388TH SQUADRON STANDARD OPERATING PROCEDURES

388th squadron
132-388-SOP
132nd Virtual Wing

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2. Introduction

Scope: This document outlines the Standard Operating Procedures for the 388th vSquadron of the 132nd Virtual Wing. Each squadron will have their own Standard Operating Procedures (SOP's) pertaining to operations for their aircraft. All pilots that operate as part of this squadron must be familiar with the contents of this document.

Content: This document contains normal and emergency operating procedures related to the F16-C Fighting Falcon or 'Viper', flown by the 388th vSquadron of the 132nd Virtual Wing.

Pilot responsibility: Use common sense. SOPs describe standardised procedures for most circumstances but is no substitute for common sense and judgment. It is the pilot's responsibility to fly the aircraft safely and effectively in all circumstances, as required to accomplish the overall mission.

Deviations: Deviation from these SOPs are approved, provided that they are communicated to all parties operating together and are subject to the agreement of the flight leader.

Recommended changes: Improvements and recommended changes to this SOP should be stated to the parties nominated in the Document Responsible section above.

3. Glossary of Terms

//TODO – Expand on this!

AI:

AO: Area of Operations; a designated geographic space for conducting operations within, defined with both lateral and vertical limits.

AR:

AWACS:

C2:

C2 Agency:

GCI:

SA: Situational Awareness; the principle of one being aware of their surroundings, including the position of friendly and enemy assets of all types, the location of their mission and their position relative to it.

4. Roles & Responsibilities

Within a flight operating within the 388th vSquadron, roles within each flight are defined such that the division of labour reduces the overall workload on an individual within the flight.

Flight Lead

The flight leader is ultimately responsible for the safe conduct of a flight. They should lead planning activities in the lead-up to the flight, brief the flight to safely prepare for the mission being undertaken and ensure the smooth conduct of the flight, making tactical decisions which support the strategic direction of the mission and ensuring the welfare of all flight members.

Element Lead

An element lead holds responsibility for supporting the flight lead in all activities, including the planning and briefing actions. As a sub-leader within the flight, an element lead may be required to take responsibility for a wingman in the undertaking of specific tactics at the direction of the flight lead.

Wingman

All wingmen within a flight, including any element lead, are responsible for assisting in planning and briefing activities where required and ensuring the proper operation of their aircraft in support of the objectives of the mission. A wingman will also be responsible for:

- Supporting the separation of the flight whilst the flight lead is 'heads-in'.
- Identifying potential threats to the flight.
- Ensuring the appropriate conduct of the flight, challenging the flight lead when appropriate.
- Adhering to standard operating procedures, brief operating procedures deviating from the norm and instructions provided by the flight or element lead as appropriate.

4.1 Flight Planning

The Flight Lead will be responsible for ensuring appropriate planning exercises are undertaken relevant to the mission at hand and that the plan is appropriate shared amongst other flight members, such that the flight can be flown in a safe and efficient manner, promoting the likelihood of mission success.

4.1.1 Flight Leads must prepare a plan, containing communication, navigation and weapon employment guidelines for the flight which are relevant to the mission at hand.

4.1.2 Flight Leads should plan appropriate contracts for the conduct of the flight.

4.1.3 Flight Leads should provide an appropriate briefing for all flight members.

4.1.4 Flight Leads should liaise with relevant parties when planning a flight, including but not limited to other Flight Leads, AWACS leads and strike leads.

4.1.5 Element Leads and wingmen should review the briefing provided such that they have a clear understanding of the expected conduct in the mission.

4.1.6 Element Leads and wingmen should ask questions if appropriate to ensure a full and thorough understanding of the planed flight.

4.1.7 Flight Members should ensure they have appropriate charts and FLIPs for the sortie being flown, including, but not limited to, departure aerodrome charts, arrival aerodrome charts and alternate arrival aerodrome charts.

4.2 Mission Execution

In order to safely execute a mission, all participants in a flight must ensure that they remain responsible for the safe operation of their jet and its' associated equipment. Each participant in the flight must remain committed to achieving the mission objectives, supporting the Flight Lead, AMC and other tactical and strategic commanders.

4.2.1 Flight Members must adhere to checklists appropriate for their aircraft, stage of flight and circumstances in the operation of their aircraft.

4.2.2 Flight Members should adhere to the pre-planned route wherever possible. Deviations should be agreed in advance and reported to C2 Agencies as soon as is practicable.

4.2.3 Flight Members should maintain appropriate two-way communication both with other flight members and appropriate external agencies.

4.2.4 Flight Members must report changes in mission posture, threat picture and airframe status as soon as is practicable.

4.3 Command and Control

4.3.1 Flight Members must respect the direction of Command and Control agencies effective throughout a mission.

4.3.2 Flight Members must provide appropriate reports to Command and Control agencies as soon as is practicable and following appropriate communications guidelines where available.

5. Mission Planning

In order for a flight to achieve maximum effectiveness, a well-defined purpose for the flight should be understood, with available intelligence and the structure of concurrent friendly missions made available to flight planners. Plans made by package and flight leaders should propose a preferred option for completing the mission but should also consider contingencies and alternate plans. The plan produced must promote a safe, effective and economical mission accomplishment.

5.1 Mission Types and Intents

5.1.1 Package and Flight Leads must provide a plan which clearly defines the type of mission being flown and the intent of the mission.

5.2 Payload, Fuel and Weight Planning

5.2.1 Package and Flight Leads should plan to carry an appropriate payload for their flight, ensuring that the MTOW for the aircraft is not exceeded.

5.2.2 Package and Flight Leads must ensure that appropriate fuel is planned for the flight, which may include a tanking plan if required.

5.3 Planning outputs

5.3.1 Package and Flight Leads must produce an appropriate briefing for all participants in the flight or package, which clearly depicts the intended route to be flown.

5.3.2 Package and Flight Leads should produce appropriate mission data cards for all participants for use on a kneeboard, such that information required for the execution of the mission is readily available in flight.

6. Mission Briefing

Providing a mission briefing is an integral step in ensuring that all participants of a flight are clear on the expectations of the mission, the requirements of each participant in the flight and the steps required to achieve mission success. A good briefing ensures good situational awareness for all participants of the mission with respect to friendly and enemy forces, areas to be overflown and avoided and communications and tanking plans if required.

6.1 Mission Overview

6.1.1 The mission briefing must provide a clear indication of the overview of the mission, including the type of mission being flown, the objectives and participants of the mission.

6.1.2 The missing briefing should provide a depiction of the route anticipated being flown during the conduct of the mission.

6.2 BluFor Situation

6.2.1 The mission briefing should provide a depiction of friendly forces within the AO, including the locations of concurrent missions and external assets pertinent to the conduct of the flight.

6.2.2 The mission briefing should provide details of the location of BluFor assets within the AO.

6.2.3 The mission briefing should provide details of the location of the FLOT line.

6.3 RedFor Situation

6.3.1 The mission briefing should provide a depiction of known enemy forces within the AO, including the approximate locations of threats, concurrent missions and support assets.

6.3.2 The mission briefing should provide the location of anticipated threats which may pose a risk to the conduct of the flight.

6.4 Threat Assessment

6.4.1 The mission briefing must provide a detailed threat assessment, depicting the known and anticipated threats within the AO for both Air-to-Air and Air-to-Ground mission aircraft.

6.4.2 The mission briefing should provide a detailed description of the types of threat located in each area such that a defensive posture can be adopted.

6.5 Mission Flow and Time Hack

6.5.1 The mission briefing should provide a description of the mission flow, depicting the anticipated sequence of events to accomplish the mission.

6.5.2 The mission briefing should provide a timeline associated with the anticipated sequence of events to facilitate inter-working between flights and packages.

6.6 Contracts

6.6.1 The mission briefing must specify appropriate contracts for the flight, including but not limited to:

- Departure contracts
- Formation contracts
- Communications contracts
- Tactical contracts
- Weapons employment contracts

7. Normal Procedures

7.1 Communications and Start-up

7.1.1 All flight members must ensure bi-directional communication capabilities on both primary and auxiliary radios before engine start.

7.1.2 All flight members must remain tuned to the same primary radio frequency at all times in order to maintain flight integrity.

7.1.3 All flight members should remain tuned to the same auxiliary radio frequency at all times unless directed by the Flight Lead.

7.1.4 When changing frequency at any stage of flight, all flight members should 'check in', unless directed by the Flight Lead using the appropriate brevity term. Changes of frequency should be directed by the Flight Lead on the current primary frequency and must be acknowledged by all flight members.

7.1.5 Flight members should light their position lights when the aircraft is considered 'under power' and emitting exhaust gasses of any type.

7.1.6 Flight Leaders should perform an 'alpha check' before a directive to start engines is provided. Corrective action must be undertaken before a directive to start engines is provided to the flight.

7.1.7 Flight members should not start their engines until directed by the Flight Lead.

7.1.8 Flight members are responsible for ensuring that the correct checklist is followed for start-up, given the nature of start being performed.

7.1.9 Flight members should report the conclusion of their start check-lists at the earliest possible convenience.

7.2 Taxi

7.2.1 The use of the Taxi light is mandatory whilst the aircraft is in the tax phase of flight.

7.2.2 The default taxi posture will be staggered.

7.2.3 The minimum taxi interval s 150 feet staggered or 300 feet in trail. Spacing may be reduced when holding short of or entering the runway.

7.2.4 Taxi separation at night must be no less than 300 feet and on the taxiway centreline.

7.2.5 Taxi in snow or ice conditions must be performed on the centreline with a minimum of 300 feet separation in trail.

7.3 Take-off

7.3.1 Before entering a runway for departure, the anti-collision light must be lit.

7.3.2 Flights will line up as appropriate based on the weather conditions, runway size and runway conditions.

7.3.3 Spacing between separated elements/flights will be a minimum of 500 feet.

7.3.4 Wingmen are responsible for maintaining wing-tip clearance when lining up and taking off.

7.3.5 After 'Before Take-off Checks' have been completed, all flight members will inspect each other for proper configuration and abnormalities.

7.3.6 Afterburner must be used if the flight anticipates that greater than 50% of the runway length will be used in the take-off roll when using MIL power.

7.3.7 Take-off interval between aircraft/elements will be a minimum of 10 seconds (15 seconds for

7.3.8 afterburner). When join-up is to be accomplished in 'VMC on top' conditions or when carrying live air-to-surface ordnance, take-off interval will be increased to a minimum of 20 seconds.

7.3.9 Formation take-offs are restricted to elements of two aircraft.

7.3.10 Formation take-offs are only permitted when the runway width exceeds 125 feet.

7.3.11 Formation take-offs are not permitted when:

- Any member of the element is carrying live munitions other than air-to-air missiles, 20mm cannon rounds, 2.75 rockets, AGM-88, AGM-65 or night illumination flares.
- Standing water, ice, slush or snow is on the runway.
- The crosswind or gust component exceeds 15 knots.

7.4 En-Route

7.4.1 Flight Leaders must maintain 350 KIAS until join-up is accomplished, unless mission requirements or flight safety necessitate a different airspeed.

7.4.2 Flight Leaders must not exceed 30 degrees angle of bank until the formation is joined-up.

7.4.3 The default en-route formation is 'Finger Four' with number two joining on the left and must be adopted unless otherwise briefed in advance of the flight.

7.4.4 Flight Leaders must not break up a formation until each member of the formation has some positive mechanism for navigation i.e. visual, radar ('TIED ON'), INS (panned route) or TACAN (including Radial).

7.4.5 The lead pilot within a formation must not be changed unless all members of the formation are in visual contact with each other.

7.4.6 In IMC, penetration should not be conducted in elements of more than two aircraft.

7.4.7 For night sorties, if formations other than fingertip or route are used, separation will be maintained primarily by instruments. If spacing cannot be ensured, vertical separation must be employed at a minimum height of 1,000 feet.

7.4.8 For night sorties, prior to a formation breakup, flight leaders will broadcast their attitude, altitude, airspeed and altimeter setting, which will be acknowledged by wingmen.

7.4.9 Overhead break recoveries must not be performed at night or in IMC.

7.5 Air-to-Air Refuelling

7.5.1 All members of a flight must complete the 'Before AAR' checklist as soon as is practicable after obtaining visual contact with the tanker.

7.5.2 Flight Leaders are responsible for ensuring that all members of the flight have completed the 'Before AAR' checklist.

7.6 Recovery

7.6.1 To minimise the likelihood of tail scrapes, the final approach will normally be flown at 11 degrees AOA.

7.6.2 Overhead break recoveries are not permitted with unexpended ordnance, other than air-to-air munitions, AGM-88 and AGM-65.

7.6.3 The break should be initiated at the touchdown point, or as directed by ATC.

7.6.4 The minimum separation during the break is 5 seconds.

7.6.5 Aircraft should roll out onto their final approach track at approximately 300 feet AGL and 1 mile from the planned touchdown point.

7.6.6 Formation landings are only permitted from a precision approach, or a VFR straight-in approach in day VMC. A qualified flight leader must lead formation landings, unless an IP is in the element.

7.6.7 Aircraft participating in formation landings must be symmetrically loaded.

7.6.8 Formation recoveries are prohibited when:

- Any member of the element is carrying live munitions other than air-to-air missiles or 20mm cannon rounds.
- Standing water, ice, slush or snow is on the runway.
- The crosswind or gust component exceeds 15 knots.
- The runway width is less than 125 feet.

7.7 Checks and Scans

Alpha Check

The Alpha Check provides a mechanism to ensure that all members of the flight have the same

8. Tactical Operations

8.1 AWACS Check-In
8.2 FENCE In
8.3 Sensor Employment
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9. Abnormal Procedures

9.1 Radio Failure

9.2 Mechanical Defects

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9.4 Battle Damage

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10.1 Engine Failure

10.2 Other