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Flying Operations

B-1 OPERATING PROCEDURES

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This manual implements Department of the Air Force (DAF) policy directive (DAFPD) 11-2, *Aircrew Operations*; and DAFPD 11-4, *Aviation Service*. It applies to all B-1 units. This publication applies to all civilian employees and uniformed members of the Regular Air Force and the Air Force Reserve. It does not apply to the Air National Guard. Compliance with the attachments in this publication is mandatory. This manual requires the collection and/or maintenance of information protected by the Privacy Act of 1974, authorized by Title 37 United States Code (USC) Section 301a, *Incentive Pay*; aviation career; Public Law (PL) 92-204, Section 715, *Department of Defense Appropriations Act for 1972*; PL 92-570 *Department of Defense_Appropriations Act for 1973*; PL 93-294, *Aviation Career Incentive Act of 1974*; and Executive Order 13478, *Amendments to Executive Order 9397 Relating to Federal Agency Use of Social Security Numbers*. The applicable System of Records Notice (SORN) F011 AF XO A, Aviation Resource Management System (ARMS) is available at: **http://dpclo.defense.gov/Privacy/SORNs.aspx**. Ensure that all records created because of processes prescribed in this publication are maintained in accordance with Air Force Instruction (AFI) 33-322, *Records Management and Information Governance Program*, and disposed of in accordance with the Air Force records disposition schedule in the Air Force Records Information Management System. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command. This publication may be supplemented at any level, but all supplements must be routed to the OPR of this publication for coordination prior to certification and approval. The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See DAFI 33-360,

Publications and Forms Management, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority (see **paragraph 1.3** for additional guidance), or alternately, to the requestor's commander for non-tiered compliance items. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

SUMMARY OF CHANGES

This document is substantially revised and must be completely reviewed. Major changes include: Clarification to waiver authorities, changing the waiver authority for un-tiered requirements to the Operations Group (OG) Commander (OG/CC). Tiered waiver authorities were updated throughout the document. Removed low altitude requirements and procedures from all chapters in accordance with 8 AF/CC and HQ AFGSC FCIF BB20-01 B-1B low altitude (LOWAT) Restriction. Reorganized and removed multiple sections of **Chapter 2** that have existing Tactics, Techniques and Procedures (TTPs) in Air Force Tactics, Techniques, and Procedures (AFTTP) 3-3.B-1, *Combat Aircraft Fundamentals B-1*, primarily briefing and debriefing guidance. Publication requirements were clarified. Reorganized and removed multiple sections of **Chapter 3** that have existing tactics, techniques, and procedures in Allied Tactical Publication (ATP)-3.3.4.2, *Air-to-Air Refueling;* Federal Aviation Administration (FAA) JO 7610.4V, *Special Operations*; Flight Information Publications (FLIP) AP/1B, *Military Training Routes*; Technical Order (T.O.) 1B-1B-1, *Flight Manual USAF Series B-1 Aircraft*; AFTTP 3-3.B-1 and AFI 11-214, *Air Operations Rules and Procedures.* Significantly reduced air refueling and formation guidance. Low altitude restrictions were added and lost wingman procedures moved to **Chapter 3** and reworded for clarity. Updated **Chapter 4** to reflect current SB-17 navigation system capability and terminology, as well as primary means of navigation in accordance with AFMAN 11-202V3, *Flight Operations*. Combined **Chapter 5** and **6** into a single chapter. Updated **Chapter 5** to reflect current SB-17 terminology and removed content with existing TTPs in T.O. 1B-1B-1, AFI 11-214 and AFTTP 3-3.B-1. Reorganized and removed multiple sections of **Chapter 6** that have existing TTPs in AFTTP 3-3.B-1. Updated **Chapter 6** and **Table 6.2.** Traffic Pattern and Landing Limitations and Restrictions, incorporating HQ AFGSC FCIF BB19-01 B-1 Employment Restrictions. Changed supervision requirements for simulated engine out traffic patterns, allowing instructor pilots (IPs) and aircraft commanders to accomplish these without additional supervision. Formation restrictions and guidance were also significantly reduced.

Chapter 1

GENERAL GUIDANCE

1.1. Purpose. In conjunction with other governing directives, this manual prescribes operating procedures for B-1 aircraft under most circumstances. It is not a substitute for sound judgment or common sense. Aircrew may accomplish operations or procedures not specifically addressed if they enhance safe and/or effective mission accomplishment.

1.2. Roles and Responsibilities.

1.2.1. **Commanders.** Commanders at their respective Tier levels are responsible for complying with guidance in this manual. **(T-2)**. B-1 flying unit wing commanders, delegated no lower than the OG/CC (or equivalent), are responsible for providing local operating guidance to supplement the requirements in **Chapter 7** of this manual. **(T-2)**.

1.2.2. **Pilot in Command (PIC) Authority.** Regardless of grade or rank, the PIC is responsible for, and is the final authority for the operation of the B-1 aircraft. **(T-2)**. Pilots will use best judgement to safely conduct flying operations. **(T-2)**.

1.2.3. **Supplements.** Comply with applicable supplements to all guidance referenced in this manual. **(T-2)**. Develop additional supplements in accordance with DAFI 33-360, Publications and Forms Management.

1.3. Waivers. Forward T-0, T-1, and T-2 waiver requests to the AFGSC, Director of Operations and Communications (AFGSC/A3/6) or Air Force Reserc Command (AFRC/A3D) for coordination with HAF or external agencies or for approval. Waivers are valid for one year from the approval date. In accordance with DAFI 33-360, T-3 waiver authority may be delegated to the group commander or equivalent. Information copies will be provided to AFGSC/A3T and AFRC/A3D.

1.4. Deviations. Deviations from these procedures require specific approval by the MAJCOM/A3 unless an urgent requirement or an aircraft emergency dictates otherwise. In that case, the pilot in command should take the appropriate action to safely recover the aircraft.

1.5. Supplements. Guidance for supplementing this publication is contained in DAFI 33-360 and **Chapter 7** of this instruction.

Chapter 2

MISSION PLANNING

2.1. Mission Planning Requirements. All missions must be planned in sufficient detail to ensure safe, effective employment. Mission leads (ML) are the final authority for mission planning, briefing and debriefing. **(T-3)**. Mission planning takes priority over other non-flying duties. Refer to AFTTP 3-3.B-1, for mission planning, briefing, and debriefing guidance as well as B-1 standards.

2.1.1. **Chart Preparation.** Any planning charts in addition to current electronic flight bag products will be as required based on mission requirements.

2.1.1.1. At a minimum, aircrew planning to operate in military operations areas, restricted areas, or warning areas will have applicable area charts with the following annotations: area boundaries, emergency airfields and minimum safe altitudes (MSAs). **(T-3)**. Aircrew using a single MSA will clearly annotate it on the chart. Aircrew using multiple MSAs or local MSAs within the operating area will ensure that all are clearly defined and annotated on the chart. **(T-3)**. Aircrew restricted from low altitude or low altitude high speed (LAHS) operations in accordance with **paragraph 3.2.1** will also annotate a single training floor or multiple local training floors of at least 5,000 feet above ground level (AGL) or above sea level (ASL). **(T-3)**.

2.1.1.2. MSAs will be a minimum of 1,000 feet above the highest obstacle or terrain (rounded up to the next 100 feet) within the lateral limits of the operational area. **(T-3)**.

2.1.2. Fuel Planning. **Table 2.1** lists approved estimated fuel flows to use when planning fuel requirements. Refer to T.O. 1B-1B-1-1, *Performance Data USAF Series B-1 Aircraft*, for detailed fuel planning. **(T-3)**.

Table 2.1. Fuel Planning Factors (Reference T.O.1B-1B-1-1).

Event	Fuel
Start Engines and Taxi	5,000 pounds/hour
Takeoff and Climb to Flight Level (FL) 200	12,000 pounds total (10 minutes or 70 nautical miles at 375,000 pounds gross weight (GW))
Combat Departure to FL 200	22,000 pounds total
Normal Cruise (can be used for fuel reserve calculations)	16,000-20,000 pounds/hour (depending on GW)
Air Refueling	20,000 pounds/hour
Medium Altitude Maneuvering/ Afterburner Air Refueling	25,000 pounds/hour
Dissimilar Air Combat Tactics	40,000 pounds /hour
Low Altitude Operations	38,000 pounds /hour
Transition	20,000 pounds /hour

Radar Pattern	4,000 pounds total (12 minutes)
Climb from Missed Approach to FL 200	4,000 pounds total (6 minutes / 40 nautical miles)
Max Endurance (for fuel reserve & hours of fuel on board)	12,000 pounds /hour (245,000 pounds GW at 10,000 feet mean sea level altitude)

2.2. Publication Requirements. Aircrew will maintain applicable B-1 T.O.s in accordance with AFI 11-202V2 AFGSCSUP, *Aircrew Standardization/Evaluation Program*, AFI 11-215, *Flight Manuals Program (FMP),* and AFGSCI 11-270, *Electronic Flight Bag Operations*. Except for in-flight aircrew publications listed in AFMAN 11-2B-1V2, *B-1 Aircrew Evaluation Criteria*, aircrew are not required to maintain T.O.s while on temporary duty or deployed.

2.2.1. **Local Aircrew Aids.** Units will develop locally produced in-flight guides to include:

2.2.1.1. Briefing guides (reference AFTTP 3-3.B-1). **(T-3)**.

2.2.1.2. Tabulated takeoff and landing data (TOLD), including emergency TOLD. **(T-3)**.

2.2.1.3. Weight and balance data for calculating local aircraft configurations. **(T-3)**.

2.2.1.4. Tabulated charts for service ceiling and optimum cruise. **(T-3)**.

2.2.1.5. Divert, alternate, and emergency airfield information including: runway data, approximate course, distance, estimated time enroute (ETE), coordinates, and fuel required. **(T-3)**.

2.2.1.6. Hung weapons procedures; jettison and bailout areas; hot brake procedures; and on scene commander procedures. **(T-3)**.

2.2.1.7. Other information deemed necessary by the units. **(T-3)**.

2.3. Briefing Requirements.

2.3.1. Mission Brief. All aircrew will attend the mission briefing. **(T-3)**. If any aircrew are unable to attend, the ML will ensure they are briefed prior to step. **(T-3)**.

2.3.2. Step Brief. Squadron supervision, normally the Operations Supervisor (Ops Sup), will brief crews at a minimum on the items in **paragraph 2.4.3.5** in AFI 11-418, *Operations Supervision*. **(T-3)**.

Chapter 3

NORMAL OPERATING PROCEDURES

3.1. Air Refueling. Air refueling operations are authorized along tracks (published or special) or anchors. In addition, aircrew may conduct enroute refueling (i.e., "random refueling") with air traffic control (ATC) approval. For information concerning air refueling airspace, rendezvous types, and air refueling operations procedures, refer to ATP 3.3.4.2, *AAR Refueling Doctrine*; FAA JO 7610.4V; *Flight Information Publications Area Planning 1B*; and T.O. 1B-1B-1.

3.2. Low Altitude. The low altitude environment is defined as 5,000 feet AGL/ASL and below. Departure, arrival, approach, transition, short periods cruising below 5,000 feet AGL/ASL, approved flyover profiles and dry clearing passes in accordance with **paragraph 5.3.2** are not considered low altitude. AFGSC/A3/6 must approve high speed flyover profiles. **(T-2)**.

3.2.1. B-1 Aircraft Structural Integrity Program (ASIP) defines low altitude, high speed flight as terrain following and visual contour in the low altitude environment. B-1 aircrew are prohibited from conducting LAHS operations. **(T-2)**. AFGSC/A3/6 further prohibits B-1 aircrew from conducting any low altitude operations. **(T-2)**. All approved low altitude and LAHS waivers will include any applicable operating restrictions or limitations. **Exception**: 337 Test and Evaluation Squadron (TES) aircrew using test coded aircraft are exempt from these low altitude and LAHS restrictions.

3.2.2. 337 TES aircrew are authorized to perform low altitude and LAHS operations in support of test and local training requirements. Aircrew must be current and qualified (or under the supervision of a current and qualified instructor) to perform any low altitude flight operations. **(T-2)**. The 337 TES/CC will specify the ground, simulator and flight training, as well as any local procedures for low altitude operations in accordance with governing AFIs and AFMANs. **(T-2)**. 337 TES low altitude training plans and local low altitude operating procedures will be forwarded to AFGSC/A3T. **(T-2)**.

3.3. Night Vision Goggles (NVGs). Each aircrew member whose duties require NVGs will preflight their NVGs in accordance with T.O. 12S10-2AVS9-2, *Technical Manual Image Intensifier Set, Night Vision Type AN/AVS-9,* and when available use the Hoffman ANV-20/20 or equivalent infinity focusing device. **(T-3)**.

3.4. Operations Checks (ops checks). At a minimum, aircrew will perform ops checks at level off after initial takeoff, before range entry, after range exit and following air refueling. **(T-3)**.

3.4.1. Aircrew should check the minimum following items during an ops check:

3.4.1.1. Hydraulic, electric, fuel, oxygen, engine systems. **(T-3)**.

3.4.1.2. Angle-of-attack indicators within 0.8 degrees. **(T-3)**.

3.4.1.3. Cabin Altitude. **(T-3)**.

3.5. Formation. Formation operations will be in accordance with AFI 11-214 and AFTTP 3-3.B-1.

3.5.1. Takeoff. The minimum takeoff interval from the same runway is 30 seconds or when the previous aircraft in the formation is airborne, whichever occurs first. Abort calls are mandatory when any formation member aborts the takeoff. **(T-2)**.

3.5.2. Blind Calls. Use the following procedures when visual and radar contact within the formation is lost:

3.5.2.1. When any aircrew member calls "blind," the other aircrew member(s) will immediately respond with “visual,” “tied,” or "blind." **(T-2)**. If blind, aircrew members will also report location and altitude. **(T-2)**. If visual or tied, they are responsible for deconfliction until the first crew regains contact and calls “visual” or “tied.” **(T-2)**.

3.5.2.2. When all aircrew members are blind, the flight lead will establish altitude separation. **(T-2)**. Aircrew members will maintain altitude separation until visual or radar contact is regained. **(T-2)**. The flight lead will call out the following events over the radio:

3.5.2.2.1. Initiation and roll out of all turns. **(T-2)**.

3.5.2.2.2. Start of any climbs or descents. **(T-2)**.

3.5.2.2.3. Passing each 5,000-foot altitude increment. **(T-2)**.

3.5.2.2.4. Level off. **(T-2)**.

3.5.2.3. When there is not a timely acknowledgment of the original "blind" call and altitude separation is in doubt, “KNOCK IT OFF” will also be called and executed in accordance with AFI 11-214. Use Lost Wingman procedures in **paragraph 3.5.3** if the situation warrants. **(T-2)**.

3.5.3. Lost Wingman Procedures. Aircrew will use the following procedures if they cannot maintain visual contact and ensure positive separation when flying visual formation. **(T-2)**. In any lost wingman situation, immediate separation of aircraft is priority. Upon losing visual contact with the lead aircraft, or if unable to maintain formation position due to disorientation, execute the applicable lost wingman procedure. **(T-2)**. The flight lead should direct a rejoin after execution.

3.5.3.1. In wings level flight (climbing, descending, or level) simultaneously transition to instruments, inform the lead aircraft, use 15 degrees of bank to turn 15 degrees away, and maintain the new heading for 15 seconds. **(T-2)**. Then return to the original heading and attempt to acquire the lead aircraft on radar while ensuring 500 feet minimum altitude separation. **(T-2)**. Return to formation with the flight lead’s permission or, if required, obtain a separate clearance from ATC. **(T-2)**.

3.5.3.2. On the outside of the turn (climbing, descending or level), transition to instruments, roll wings level, and inform lead. **(T-2)**. Continue straight ahead to ensure separation prior to resuming turn and attempt to acquire lead on radar. **(T-2)**. Ensure 500 feet minimum altitude separation. Return to formation with lead’s permission or, if required, obtain a separate clearance from ATC. **(T-2)**.

3.5.3.3. On the inside of the turn (climbing, descending or level), transition to instruments to maintain established bank angle, reduce airspeed by 10 Knots Indicated Airspeed (KIAS) to ensure clearance, and inform lead. **(T-2)**. Lead will simultaneously

roll wings level, maintain airspeed, and acknowledge wingman's call with wings level, heading and altitude. **(T-2)**. If lead acknowledges the lost wingman call and confirms lead aircraft is wings level, the wingman will, after 15 seconds, roll wings level, establish 500 feet minimum altitude separation, turn to lead's reference heading and attempt to acquire lead on radar. **(T-2)**. If lead does not acknowledge loss of visual contact, maintain established bank angle, establish 500 feet altitude separation, roll out on new heading, attempt to acquire lead on radar, and with lead's permission reform into trail formation position. **(T-2)**. If radar or visual contact cannot be reestablished, obtain separate clearance from ATC. **(T-2)**.

3.5.4. No Radio (NORDO) Procedures.

3.5.4.1. During visual meteorological conditions (VMC), if the lead aircraft is NORDO, lead will inform the wingman with a wing rock. **(T-2)**. The wingman will acknowledge with a wing rock and move to the inner limits of fluid. **(T-2)**. The wingman will take the lead and the NORDO aircraft will move aft to establish fluid on the new lead. **(T-2)**.

3.5.4.2. During VMC, if a wingman is NORDO, the wingman will move to the inner limits of fluid and give lead a wing rock. **(T-2)**. Lead will acknowledge with a wing rock and terminates maneuvering in accordance with AFI 11-214. **(T-2)**.

3.5.4.3. The recognition of a no radio situation in instrument meteorological conditions may be difficult. Aircraft should remain in current formation position using all available means of deconfliction including radar, air-to-air Tactical Air Navigation (TACAN), Link-16 and altitude separation to the maximum extent possible. On arrival at the destination or divert base the formation should proceed to an intial approach fix (IAF) with the NORDO aircraft in trail stacked down at the IAF altitude and the other aircraft 1,000 feet above. At the IAF, the NORDO aircraft will execute the approach while the other aircraft will remain in holding, terminate Military Assumes Responsibility for Separation of Aircraft (MARSA) with ATC, and coordinate for their own approach. **(T-2)**.

Chapter 4

INSTRUMENT PROCEDURES

4.1. Approach Category. The B-1 is approach Category E in Table 4.2 of AFMAN 11-202V3. Use approach Category D minimums in an emergency or divert situation where no Category E minimums are published and the following criteria are met:

4.1.1. A straight-in approach is flown.

4.1.2. The aircraft GW allows final approach airspeed of 165 KIAS or less.

4.1.3. Fly the missed approach segment of the approach, at 255 knots True Airspeed (KTAS) or less. **(T-2)**. Aircrews should know that at high pressure altitudes and temperatures, normal missed approach procedures might allow the aircraft to exceed 255 KTAS and in turn place the aircraft outside the obstacle clearance guaranteed in the missed approach segment. Units may request MAJCOM assistance to have Category E minimums published for airfields used on a recurring basis for emergency or divert practice approach work.

4.2. Primary Means of Navigation. B-1 Aircrew will only use approved primary means of navigation. **(T-2)**. The B-1 is approved to use BLENDED, global positioning system (GPS) ONLY or inertial navigation unit (INU) ONLY navigation solutions for area navigation (RNAV) or basic area navigation airspace or routes. The B-1 is not certified to fly Required Navigation Performance (RNP), RNAV, Lateral Navigation (LNAV), Vertical Navigation (VNAV), Localizer Performance with Vertical Guidance (LPV), or Baro-VNAV terminal procedures (approaches, departures, or arrivals). **(T-2)**. See **Table 4.1** for a complete list of B-1 Communication, Navigation, Surveillance (CNS) and Air Traffic Management (ATM) approved operations.

Table 4.1. B-1 CNS/ATM Operational Approvals.

Airspace or Equipment Type	Certified	Operational Approval	Training Required
Frequency modulation Immunity	Yes	Yes	No
8.33 Radios	Yes	Yes	No
Elementary Mode S	No	No	No
Enhanced Mode S	No	No	N/A
TCAS Version 7	No	No	N/A
RNAV/GPS Approaches	No	No	N/A
RNAV/RNP Approaches	No	No	N/A
LNAV/VNAV	No	No	N/A
LPV	No	No	N/A
RVSM (Reduced Vertical Separations Minima)	No	No	N/A
RNAV 10	Yes	Yes	Yes
RNAV 5	Yes	Yes	Yes
RNAV 2	No	No	N/A
RNAV 1	No	No	N/A
RNP 4	No	No	N/A

Basic RNP 1	No	No	N/A
RNP Approach	No	No	N/A
RNP Approach w/Baro-VNAV	No	No	N/A
RNP AR Approach	No	No	N/A
NAT-HLA/MNPS (North Atlantic-High-High Level Altitudes/Minimum Navigation Performance Standard)	No	No	N/A
Remote Oceanic	No	No	N/A
Note: 1. SB-17B modified aircraft will be Elementary Mode S capable.			

4.3. Simulated Instrument Flight. Aircrew will not use any vision-restricting devices to simulate instrument flight. **(T-3)**.

4.4. Airborne Instrument Landing Approach (AILA). Aircrew may practice AILAs provided:

4.4.1. A published approach procedure is used with a designated final approach fix (FAF). This does not restrict accomplishing an AILA when cleared for a visual approach from the radar pattern.

4.4.2. ATC clearance is obtained for the specific approach procedures selected. **(T-0)**

4.4.3. The appropriate ATC facility has been advised that an airborne directed radar approach will be flown in conjunction with the requested approach. **(T-3)**.

4.4.4. VMC must prevail from the FAF to the missed approach point or decision height. **(T-3)**. Aircrew will only fly AILAs under lower weather conditions during emergency situations where no other compatible approach is available. **(T-3)**.

4.4.5. Aircrew will terminate AILA and resume pilot navigation any time it becomes apparent that the aircraft will exceed published approach parameters. **(T-3)**.

Chapter 5

WEAPONS EMPLOYMENT

5.1. Planning Guidance. Units will ensure aircrews have current range information prior to flight. **(T-3)**. Reference AFI 11-214 for air-to-surface training procedures and AFMAN 11-2B-1V1, *B-1 Aircrew Training,* for certifications and scoring criteria.

5.2. Target and Guided Weapon Checks.

5.2.1. Accomplish the bomb steer or launch acceptability regions (LAR) system checks with live or inert weapons over open water or sparsely populated areas to the maximum extent possible. **(T-3)**.

5.2.2. For combat operations, aircrew may accomplish bomb steer and/or LAR system checks with live weapons with the following restrictions:

5.2.2.1. The check(s) are briefed and meet local instructions and/or special instructions (SPINS) requirements. **(T-3)**.

5.2.2.2. All aircrew are at their primary duty stations during the check(s). **(T-3)**.

5.2.2.3. The offensive systems officer (OSO) verbalizes all switch positions while running the pre-release and release checklists and the defensive systems officer (DSO) confirms the switch positions. **(T-3)**.

5.2.2.4. For modifiable ballistics weapons (MBW), the OSO will return the NUC LOCK/UNLOCK switch to LOCK and/or the CONV ARM/SAFE switch to SAFE no later than 1+20 time-to-go until release. **(T-3)**.

5.2.2.5. For guided weapons, the CONV ARM/SAFE switch will remain in the SAFE position for the LAR check. **(T-3)**. The OSO NUC LOCK/UNLOCK switch may be checked in the UNLOCK position and the pilot WEAPON SWITCH may be checked in the RELEASE position granted the LAR check is accomplished outside the weapon LAR and the MSL AUTO/MAN switch is not placed in AUTO.

5.2.2.6. If applicable, the crew will disable the target(s) once the check(s) are complete. **(T-3)**.

5.2.2.7. Stores bay doors will remain closed throughout the check(s). **(T-3)**.

5.3. Actual Weapons Employment Training.

5.3.1. Aircrew will only release weapons on approved weapon ranges or release areas. **(T-2)**.

5.3.2. Aircrew are authorized to execute a dry clearing pass below 5,000 AGL/ASL when required by range procedures and in accordance with **AFI 11-214**. Aircrew will not operate lower than MSA or exceed 360 KIAS below 5,000 AGL/ASL. **(T-2)**. Aircrew will not attempt any actual or simulated weapons releases below 5,000 AGL/ASL. **(T-2)**.

5.3.3. Aircrew may accomplish pre-release checklist items prior to release when carrying weapons. However, the bomb release mode switch and the missile launch mode switch will

both remain in MANUAL until release clearance is received, within range boundaries, and the aircrew is ready to release weapons. **(T-2)**.

5.4. Hung Weapons.

5.4.1. If hung weapon conditions are experienced, and the crew determines jettison of the weapon(s) is the best course of action, contact the range control officer for authorization to jettison hung weapons in a suitable area (pending local guidance).

5.4.2. For contingency operations, aircrew will jettison hung weapons in accordance with SPINS and/or unit guidance.

5.4.3. If hung weapons are not jettisoned, the crew will accomplish the *Post Release/Abort Checklist* and return to home station or other suitable landing base. **(T-3)**. Crews will avoid over-flight of populated areas and adhere to local hung stores procedures and guidance. **(T-3)**.

5.5. Simulated Weapons Employment Training. Simulated weapons employment may be accomplished following actual weapon releases if; there are no release system, indicator, or weapon bay door malfunctions; the POST RELEASE/ABORT checklist is complete; and the release system is in full simulation.

5.6. Chaff, Flare and Towed Decoy Employment. Units will ensure that all personnel concerned are familiar with AFI 11-214; AFMAN 11-202V3; Chairman of the Joint Chiefs of Staff Manual (CJCSM) 3212.02E, *Performing Electronic Attack in the United States and Canada*; and AFGSCI 10-706, *Electronic Attack Training and Emissions Control (EMCON) Procedures*. **(T-2)**.

5.6.1. Flare Procedures. In case of an inadvertent flare expenditure, contact the applicable airspace controller and advise them of the incident. Note the approximate location and estimated damage and immediately safe the expendable countermeasures (EXCM) system.

5.6.2. Towed Decoy Procedures. MLs will brief towed decoy deploy, transmit, and sever procedures any time its use is anticipated. Additionally, MLs will have a contingency plan in the event a decoy fails to sever.

5.6.2.1. At a minimum, the contingency plan will cover sever areas and requirements, minimum risk routing to a recovery base avoiding populated areas, T.O. 1B-1B-1, *Flight Manual USAF Series B-1 Aircraft*, section 3 procedures for landing with decoy in tow and airfield-specific instructions. **(T-3)**.

5.6.2.2. Units will develop local procedures for towed decoy fail-to-sever situations. **(T-3)**.

Chapter 6

OPERATIONAL LIMITS AND RESTRICTIONS

6.1. New or Modified Aircraft Equipment and Weapons. In flight, aircrew will only operate aircraft equipment which they are qualified or certified to operate unless either under the supervision of a current and qualified instructor of like specialty or otherwise specified by MAJCOM guidance. **(T-3)**.

6.2. Crew Restrictions.

6.2.1. Maximum number of individuals authorized in-flight is four.

6.2.2. Aircrew will only accomplish seat swaps when the aircraft is at a safe altitude (i.e., MSA or pattern altitude). Pilots will not conduct seat swaps with only two pilots on board. **(T-3)**.

6.2.3. **Single Weapon System Officer (WSO) Operations.** Flight surgeons, third pilots, incentive flight participants, etc., flying in the DSO position will be briefed on the following, at a minimum:

6.2.3.1. Equipment operations (ladder or hatch operation, power latch reset or electrical multiplex control interrupt panel, central integrated test system (CITS) monitoring, and aft station temperature control). **(T-3)**.

6.2.3.2. Safety of flight indicators (flight parameter indicators and attitude indicators, radar altimeter, navigation (NAV) prime data). **(T-3)**.

6.2.3.3. Emergency procedures to include egress procedures. **(T-3)**.

6.2.4. Only a qualified B-1 aircrew member may occupy the OSO seat with the exception of orientation flights approved in accordance with DAFMAN 11-401, *Aviation Management*. **(T-3)**.

6.3. Unusual Attitudes Recovery. Aircrew will not intentionally place the aircraft in attitudes of greater than plus or minus 10 degrees pitch or bank angles greater than 45 degrees for the purposes of practicing recoveries. Aircrew will not practice unusual attitude recoveries at night, in instrument meteorological conditions (IMC), or below 15,000 feet AGL. **(T-3)**.

6.4. Flight Characteristic Demonstrations.

6.4.1. Flight characteristic demonstrations include:

6.4.1.1. Configured Approach to Stall Demonstration. **(T-3)**.

6.4.1.2. Aft Wing Approach to Stall Demonstration. **(T-3)**.

6.4.1.3. Stability Control and Augmentation System (SCAS) Off Demonstration. **(T-3)**.

6.4.2. Formal Training Unit (FTU) or Flight Instructor Course (FIC) qualified instructors may perform flight characteristic demonstrations in-flight provided they:

6.4.2.1. Perform the maneuvers during daylight hours. **(T-3)**.

6.4.2.2. Remain clear of clouds throughout the maneuvers. **(T-3)**.

6.4.2.3. Perform all maneuvers (except SCAS off demos) above 8,000 feet AGL. **(T-3)**.

6.4.2.4. Do not perform any Approach to Stall demonstrations with weapons onboard. **(T-3)**.

6.4.2.5. Ensure all aircrew members are strapped into their seats with their helmets on. **(T-3)**.

6.5. Fuel Requirements. Reserve fuel requirements will be the most restrictive value of the applicable AFMAN 11-202V3, *Flight Operations*, AFI 11-202V3 AFGSCSUP, *General Flight Rules*, or **Table 6.1** guidance.

6.5.1. **Normal Recovery Fuel.** Normal recovery fuel is the fuel on initial or FAF at the base of intended landing or alternate, if required. This is a general planning factor, and does not include any required fuel reserve or fuel required for final ballast capture. This value is based on an approach, go-around, and an additional radar pattern and landing at or above minimum fuel. Aircrew will always plan to land above minimum fuel. **(T-3)**.

6.5.2. **Minimum and Emergency Fuels.** Aircrew will declare minimum fuel or emergency fuel (as applicable) to the controlling agency when it becomes apparent an aircraft will land at the base of intended landing or alternate (if required), with the less than or equal to the amounts listed in **Table 6.1** **(T-3)**. After declaring minimum or emergency fuel, add the fuel status call and amount of fuel remaining (in minutes) to each new ATC facility.

6.5.3. **Remote or Island Recovery Fuel.** The fuel on initial or FAF at the remote or island destination of intended landing. This is a planning factor to be used for holding in lieu of filing an alternate for remote or island destinations, in accordance with AFMAN 11-202V3 and AFI 11-202V3 AFGSCSUP. This value is based on a climb from pattern altitude to FL200, holding for two hours at max endurance, and a radar pattern and landing at or above minimum fuel. The amount listed in **Table 6.1** may be reduced if an alternate is not required per AFMAN 11-202V3, and landing at or above minimum fuel is assured.

Table 6.1. Fuel Requirements.

Minimum Fuel	Condition
20,000 pounds	Normal Recovery Fuel (initial or FAF)
16,000 pounds	Minimum Fuel (final landing)
12,000 pounds	Emergency Fuel (final landing)
48,000 pounds	Remote or Island Recovery Fuel (initial or FAF) when holding in lieu of an alternate

6.6. Formation Restrictions. Aircrews will not conduct or perform any of the formation positions described in this instruction, AFMAN 11-2B-1V1 or AFTTP 3-3.B-1 until completing the appropriate formal training program unless under the supervision of a qualified instructor. **(T-3)**.

6.6.1. **Visual Formation.**

6.6.1.1. Aircrew may only fly visual formations during daylight hours. **(T-3)**.

6.6.1.2. Aircrew flying visual formation at or above 5,000 feet AGL will remain clear of clouds with at least two statute miles visibility. **(T-3)**.

6.6.1.3. Aircrew flying visual formation below 5,000 feet AGL will remain clear of clouds with a minimum ceiling and visibility of 1,500 feet AGL and 5 statute miles. **(T-3)**.

6.6.1.4. If aircrew are unable to maintain the visual formation requirements listed above, sensor formations will be used. **(T-3)**.

6.6.2. **Battle Damage (BD) Checks.** Flight leads should direct a BD check after actual weapon deliveries and prior to return to base. During day visual conditions BD checks, fly no closer than Route spacing. **(T-3)**. During night visual conditions BD checks, wingmen will maintain a sensor formation and each aircraft will use their targeting pod to execute the BD check. BD checks will not be performed during IMC. **(T-3)**.

6.7. Air Refueling Restrictions. Aircrew will not accomplish air refueling during training missions if either the tanker or receiver has a known emergency condition unless refueling is required for the safe recovery of the aircraft. **(T-3)**.

6.7.1. **Disconnect Malfunctions.**

6.7.1.1. Without tanker disconnect capability (including tanker manual operation without tanker disconnect capability or receiver emergency override operation) aircrew will air refuel only under the following conditions:

6.7.1.1.1. When necessary to ensure safe recovery of the aircraft. Minimize contacts and contact time to that required for safe recovery of the aircraft. **(T-3)**.

6.7.1.1.2. When necessary to complete contingency operations, deployment, redeployment, higher headquarter directed missions, or other operations when specifically directed by MAJCOM. **(T-3)**.

6.7.1.2. Aircrew may only conduct emergency override (manual boom latching) training with receiver IP supervision. Brief procedures during mission planning. **(T-3)**. Coordinate receiver pilot and boom operator procedures in accordance with applicable T.O.s. Receivers must demonstrate disconnect capability prior to accomplishing override operations. **(T-3)**.

6.7.2. **Air Refueling Breakaway Training and Envelope Limits Demonstration.**

6.7.2.1. Aircrew will not accomplish breakaway training or demonstrate envelope limits while in contact unless the receiver system is in normal and the aircrew has checked tanker disconnect capability with the applicable receiver by either a boom operator initiated or a boom limit switch disconnect. **(T-3)**.

6.7.2.2. For breakaway training, the tanker pilot, boom operator, and the receiver pilot must coordinate the maneuver before its actual accomplishment. **(T-3)**. This coordination must include when the maneuver will occur and who will give the command of execution. **(T-3)**.

6.7.3. **Maximum Air Refueling Altitude.** Normal training sorties should conduct air refueling at or below the maximum refueling altitudes at 1.3g available.

6.8. Radar Restrictions. Obtain permission to activate offensive radar set (ORS) electronic protection (EP) modes through AFGSC/A3TW. **(T-2)**. In order to operate the ORS with EP enabled, the airspace must be clear of radio frequency (RF) collection assets. **(T-3)**.

Additionally, the airspace controlling agency must monitor for unplanned RF collection assets and have procedures to terminate ORS EP operations if RF collection assets arrive. **(T-3)**.

6.9. NVG Restrictions. Do not use NVGs during air refueling contacts or pattern operations. **(T-3)**. After takeoff, do not use NVGs until reaching 2,000 feet AGL or MSA, whichever is higher. **(T-3)**. On arrival, remove NVGs no later than the FAF or five nautical miles if performing a visual approach. **(T-3)**.

6.10. Takeoff and Landing Restrictions. See **Table 6.2** for landing pattern limitations and restrictions. If mission requirements dictate, the OG/CC may authorize recovery within the maximum flight manual limitations.

6.10.1. Aircrew will not taxi, takeoff, or land when the measured Runway Condition Reading (RCR) is less than nine without OG/CC approval. **(T-3)**.

6.10.2. Aircrew will not takeoff with a tailwind component greater than 10 knots on a dry runway or five knots on a wet runway without OG/CC approval. **(T-3)**.

6.10.3. Aircrew will not takeoff or land with crosswind components greater than 26 knots without OG/CC approval and landings will be to a full stop. **(T-3)**.

6.10.4. Aircrew will not practice No Slat/Flap full stop landings. **(T-3)**.

6.10.5. Aircrew will not perform overhead patterns at night. **(T-3)**.

6.10.6. Aircrew will not practice traffic patterns if any emergency conditions exist. **(T-3)**.

6.10.7. Normal touch and go landings or low approaches are permitted with a PITCH AUG 1, ROLL AUG 1, YAW AUG 1, and/or SPOILER 1 caution light illuminated.

6.10.8. Aircrew will make all landings within the touchdown zone (runway threshold to 3,000 feet). **(T-2)**.The optimum B-1 touchdown zone is 1,000 feet to 2,000 feet beyond the threshold.

Table 6.2. Traffic Pattern and Landing Limitations and Restrictions.

Approach Type	Gross Weight	Crosswind Component	Weather	IP Supervision	Night	RCR
Normal Low Approach	275,000 (**Note 12**)	N/A	Published Minimums	No	Yes	N/A
Normal Touch and Go (**Note 1**)	275,000 (**Note 12**)	20 Knots	500 feet/1 statute mile	No	Yes	12
Normal Full Stop Landing	275,000 (**Notes 6, 12**)	26 Knots (**Note 7**)	Published Minimums	No	Yes	9 (**Note 7**)
No Slat/Flap Low Approach	275,000 (**Note 12**)	N/A	(**Note 2**)	No	Yes	N/A

No Slat/Flap Touch and Go (**Note 1**)	250,000	15 Knots	(**Note 2**)	No (**Notes 8, 9**)	Yes (**Note 9**)	Dry
½, ¼, and ¾ Flap Touch and Go (**Note 1**)	250,000	15 Knots	(**Note 2**)	Yes	Yes	Dry
Simulated Engine Out Low Approach (**Note 3**)	275,000 (**Note 12**)	N/A	(**Note 2**)	Yes (**Notes 9, 10**)	Yes (**Notes 9, 10**)	N/A
Simulated Engine Out Touch and Go (**Notes 1, 4**)	275,000 (**Note 12**)	10 Knots	(**Note 2**)	Yes (**Notes 9, 10**)	Yes (**Notes 9, 10**)	Dry
Simulated Engine Out Full Stop Landing (**Notes 1, 4**)	275,000 (**Note 12**)	10 Knots	(**Note 2**)	Yes (**Notes 9, 10**)	Yes (**Notes 9, 10**)	Dry
SCAS Off Low Approach (**Note 3**)	275,000 (**Note 12**)	N/A	(**Note 2**)	Yes (**Note 11**)	Yes	N/A
SCAS Off Full Stop Landing (**Note 1**)	275,000 (**Note 12**)	10 Knots	(**Note 2**)	Yes (**Note 11**)	No	Dry
Slat Only Touch and Go (**Note 1**)	230,000	15 Knots	(**Note 2**)	Yes (**Note 11**)	No	Dry
25º Wing No Slat or No Flap Touch and Go	250,000	15 Knots	(**Note 2**)	Yes (**Note 11**)	No	Dry

Notes:

1. Go around if not in the designated touchdown zone. Runway length and RCR must permit an aborted takeoff using computed landing ground run distance. **(T-3)**.
2. Weather required is 1,000 feet/2 statute mile visibility or circling minimums, whichever is higher.
3. Initiate go around or missed approach no lower than 200 feet height above threshold.
4. Takeoff portion and unplanned go around requires symmetrical thrust.
5. May fly published minimums with an IP.
6. Sq/CCs (delegated no lower than Ops Sup) may grant waivers to make landings to a full stop. Notify the OG/CC if waiver is granted. Full stop landings are authorized to T.O. 1B-1B-1 GW limits in an emergency or safety of flight situation.
7. OG/CC may authorize aircraft recovery within maximum flight manual limitations.
8. Stability Enhancement Function/Stall Inhibitor System (SEF/SIS) must be operational to conduct no-flap touch and go training without IP supervision. **(T-3)**.
9. IP Supervision required for co-pilots and during night or IMC conditions. **(T-3)**.
10. FTU IP or FIC IP supervision is required for simulated two engine out approaches, touch and go or full stop landings. **(T-3)**.

11. FTU IP or FIC IP supervision is required. **(T-3)**.
12. All transition work should be accomplished below 250,000 pounds. For GWs between 250,000 and 275,000 pounds, aircrew are limited to one approach or touch and go/landing per pilot. Sq/CCs (delegated no lower than Ops Sup) may grant waivers. Notify the OG/CC if waiver is granted.

6.11. Navigation Equipment Restrictions.

6.11.1. An inertial navigation system (INS) must be operational as the prime navigation model for takeoff on all missions except for flight in the local area during day visual conditions. **(T-3)**. Missions outside the local area requiring INS in-flight alignment may launch with operations supervision approval provided VMC can be maintained until the INS is aligned. **(T-3)**.

6.11.2. Do not takeoff with the gyro stabilization system (GSS) inoperative (steady illumination of the GSS caution light), unless performing a simulated GPS-out sortie. **(T-3)**. GPS-out flight considerations must be briefed during mission brief including but not limited to INS alignment procedures and radar position update points. **(T-3)**.

6.11.3. Two primary attitude modes (INS and GSS) will be operational for flight at night or in instrument meteorological conditions. **(T-3)**.

6.11.4. Do not take off if the INS and GSS headings differ more than four degrees (unless staying in the local area under day visual meteorological conditions). **(T-3)**.

6.11.5. Both aft station attitude indicators must be fully operational for takeoff. **(T-3)**.

6.11.6. Avionics control unit (ACU) restarts and INS air alignments.

6.11.6.1. Do not practice in-flight ACU restarts or simultaneous air alignment of all operable INSs at night or in IMC unless the GSS is operational and selected and the TACAN is operational.

6.11.6.2. During any in-flight ACU restart or INS air alignment, maintain straight and level flight to the maximum extent possible and crosscheck primary flight reference (PFR) attitudes with the standby attitude indicator and the aft station attitude indicators.

6.11.6.3. When the ACU complex and/or all INSs are not fully operational aircrew must maintain VMC to the maximum extent possible, regardless of GSS status. **(T-3)**.

6.11.6.4. Prior to shutting down or restarting an Integrated Battle Station in-flight, the initiating crewmember will brief the crew. **(T-3)**.

6.12. Emergency Limitations.

6.12.1. Do not practice in-flight emergency (IFE) procedures with actual weapons loaded on the aircraft. **(T-3)**.

6.12.2. Do not practice compound emergencies during flight (unless specifically required for upgrade training). **(T-3)**.

6.12.3. Aircrew will not takeoff with one engine inoperative from start of takeoff roll except during emergency evacuation, with wing commander approval or when directed by MAJCOM. **(T-3)**.

6.12.4. During an IFE, the most experienced or qualified pilot should make the landing. The aircraft commander should balance the experience, skill, and proficiency of the aircrew member flying against the complexity of the event to be flown.

6.12.5. Aircrews will declare an IFE for any of the following situations:

6.12.5.1. An emergency procedure checklist states "land as soon as possible." **(T-3)**.

6.12.5.2. Any situation where aircrews refer to an emergency procedure landing checklist. **(T-3)**.

6.12.5.3. Any planned landing with other than normal wing, flap or slat position, gear position or normal braking capability. **(T-3)**.

6.12.5.4. In any case where current or foreseeable system failures could require immediate ground assistance (e.g., fire, medical, maintenance, supervision). **(T-3)**.

6.12.5.5. If any doubt exists in the opinion of the aircrew, supervisor of flying (SOF), or the squadron operations supervisor (Ops Sup/Top 3) about the safety of the aircrew or aircraft's performance. **(T-3)**.

6.13. Aircrew and Aircraft Limitations.

6.13.1. **Structural Limitations.** The following restrictions are a result of the ASIP and are imposed to increase the airframe life. Reducing average GW and flying hours, limiting transition and landing GW, and removing LAHS flight can significantly extend the life of the B-1.

6.13.1.1. B-1 LAHS flight operations are prohibited in accordance with **paragraph 3.2.1**

6.13.1.2. Units will reduce fuel loads to the minimum required for the mission. **(T-3)**.

6.13.1.3. Aircrew are prohibited from landing at GW exceeding 275,000 pounds, unless necessary for safety of flight. **(T-3)**. Sq/CCs (delegated no lower than Ops Sup) may grant waivers to make landings to a full stop. Notify the OG/CC if waiver is granted. Full stop landings are authorized to T.O. 1B-1B-1 GW limits in an emergency or safety of flight situation.

6.13.1.4. All transition work should be accomplished below 250,000 pounds. For GWs between 250,000 and 275,000 pounds, aircrew are limited to one approach or touch and go/landing per pilot. Sq/CCs (delegated no lower than Ops Sup) may grant waivers. Notify the OG/CC if waiver is granted.

6.13.2. **Operational g-Limits.**

6.13.2.1. During peacetime operations, aircrew are limited to 1.5g with the wing sweep between 15 and 55 degrees, and 2.5g between 65 and 67.5 degrees. This is due to the increased structural fatigue of operating near, and risk of exceeding, the structural limits.

6.13.2.2. Momentary deviations outside of the operational limits may not constitute an over-g unless also outside of the parameters in T.O. 1B-1B-1.

6.13.2.3. Aircrew experiencing an over-g that exceeds T.O. 1B-1B-1 structural limitations (whether flagged by CITS or observed by the aircrew) will terminate the mission and accomplish a controllability check. **(T-3)**. Aircrew will annotate aircraft

configuration, GW and observed over-g in Air Force technical order form 781A, *Maintenance Discrepancy and Work Document*. **(T-3)**. Observed over-g occurring between peacetime operational limits and the structural limits will be debriefed as a training rule violation. **(T-3)**.

6.13.3. **Aircraft Tire Wear.** The maximum wear limit (MWL) for authorized B-1 tires (Goodyear and Michelin Aviator/Air-X) is three cords. Once the third cord is showing, the tire is unserviceable and requires replacement. The MWL applies to both main and nose gear tires on the B-1. A visible red cord is only an indicator and should not be used to determine the serviceability of a tire because not all tires will possess a red cord.

6.13.4. **Overheated or Hot Brakes.** Aircrew will not execute engine running crew changes, hot pit refuels, or warm pit refuels in an aircraft with a known or suspected brake overheat condition (any brake temperature above 600ºF). **(T-3)**.

6.13.4.1. Aircrew with actual or suspected brake overheat condition, identified via CITS parameter monitor code, BRAKE TEMP light, or visual indications such as excessive smoke or fire will declare a ground emergency and immediately notify maintenance personnel. **(T-3)**.

6.13.4.2. Taxi operations are permitted if the overheat condition no longer exists.

6.14. Weapon Employment Restrictions.

6.14.1. While carrying weapons, do not conduct simulated weapon releases, unusual attitude maneuvers, flight characteristic demonstrations or touch and go landings.

6.14.2. Aircrew may accomplish electronic attack training with retained weapons provided they do not designate any targets.

6.14.3. During training missions, aircrew will not open weapon bay doors during flight with weapons on board other than for intentional release or jettison. **(T-3)**. During contingency operations and higher headquarter directed missions, aircrew may open weapon bay doors with weapons on board in order to ensure proper door operation, provided the aircrew can confirm they are over sparsely populated areas, preferably over water.

6.15. Supersonic Flight. Supersonic operations will be in accordance with DAFMAN 13-201, *Airspace Management*.

Chapter 7

LOCAL OPERATING PROCEDURES

7.1. General. This chapter provides a consolidated framework for units to supplement local operating procedures. In accordance with DAFI 33-360, the paragraph method is the only authorized way to supplement an AFMAN and units must arrange added material according to the basic publication. **(T-3)**. This chapter is not intended to be a single source document for procedures contained in other directives or regulations. Avoid unnecessary repetition of guidance provided in other directives; however, reference to those directives is acceptable when it serves to facilitate location of information necessary for local operating procedures.

7.1.1. Units may publish guidance in a single, stand-alone local operating instruction instead of supplementing this AFMAN.

7.1.2. Added or stand-alone procedures will not be less restrictive than those contained elsewhere in this manual. **(T-2)**.

7.2. Local Operating Guidance.Note : Units should include the following topics in their local operating guidance:

7.2.1. Introduction.

7.2.2. General Policy.

7.2.3. Ground Operations.

7.2.4. Flying Operations.

7.2.5. Weapons Employment.

7.2.6. Abnormal Procedures.

7.3. Recommended Guidance. If applicable, include procedures for the following in the appropriate section of **paragraph 7.2**:

7.3.1. Command and Control.

7.3.2. Fuel Requirements and Bingo Fuels.

7.3.3. Mission Plan Fly-Fly and Show & Go Procedures.

7.3.4. Diversion Instructions.

7.3.5. Jettison Areas, Procedures and Parameters.

7.3.6. Controlled Bailout Areas.

7.3.7. Local Weather Procedures.

7.3.8. Unit Standards.

7.3.9. NVG Procedures.

7.3.10. Cross-Country Procedures.

7.3.11. Search and Rescue, and On-Scene Commander Procedures.

7.3.12. Bird and wildlife aircraft strike hazard program guidance in accordance with AFI 91-202, *The US Air Force Mishap Prevention Program*, and AFI 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Program*.

7.3.13. Environmental Restrictions to Flight Operations (winds, sea state, temperature, etc.) applicable to unit operating locations.

7.4. Coordination. Prior to publication, units will forward copies of the local supplement to MAJCOM and appropriate subordinate agencies for approval. If a procedure is deemed applicable to all B-1 units, it will be incorporated into the basic AFMAN. **(T-2)**.

JOSEPH T. GUASTELLA, Jr., Lt Gen, USAF
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Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFGSCI 10-706, *Electronic Attack Training and Emissions Control (EMCON)Procedures*, 13 September 2018

AFGSCI 11-270, *Electronic Flight Bag Operations*, 7 November 2019

AFI 11-202V2 AFGSCSUP, *Aircrew Standardization and Evaluation Program,* 26 May 2020

AFI 11-202V3 AFGSCSUP, *General Flight Rules*, 9 July 2019

AFI 11-214, *Air Operations Rules and Procedures*, 8 July 2020

AFI 11-215, *Flight Manuals Program (FMP),* 25 March 2019

AFI 11-418, *Operations Supervision,* 28 February 2020

AFI 33-322, *Records Management and Information Governance Program,* 23 March 2020

AFI 91-202, *The US Air Force Mishap Prevention Program,* 12 March 2020

AFI 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Program*, 31 May 2018

AFMAN 11-202V3, *Flight Operations,* 10 June 2020

AFMAN 11-2B-1V1, *B-1 Aircrew Training,* 30 October 2020

AFMAN 11-2B-1V2, *B-1 Aircrew Evaluation Criteria,* 15 February 2019

AFTTP 3-3.B-1, *Combat Aircraft Fundamentals B-1,* 3 April 2020

ATP 3.3.4.2 Ed. D, Ver. 1, *AAR Refueling,* 26 April 2019

CJCSM 3212.02E, *Performing Electronic Attack in the United States and Canada for Tests, Training, and Exercises*, 17 June 2019

DAFPD 11-2, *Aircrew Operations*, 31 January 2019

DAFPD 11-4, *Aviation Service*, 12 April 2019

DAFI 33-360, *Publications and Forms Management*, 7 August 2020

DAFMAN 11-401, *AVIATION MANAGEMENT,* 27 October 2020

DAFMAN 13-201, *Airspace Management,* 10 December 2020

Executive Order 13478, *Amendments to Executive Order 9397 Relating to Federal Agency Use of Social Security Numbers*

Federal Aviation Administration JO 7610.4V, *Special Operations*, 5 July 2019

FLIP AP/1B, *Military Training Routes*, 10 September 2020

The Privacy Act of 1974, *5 USC.* §552a

T.O. 1B-1B-1, *Flight Manual USAF Series B-1 Aircraft*, Ch 5, 1 September 2020

T.O. 1B-1B-1-1, *Performance Data USAF Series B-1 Aircraft*, Ch 1, 15 October 2008

T.O. 12S10-2AVS9-2, *Technical Manual Image Intensifier Set, Night Vision Type AN/AVS-9, Revision 8*, 11 August 2020

37 USC §301a, *Incentive Pay: aviation career*

Public Law (PL) 92-204, Section 715 *Department of Defense Appropriations Act for 1972*

PL 92-570, *Department of Defense Appropriations Act for 1973*

PL 93-294, *Aviation Career Incentive Act of 1974*

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*.

Air Force Technical Order (AFTO) Form 781A**,** *Maintenance Discrepancy and Work Document.*

Abbreviations and Acronyms

ACU—Avionics Control Unit

AFGSC—Air Force Global Strike Command

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve Command

AFTO—Air Force Technical Order

AFTTP—Air Force Tactics, Techniques, and Procedures

AGL—Above Ground Level

AILA—Airborne Instrument Landing Approach

ASIP—Aircraft Structural Integrity Program

ASL—Above Sea Level

ATC—Air Traffic Control

ATM—Air Traffic Management

ATP—Allied Tactical Publication

BASH—Bird Aircraft Strike Hazard

BD—Battle Damage

CITS—Central Integrated Test System

CJCSM—Chairman of the Joint Chiefs of Staff Message

CNS—Communication, Navigation, Surveillance

CONV—Conventional

DAF—Department of the Air Force

DAFI—Department of the Air Force Instruction

DSO—Defensive Systems Officer

EMCON—Emissions Control

EP—Electronic Protection

ETE—Estimated Time En Route

EXCM—Expendable Countermeasures

FAA—Federal Aviation Administration

FAF—Final Approach Fix

FIC—Flight Instructor Course

FL—Flight Level

FLIP—Flight Information Publications

FMP—Flight Manual Program

FTU—Formal Training Unit

GPS—Global Positioning System

GSS—Gyro Stabilization System

GW—Gross Weight

IAF—Initial Approach Fix

IFE—In-flight Emergency

IMC—Instrument Meteorological Conditions

INS—Inertial Navigation System

INU—Inertial Navigation Unit

IP—Instructor Pilot

KIAS—Knots Indicated Airspeed

KTAS—Knots True Airspeed

LAHS—low altitude high speed

LAR—Launch Acceptability Region

LNAV—Lateral Navigation

LOWAT—Low Altitude

LPV—Localizer Performance with Vertical guidance

MAJCOM—Major Command

MARSA—Military Assumes Responsibility for Separation of Aircraft

MNPS—Minimum Navigation Performance Specification

MWL—maximum wear limit

MBW—Modifiable Ballistics Weapon

ML—Mission Lead

MSA—Minimum Safe Altitude

MSL—Mean Sea Level

NAT-HLA—North Atlantic-High Level Airspace

NORDO—No Radio

NUC—Nuclear

NVG—Night Vision Goggles

OG—Operations Group

ORS—Offensive Radar Set

OSO—Offensive Systems Officer

OPR—Office of Primary Responsibility

OPS SUP—Operations Supervisor

PFR—Primary Flight Reference

RCR—Runway Condition Reading

RF—Radio Frequency

RNAV—Area Navigation

RNP—Required Navigation Performance

RVSM—Reduced Vertical Separation Minima

SCAS—Stability Control and Augmentation System

SEF/SIS—Stability Enhancement Function/Stall Inhibitor System

SOF—Supervisor of Flying

SPINS—Special Instructions

TACAN—Tactical Air Navigation

TES—Test and Evaluation Squadron

TOLD—Takeoff and Landing Data

T.O.—Technical Order

TTP—Tactic, Technique, and Procedure

USC—United States Code

VMC—Visual Meteorological Conditions

VNAV—Vertical Navigation

WSO—Weapon Systems Officer

Terms

Mission Lead—Individual responsible for safe and effective formation flight.

Hung Weapon—A live or inert weapon that does not separate from the aircraft following an attempted release (electronic release pulses issued in OAS automatic or manual mode with all switches correctly positioned). **Note**: Weapons not released due to being blocked, a swing arm malfunction or a "slow switch status following squib fire" are considered retained if the "hung state" is removed and the fault clears following corrective action by the OSO.

Lead Change—Used during formation when the ML/flight lead transfers all navigation, lead position, command and control communications, and tactical flight call sign to the wingman. The ML/flight lead typically will not maneuver the formation or direct a lead change back once a lead change has occurred. Lead changes are typically used when an emergency or other extenuating circumstance exist such that the ML/flight lead can no longer fully control the formation.

Live Weapon—Actual munitions containing a primary explosive charge (MK-82, GBU-31, etc.).

Low Altitude Activity—Same as AFI 11-2B-1 V1, *B-1 Aircrew Training*. Below 5,000 feet AGL.

Medium Altitude Activity—Same as AFI 11-2B-1 V1, *B-1 Aircrew Training*. From 5,000 feet AGL to 25,000 feet MSL (For weapons delivery events from 5,000 feet MSL to 17,000 feet MSL).

Mission Lead—The Mission Lead is the aircrew member responsible for mission accomplishment. This includes planning, leading, and debriefing the mission. When circumstances dictate, the Mission Lead does not have to be in the lead aircraft or position during the flight.

Retained Weapon—A weapon still on board the aircraft with no release attempted or after successfully releasing the intended number of weapons in a partial load. Weapons not released due to procedural errors are retained. **Note**: Weapons not released due to being blocked, a swing arm malfunction or a "slow switch status following squib fire" are considered retained if the "hung state" is removed and the fault clears following corrective action by the OSO.

RNAV (Area Navigation)—A method of navigation that permits aircraft operation on any desired course within the coverage of station-referenced navigation signals or within the limits of a self-contained system capability, or a combination of these.

Visual Contour Flight—Operation at a predetermined altitude above the ground, following contours visually with radar altimeter crosscheck.

Weapon—Any live, inert, or training munitions.

Attachment 2

PASSENGER BRIEFING GUIDE

A2.1. Ground Operations. (**Note**: *Item will be briefed at the aircraft.)

A2.1.1. Ramp safety (danger areas / hearing and eye protection)

A2.1.2. Foreign object damage (FOD) considerations

A2.1.3. Normal ingress and egress

A2.1.4. Strap-in procedures / proper use of restraints *

A2.1.5. Life support equipment *

A2.1.6. Oxygen system – Preflight and normal settings *

A2.1.7. Ejection seat procedures *

A2.1.8. Critical switches and controls *

A2.1.9. Safety precautions (e.g., stick/leg interference) *

A2.1.10. Prohibitions and restrictions

A2.1.11. Communications connections and use *

A2.2. Flight Overview and Profile.

A2.2.1. Takeoff and departure

A2.2.2. Route, air work, maneuvers

A2.2.3. Transfer of aircraft control

A2.2.4. Recovery, pattern, and landing

A2.2.5. In-flight checks (challenge and response)

A2.3. Abnormal Procedures. (**Note**: *Item will be briefed at the aircraft).

A2.3.1. Emergency ground egress *

A2.3.2. Abort

A2.3.3. In-flight emergency procedures

A2.3.4. Bird strike

A2.3.5. Smoke and fume elimination *

A2.3.6. Physiological *

A2.3.7. Ejection / bail out *

A2.3.8. Intercom failure *

A2.3.9. Oxygen Emergency Procedures (must demonstrate mask/regulator operation) *

A2.4. Questions?