

A2.3.6.8. Anti-Hijacking

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

A2.3.11.4.1. Type Formation and Spacing

A2.3.11.4.2. Landing Areas / Site Evaluations

A2.3.11.4.3. Go-Around/ Wave off Procedures

A2.3.11.4.4. AIE Considerations

A2.3.11.4.4.1. Devices

A2.3.11.4.4.2. Intended Hover Heights

A2.3.11.4.4.3. Emergency Procedures

A2.3.11.4.4.3.1. Loss of Power (Aircraft)

A2.3.11.4.4.3.2. Hoist Malfunctions

A2.3.11.4.4.3.3. Communications Failures

A2.3.11.4.5. Egress Takeoff/ Route of Flight

A2.3.12. Weapons Conditions/ Rules of Engagement

A2.3.12.1. Ingress

A2.3.12.2. Terminal Area

A2.3.12.3. Egress/ Retrograde

A2.3.13. Recovery Taxi, Parking Plan, Removing Goggles

A2.3.14. Contingencies

A2.3.14.1. IMC Loss Wingman

A2.3.14.2. VMC Blind

A2.3.14.3. Aborts/ Minimum Package Requirements/Minimum Mission Equipment

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.

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

A2.12.3.11. Verify Survivor's Position: What Can Survivor See? Confirm Loc/SARDOT/GPS/Overflt, Don't Compromise Survivor's Position.

A2.12.3.12. Survivor Actions Radio Check-In Schedule (Combat): Delivery of Ordnance Near Survivor Prepare for Pickup (Helmet On, Smoke Code, Turn Away, PJS: Auth/Don't Resist/Gun, Hoist, Etc) Final Prep/Pickup Procedures

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 90º (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.

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

Table A2.3. FORMATION LIGHT SIGNALS SIGNAL MEANING.

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

Table A2.4. Distress/Emergency Frequencies.

500 kHz	International Distress
2182 kHz	Maritime Mobile Distress
2670 kHz	USCG Emergency Coordination
8364 kHz	International SAR
40.50 MHz	VHF-FM Emergency
121.5 MHz	International Aeronautical Emergency
123.1 MHz	NATO/ICAO Scene of Action (SAR)
156.8 MHz	International Maritime Mobile Safety and Distress (Channel 16)
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.

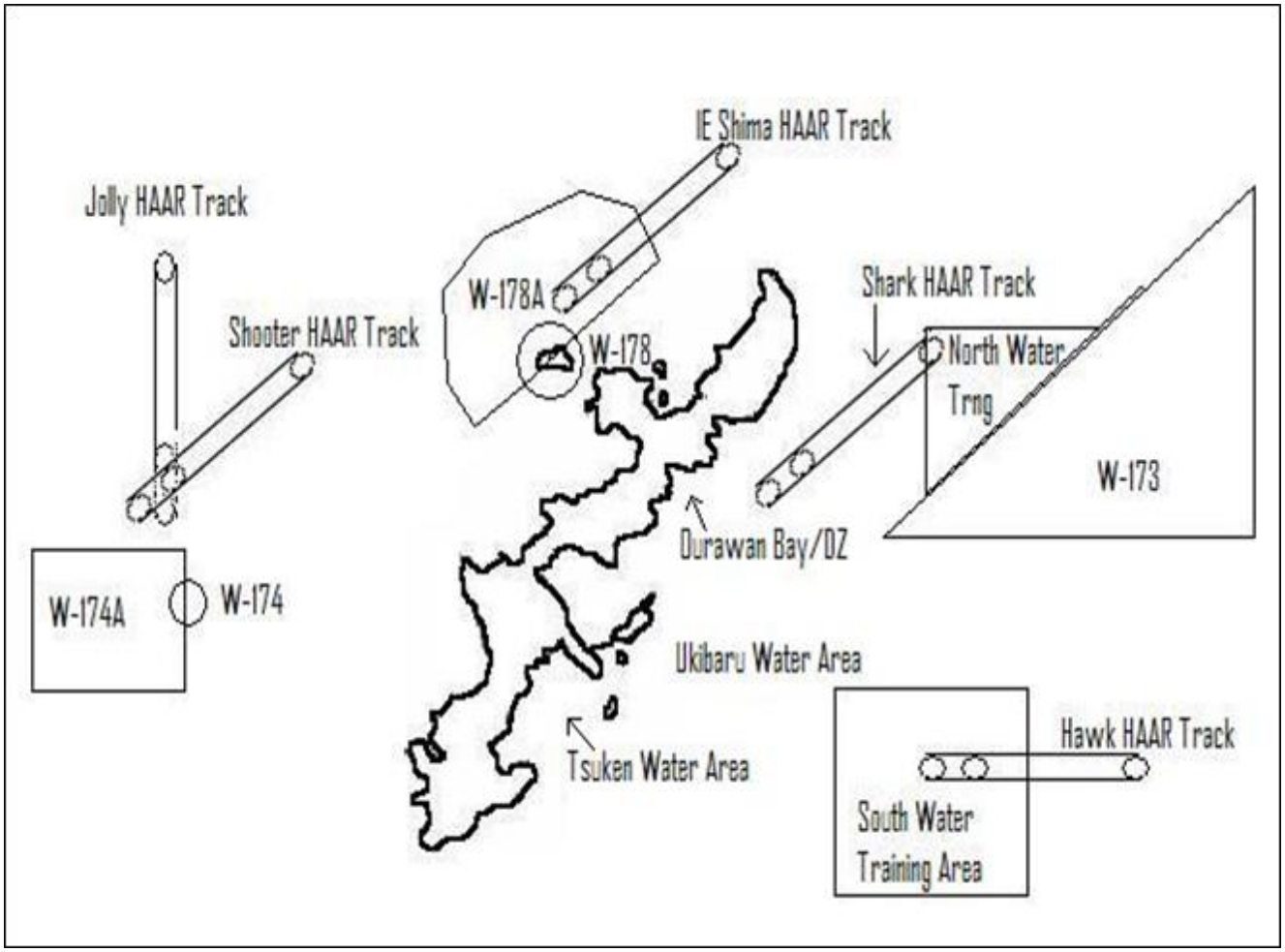
EQUIPMENT	DAY	NIGHT/IMC	OVERWATER
Barometric Altimeters	1	2	2
VSI's	1	2	2
HSI's	1	2	2
Airspeed Indicators	1	2	2
Engine Instruments	YES	YES	YES
Communictaion Radios	YES	YES	YES
Mode 3/C Transponder	YES	YES	YES
Radar Altimeters	1	2/(1 IMC)	2
Anti-Collision Lights	1	1	1
Position Lights	YES	YES	YES
Landing/Search 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.			

Attachment 3 (Added-KADENAAB)

AIR REFUELING AND WATER TRAINING AREAS

A3.1. (KADENAAB) Note. This map is not to scale and is to be used for graphical depiction purposes only. Actual coordinates/boundaries/information regarding those areas are contained in the Shogun In-Flight Guide Volume 6.

Figure A3.1. (Added-KADENAAB) Local Operating Areas.



Attachment 4 (Added-KADENAAB)

NAVIGATION KIT CONTENTS

Table A4.1. (Added-KADENAAB) Navigation Kit Contents.

Inventory Sheet (1 copy)
33 RQS Emergency Briefing Card (5 copies)
AF Form 457, *USAF Hazard Report* (5 copies)
AF Form 651, *Hazardous Air Traffic Report* (HATR) (5 copies) (PA)
DD Form 1801, *International Flight Plan, DoD,* (5 copies)
DD Form 2131, *Passenger Manifest* (5 copies) (PA)
FLIP/Charts/Maps:
En Route Low Altitude Charts, Pacific, Australasia, and Antarctica, Panels 1-5 (x1 set)
Flight Information Handbook (1 copy)
Instrument Approach Procedures, High & Low Altitude, Pacific, Australasia, and Antarctica, Vol 2 (x2)
Supplement, Pacific, Australasia, and Antarctica (1 copy)
VFR/IFR Arrival/Departure Routes - Korea (1 copy)
JNC-26 (1:2,000,000) (1 copy)
JNC-38 (1:2,000,000) (1 copy)
T.O. 1-1C-1-20 (1 copy)
AFI11-2HH-60V3, *HH-60--Operations Procedures*, as supplemented (1 copy)
AFI11-202V3, *General Flight Rules*, as supplemented (1 copy)