

International Virtual Aviation Organisation

Pitch Black 1 - Exercise Operation Darwin

HQ-SOD Event

Saturday, 28th December 2024



Special Operations Department

International Virtual Aviation Organisation

1 General

1.1 Overview

Exercise Pitch Black is a biennial multinational air combat exercise organized by the Royal Australian Air Force (RAAF) in the northern territory of Australia. With origins dating back to the early 1980s, this exercise has evolved into one of the largest and most complex air combat training events in the Asia-Pacific region. The exercise focuses on fostering interoperability among partner nations while testing aircrew and support personnel in large-scale simulated combat scenarios.

Additionally, the IVAO HQ-Special Operations Department, presents a virtual platform for aviation enthusiasts and passionate military aviation to experience scenarios inspired by real-world military exercises like Exercise Pitch Black. Exercise Operation Darwin, This event aims to blend realism with the dynamic nature of special operations in a controlled, immersive online environment.

1.2 Scenarios

In a volatile and contested region, tensions have risen as a hostile coalition threatens the stability of neighboring nations. To counter this growing threat, an international task force has been assembled under the Special Operations Alliance Treaty (SOAT). The mission aims to neutralize the hostile coalition's air power and re-establish control over the region's contested airspace.

Intelligence reports indicate that the adversary has established a robust air defense network supported by highly capable interceptor aircraft and advanced surface-to-air missile (SAM) systems. Their air assets are spread across multiple forward operating bases, creating a challenge for coalition forces to strike decisively while minimizing exposure to enemy defenses.

2 Objectives

The Exercise Operation Darwin will involve simulated full-mission operations, starting with mission planning, aerial ingress under contested airspace, target engagement, and safe egress. The campaign will be conducted in both day conditions to test the adaptability and interoperability of all participants.

2.1 Offensive Counter Air

Offensive Counter Air (OCA): conduct preemptive strikes on enemy airfields and neutralize their airborne assets to establish air superiority.

Mission Key:

- Pre-Strike Reconnaissance: ISR (Intelligence, Surveillance, And Reconnaissance) missions will gather real-time data on enemy air defenses and aircraft readiness.
- Strike Packages Deployment: Multi-Role Fighters And Bombers will coordinate with escorts and SEAD (Suppression Of Enemy Air Defenses) units to execute precision strikes on enemy infrastructure.
- Combat Air Patrols (CAP): Defensive and offensive cap missions will maintain airspace security, protecting coalition assets from retaliatory strikes.

2.2 Aerial Refuelling

Air-To-Air Refueling (AAR): support long-range operations by maintaining the endurance of coalition strike packages, escorts, and electronic warfare assets through coordinated refueling missions.

Mission Key:

- Air-To-Air Refueling: Tankers will establish high-priority refueling tracks within contested airspace, ensuring continuous

operational capacity for strike and escort assets.

- **Aerial Refueling Coordination:** Tanker units will operate in designated air refueling tracks across contested airspace. pilots will need to execute precise mid-air docking procedures under varying conditions, including electronic warfare interference, limited visibility, and proximity to enemy threats. tactical coordination will ensure refueling availability for strike packages and combat air patrols.

3 Date And Time

The Special Operations Event hosted by The IVAO HQ-Special Operations Department, will take place on Saturday, **28 December 2024** At **08.00 UTC – 13.00 UTC.**

4 Definitions

4.1 Abbreviation

Terminology	Explanation
OCA	A military term for the suppression of an enemy's military air power, primarily through ground attacks targeting enemy air bases.
SAM	also known as a ground-to-air missile (GTAM) or surface-to-air guided weapon (SAGW), is a missile designed to be launched from the ground or the sea to destroy aircraft or other missiles.
SEAD	also known in the united states as "wild weasel" and (initially) "iron hand" operations, are military actions to suppress enemy surface-based air defenses, including not only surface-to-air missiles (SAMS) and anti-aircraft artillery (AAA) but also interrelated

	systems such as early-warning radar and Command, Control And Communication (C3) functions, while also marking other targets to be destroyed by an air strike.
STRIKE	A military attack, often an air attack on a specific target
CAP	A combat air patrol is an aircraft patrol provided over an objective area, over the force protected, over the critical area of a combat zone, or over an air defense area, for the purpose of intercepting and destroying hostile aircraft before they reach their target.
AAR	is the process of transferring aviation fuel from one aircraft (the tanker) to another (the receiver) while both aircraft are in flight.[a] the two main refueling systems are probe-and-drogue, which is simpler to adapt to existing aircraft and the flying boom, which offers faster fuel transfer, but requires a dedicated boom operator station.
ARCP	The planned geographic point at which receivers arrive at the observation/astern position relative to the assigned tanker.
GAT	Encompasses all flights conducted in accordance with the rules and procedures of the International Civil Aviation Organisation (ICAO).
OAT	Have to perform activities that are fundamentally different from those done by General Air Traffic (GAT) and are not covered by ICAO SARPS.
BLUEFOR	Represents the friendly or allied forces executing mission objectives.

REDFOR	Represents the adversary or Simulated enemy forces engaging Bluefor and defending targets.
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5 Pilot

5.1 Guidelines

5.1.1 Aircraft must be suitable for each planned and registered task.

5.1.2 Pilots must register on the SOD website.

5.1.3 Departure and arrival flights will operate as GAT (General Air Traffic) until reaching the designated training area.

5.1.4 Pilots must be online at least 10 minutes prior to their scheduled departure time.

5.2 Departure & Arrival

5.2.1 Plots shall contact "AS FRAG" after being transferred to the mission Commander.

5.2.2 Pilots shall contact "TERMINATE" if they discontinue the training task.

5.2.2 Pilots shall contact "KNOCK IT OFF" if they are satisfied during the sessions in BFM/BVR.

5.2.5 Pilots shall contact "COMPLETED EXERCISE" before returning to base.

5.3 Rules

5.3.1 Pilots must park on the ramp with engines off before contacting ATC or at the start of the event.

5.3.2 Pilots are not permitted to exceed mach 0.95 at any time during the event unless granted permission by ATC.

5.3.3 Pilots are requested not to use webeye during the event.

5.3.4 All intra-flight communications shall be conducted via the discord event channels in accordance with event guidelines.

5.1 Airframes

Two types of aircraft will be usable for this exercise:

1. Fighter Jets capable of performing Multirole Operations.
2. Tanker Aircraft capable of utilizing Probe-And-Drogue Refueling Systems.

5.1 Mission List

1. Intelligence, Surveillance, And Reconnaissance (ISR):

Objective: Conduct surveillance and reconnaissance to locate, identify, and monitor high-value targets and enemy activities. ISR units will also provide real-time intelligence to control and guide the broader mission operations effectively.

2. Strike Coordination And Reconnaissance (SCAR):

Objective: coordinate and execute precision airstrikes on designated targets while simultaneously conducting reconnaissance to assess the damage and identify follow-up targets. SCAR missions require seamless integration with strike packages and supporting assets.

3. Suppression Of Enemy Air Defenses (SEAD):

Objective: Neutralize or degrade enemy ground-based air defense systems, including radar-guided sams and aaa batteries. This mission ensures safe airspace for strike and support operations by employing electronic warfare, anti-radiation missiles, and decoy tactics.

4. Combat Air Patrols (CAP):

Objective: Defend friendly assets and maintain air superiority through Basic Fighter Maneuvers (BFM) And Beyond Visual Range (BVR) Engagements. CAP missions involve intercepting and neutralizing hostile aircraft to secure the operational area for all mission elements.

5. Red Air Mission (Red Air):

Objective: simulate hostile forces to challenge blue air participants. RED AIR units will emulate adversary Tactics, Techniques, And Procedures (TTPS), Including Aggressive Intercepts, Coordinated Attacks, And Defensive Maneuvers, To Create Realistic Threat Environments For Blue Air Forces.

6. Air Refueling Mission (AAR):

Objective: Provide essential support to all participants by facilitating in-flight refueling. This mission ensures extended operational endurance for strike packages, ISR aircraft, cap fighters, and other mission-critical assets. tankers will operate in pre-designated tracks, and dynamic refueling may be required based on mission progress.

These missions are interconnected and designed to achieve operational success by leveraging advanced tactics and seamless teamwork. Each mission challenges participants with realistic scenarios and diverse objectives to enhance their skills and strategic thinking.

6 Controllers

6.1 Guidelines

6.1.1 Controllers Must Have An In-Depth Understanding Of The Exercises And Phraseology Of Special Exercises

6.1.2 Controllers Should Be Understanding And Accommodating Of Pilots Who Are Unfamiliar With Special Exercise Phraseology And Procedures And Should Assist Where Possible.

6.1.3 Controllers Must Use Clear English When There Is An Apparent Misunderstanding In Instructions.

6.1.4 Controllers Must Register On The SOD Website.

6.1 Positions

The following positions will be available during the event:

Position	Callsign	Frequency
YPDN_GND	Darwin Ground	121.800
YPDN_TWR	Darwin Tower	133.100
YPDN_APP	Darwin Approach	125.200
YBBW_CTR	Brisbane Military	127.900

7 Assistance

7.1 Communication Center

Leading up to this event, you can contact the special operations staff using the following means:

- Discord : <https://sod.ivao.aero/discord>
- Forum : <https://forum.ivao.aero/>
- Email : sod@ivao.aero, soad@ivao.aero, soa4@ivao.aero, xo-soc@ivao.aero

7.1 Documentations

The Following Areas For Documentations Are Available Below:

- [General Special Operations Pilots & Controller](#)
- [Ground Control Interceptions](#)
- [Special Exercise Phraseology By Xu-Soc](#)
- [Aerial Refuelling](#)
- [Brevity Code](#)

7.1 Airspace Overview

For the duration of the exercise, we will be using several area which is off the south of darwin shown below:

YBD-288A – YBD-288C

YBR-225A – YBR-255C

YBR-224A – YBR-224B

7.1 Procedures

Before and during the event, SO staff will be available to assist with understanding and completing the necessary procedures for these operations.

This is a training exercise; therefore, it is not expected that pilots and controllers know the procedures fully.

8 Exercise Plan

8.1 Situation

8.1.1 Fighter Jets are at Darwin Air Force Base, follow the timeline procedure.

8.1.2 Assigned hostile/Red Air are at Darwin Air Force Base also follow the timeline procedure

8.1.3 Tanker aircraft are at Tindal Air Force Base and flying to assigned ARCP.

8.1.4 All aircrafts must be held over assigned holding points before exercise starts by the Mission Commander.

8.1.5 Once exercise starts, all pilots shall conduct their tasks as planned.

8.1 Intel Data

The simulated battlespace covers a vast and dynamic theater and expansive open airspace. participants will face a mix of threats, from aggressive enemy interceptors to simulated electronic warfare disruptions and simulated integrated air defenses. The need for seamless coordination between strike packages, refueling assets, and supporting roles will challenge even the most experienced participants.

The success of the operation will depend on the ability of the coalition to work as a unified force, demonstrating precision, adaptability, and resolve under high-pressure combat scenarios. This Special Operations Event will serve as a proving ground for the skills and teamwork of the IVAO Special Operations Community.

8.1 Air Tasking Order

TASKUNIT/SOD/HQ//

MSNDAT/PBI-1224/001/-/VIPER/-/YPDN/YPDN/STK/-/-/-/-//

TGTLOC/-/-/TGTA;TGTB/-/REMARK/-/-//

MSNLOC/281100Z/281300Z/DARWIN AIRSPACE/SFC-500/-//

REMARK/VIPER 1 AS STK PC//

TASKUNIT/SOD/HQ//

MSNDAT/PBI-1224/002/-/EAGLE/-/YPDN/YPDN/SEAD/-/-/-/-//

TGTLOC/-/-/TGTSAM/-/REMARK/-/-//

MSNLOC/281100Z/281300Z/DARWIN AIRSPACE/SFC-500/-//

REMARK/EAGLE 1 AS SEAD PC//

TASKUNIT/SOD/HQ//

MSNDAT/PBI-1224/003/-/VENOM/-/YPDN/YPDN/SCAR/-/-/-/-//

TGTLOC/-/-/TGTC/-/REMARK/-/-//

MSNLOC/281100Z/281300Z/DARWIN AIRSPACE/SFC-500/-//

REMARK/VIPER 1 AS SCAR PC//

TASKUNIT/SOD/HQ//

MSNDAT/PBI-1224/004/-/COTAM/-/YPDN/YPDN/AAR/-/-/-/-//

TGTLOC/-/-/-/-/-/-/-//

MSNLOC/281000Z/281400Z/DARWIN AIRSPACE/SFC-200/-//

REMARK/AAR//

8.1 Commander's Intent

- Improve Intelligence collection and analysis to gain air supremacy in Darwin Airspace.
- Neutralized the enemy high value assets to assist friendly forces capture the objectives.

8.1 Gameplan

1. Pre-Operation Briefing (30 minutes)

- Assign roles: ISR, SEAD, SCAR, CAP, Red air, and AAR support.
- Review mission objectives, target areas, and Rules of Engagement (ROE).
- Confirm communications protocols and flight plans.

2. Operation Phases

a. ISR deployment

- ISR assets locate enemy targets and defenses.
- Share real-time intelligence with Mission Commanders and SEAD units.

b. SEAD engagement

- SEAD flights neutralize enemy air defenses (SAMS, AAA).
- Red air may challenge SEAD operations, requiring CAP support.

c. scar operations

- Strike teams conduct coordinated airstrikes on primary and secondary targets.
- Post-strike reconnaissance confirms target damage.

d. combat air patrol (cap)

- CAP flights secure airspace and respond to red air threats.
- maintain air superiority using BFM and BVR tactics.

e. red air simulation

- Red air flights simulate enemy tactics to disrupt ISR, SEAD, and SCAR missions.
- Provide dynamic challenges to test blue air responses.

f. Air Refueling (AAR)

- Tankers provide refueling support for all mission flights.
- Pilots refuel as needed to maintain operational endurance.

3. Debriefing

- Review mission result
- Gather feedback from all participants

8.1 Communication Flow

This is the procedure for the communication flow during this operation:

1. Aerodrome Controller
2. Radar Controller
3. Mission Commander
4. Radar Controller
5. Aerodrome Controller

8.1 Target Informations

This is a designated target for Bluefor and to be defended by Redfor.

Target Id	Description	Coordinates
Red Box	Simulated As SAM	15°44'31.7"S 131°55'09.3"E
Yellow Box	Simulated As Red C3	15°44'45.8"S 131°55'08.5"E
Blue Box	Simulated As Weapon Storage	15°44'34.6"S 131°56'08.5"E

9 Airfields Information

9.1 Aeronautical Information Package

- [Departure & Approach Procedures \(DAP\)](#)
- [Designated Airspace Handbook \(DAH\)](#)

9.2 Runway Information

This is an information for Darwin Air Base (YPDN)

RWY	Heading	Length	Approaches
11/29	106/286	11.004ft / 3.354m	ILS/LOC(29)/RNP/VOR/TACAN/NDB
18/36	177/357	5.000ft / 1.524m	RNP (36)

This is an information for Tindal Air Base (YPTN)

RWY	Heading	Length	Approaches
32/14	316/136	8.996ft/2.742m	RNP/LOC/VOR(14), RNP/VOR/NDB(32)

9.3 Scenery

Platform	Links
FSX, P3D	https://secure.simmarket.com/mfsg-darwin-international-airport-ypdn-2020-fsx-p3d-fs2004.phtml https://secure.simmarket.com/mfsg-darwin-international-airport-ypdn-2020-fsx-p3d-fs2004.phtml
MSFS20/24	https://flightsim.to/file/62727/darwin-international-airport-northern-territory-ypdn https://flightsim.to/file/18834/raaf-tindal-air-base-yptn-nt-australia-tag21
X-Plane 11/12	https://gateway.x-plane.com/airports/YPDN/show https://gateway.x-plane.com/airports/YPTN/show

Mission's scenery (target box) will be available in Discord HQ-SOD.

Log

Ver.	Date	Name	Overview Of Changes
1.0.	16 DEC	Fida Perkasa (SOA4)	Initial Release
1.1.	17 DEC	Erdem Akbulut (SOA5)	RC-0
1.2	17 DEC	Fida Perkasa (SOA4)	RC-1
1.3	18 DEC	Fida Perkasa (SOA4)	RC-2

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