

Oman Transport Safety Bureau (OTSB)

Final Report

OTSB Case File No: AIFN-002/05/2025

Runway Incursion (RI) between Two Oman Aviation Academy (OAA) Aircraft - Diamond DA40 NG A4O-OAI and Diamond DA40 NG A4O-OAG At Sohar (OOSH) International Airport, Sultanate of Oman.

Operator: Oman Aviation Academy (OAA)
Make and Model: Diamond DA40 NG
Nationality and Registration Marks: Sultanate of Oman, A4O-OAI

Operator: Oman Aviation Academy (OAA)
Make and Model: Diamond DA40 NG
Nationality and Registration Marks: Sultanate of Oman, A4O-OAG

Location of the Occurrence: Muscat FIR, 24°23'09.98" N 056°37'32.23" E
State of Occurrence: Sultanate of Oman
Date of Occurrence: 6th May 2025, 09:33 UTC



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Purpose of the Investigation

The investigation was conducted by the Air Accident Investigation Section of the Oman Transport Safety Bureau (OTSB) pursuant to Civil Aviation Law 76/2019 Chapter 10, and in compliance with the Civil Aviation Regulation CAR-13.011 - Aircraft Accident & Incident Investigation & Reporting Procedures. The investigation is in conformance with the standards and recommended practices in Annex 13 - Aircraft Accident and Incident Investigation to the Convention on International Civil Aviation Organization (ICAO).

The sole objective of the investigation of an accident and incident is to prevent future aircraft accidents and incidents and not to apportion blame or liability.

Oman Transport Safety Bureau issues the Final Report in accordance with the national and international standards and industry best practices therefore concerned parties are invited to review this report and provide their significant and substantiated comments.

The Final Report is available at:

<http://www.mtcit.gov.om>

Oman Transport Safety Bureau

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Abbreviation	Description
°	Degree
AAI	Air Accident Investigation
AAIS	Air Accident Investigation Section
ALT	Altitude
AFIS	Aerodrome Flight Information Service
AFISO	Aerodrome Flight Information Service Officer
AIP	Aeronautical Information Publication
ATC	Air Traffic Control
ATO	Approved Training Organization
CAA	Civil Aviation Authority
CAL	Civil Aviation Law
C2	Charlie 2
C	Celsius
CPL	Commercial Pilot License
CSN	Cycles Since New
CVR	Cockpit Voice Recorder
DFDR	Digital Flight Data Recorder
DGMET	Directorate General of Meteorology
EFATO	Engine Failure After Take Off
FI	Flight Instructor
FIR	Flight information Region
FMS	Flight Management System
FPL	Flight Plan
FSIA	Federal Safety Investigation Authority
FT	Feet
ICAO	International Civil Aviation Organization
ICT	Information Communication Technology
IIC	Investigator-in-Charge
IR	Instrument Rating
KTS	Knots
MCT	Muscat
MEP	Multi Engine Powerplant
METAR	Meteorological Routine Aerodrome Report
MOWP	Method Of Work Plan
MSL	Mean Sea Level
NM	Nautical Mile
OAA	Oman Aviation Academy
OLS	Obstacle Limitation Services
OOSH	Sohar International Airport
OTSB	Oman Transport Safety Bureau
PF	Pilot Flying

PM	Pilot Monitoring
SEGMET	Information concerning en-route weather
SEP	Single Engine Piston
SOP	Standard Operating Procedures
SPL	Student Pilot Licence
RWY	Runway
R/T	Radiotelephony
TBA	To Be Advised
TGL	Touch-and-go landing
TSB	Transport Safety Board of Canada
UTC	Universal Time Coordinate

Synopsis

Oman Transport Safety Bureau (OTSB) was notified of the occurrence by the Operator, Oman Aviation Academy (OAA) through OTSB email on 08th May 2025 at 08:10AM Local Time. The serious incident occurred on 06th May 2025 at 09:33 UTC.

The serious incident involved two Oman Aviation Academy Diamond DA40 NG aircraft with registration marks A4O-OAI and Diamond DA40 NG aircraft with registration Marks A4O-OAG, both aircraft were conducting training flights at Sohar International Airport (OOSH), Sultanate of Oman. The student pilot flying solo of A4O-OAG was holding short at Charlie 2 (C2) taxiway when the aircraft with registration A4O-OAI (student and instructor) was on final approach and reported that they will perform a Touch and Go Landing (TGL). After the flight crew of A4O-OAI performed the TGL, the flight crew of A4O-OAI decided to perform an Engine Failure After Take-off (EFATO) exercise followed by a full stop landing. Meanwhile the student pilot of A4O-OAG was cleared by the Aerodrome Flight Information Service Officer (AFISO) to backtrack on the Runway 15 for Take-off.

The flight crew of A4O-OAI stated that their intention was communicated to AFISO's designated frequency and no response transmissions was received from the AFISO.

When the student pilot transmitted to AFISO "ready for take-off", AFISO cleared the student of A4O-OAG for take-off at the student discretion without providing the traffic information as the AFISO was informed that the runway is occupied due to aircraft A4O-OAI performing EFATO. The AFISO was under the impression that the information transmitted by aircraft A4O-OAI was not for the AFISO's action but rather for other aircraft ready for take-off. As a result, the student pilot took off on the occupied runway resulting in the runway incursion (RI) between the two aircraft A4O-OAI and A4O-OAG.

Following the review of the occurrence, the OTSB classified the occurrence as a Serious Incident and the Director of OTSB appointed an investigator in charge (IIC) and an investigation team to institute and conduct investigation. The following parties were notified:

- State of Design and Manufacturer (Type Certificate Holder (TC)), Diamond DA40 NG, Transport Safety Board (TSB), Canada.
- State of Design and Manufacturer of Diamond DA40 NG Austria -Federal Safety Investigation Authority (FSIA);
- Sultanate of Oman Civil Aviation Authority (CAA).

The Sultanate of Oman is the State of Occurrence. The following parties were involved in the investigation by appointing accredited representative:

- State of Design and Manufacturer, (Type Certificate Holder (TC)), Diamond DA40 NG, Transport Safety Board (TSB), Canada.

The Final Report issued on (04th Nov 2025) and is available publicly at the below link:

www.mtcit.gov.om

Unless otherwise mentioned, all times in this report are UTC. Local Time in The Sultanate of Oman is UTC plus +4 hours. Photos and figures used in this report were obtained from Oman Aviation Academy (OAA), Directorate General of Meteorology (DGMET) and Oman Airports (OA) and adjusted from the original for the sole purpose of improving the clarity of the report. Modifications to images used in this Report are limited to cropping, magnification, file compression, or enhancement of colour, brightness, contrast or insertion of text boxes, arrows or lines.

1. FACTUAL INFORMATION

1.1. History of Flight

- 1.1.1 On the 06th May 2025, Oman Aviation Academy (OAA) aircraft with registration marks A4O-OAI, a Diamond DA40 NG departed from Sohar International Airport (OOSH), Muscat, on a training flight with intended destination back to OOSH. While another Oman Aviation Academy (OAA) aircraft with registration marks A4O-OAG, a Diamond DA40 NG departed from Sohar International Airport, Muscat (OOSH), Muscat on a training flight with intended destination back to OOSH.
- 1.1.2 A flight plan was filed for both flights, the students collected all required information meteorological information, Aeronautical Information Publication (AIPs) and Notice To Airmen (NOTAMs)), performed all calculations (performance, weight & balance) and were briefed by their respective flight instructor.
- 1.1.3 A4O-OAI and A4O-OAA were operating in the circuit patterns while A4O-OAG and A4O-OAB were taxiing on the RWY at OOSH aerodrome, maintaining communication with the AFISO and with each other on the AFISO's frequency. According to the operator it was a busy morning, the AFISO was communicating with four aircraft (A4O-OAI, A4O-OAG, A4O-OAA, A4O-OAB) at the time of the serious incident. See figure 1 below.
- 1.1.4 During the interview the supervising Flight Instructor (FI) of aircraft A4O-OAG stated that he was visually monitoring the student pilot from the dispersal area without the radio to listen to the student radio calls during taxi. The instructor went inside OAA operations room to get the radio, it was at that time radio calls were made in the OAA operations frequency and AFIS radio frequency that an incident occurred.



Figure 1 - Positions of aircraft communicating with AFISO at start of taxi (Source: OAA).

- 1.1.5 The operator reported that the student pilot flying aircraft A4O-OAG was holding short at C2 taxiway when aircraft A4O-OAI was on final approach and reported their intention to the AFISO is to perform a TGL exercise. After the flight crew of aircraft A4O-OAI completed the TGL, the flight crew performed an Engine Failure After Take-off (EFATO) exercise with full stop landing. The student pilot of A4O-OAG began backtracking on the runway 15.

- 1.1.6 The student pilot of aircraft A4O-OAG reaching the threshold of RWY 15, made 180 degrees turn and reported ready for departure and AFISO responded by stating “Take-off at your discretion”. The student pilot of A4O-OAG then began the take-off, unaware that aircraft A4O-OAI after performing TGL, performed EFATO exercise followed by a full stop landing and was still backtracking on Runway 33 to vacate the runway via taxiway Bravo (B) 4.



Figure 2 - Positions of both aircraft when aircraft A4O-OAG started take-off (Source: OAA)

- 1.1.7 The flight instructor of aircraft A4O-OAA, who was on late downwind turning base, observed aircraft A4O-OAG rolling on the runway RWY15 and advised the student pilot of aircraft A4O-OAG to standby. The student pilot of aircraft A4O-OAG responded that he was already airborne and climbing. The flight instructor of aircraft A4O-OAI then advised the student pilot of aircraft A4O-OAG to continue the climb-out to maintain separation from conflicting traffic A4O-OAI that was backtracking on RWY 33.
- 1.1.8 During the interview, the flight crew of aircraft A4O-OAI stated that after completing the TGL, they decided to perform an Engine Failure After Take-Off (EFATO) exercise, followed by a full-stop landing. They then backtracked on RWY 33. The crew of aircraft A4O-OAI also confirmed that they communicated their intention to perform the exercise to the AFISO, however they never received a response from AFISO.
- 1.1.9 During the interview, the student pilot of aircraft A4O-OAG stated that he believed the flight crew of aircraft A4O-OAI had completed their TGL and were already on the upwind leg. The student pilot of aircraft A4O-OAG also mentioned that he did not hear when the flight crew of aircraft A4O-OAI announce their decision to perform (EFATO) exercise followed by a full stop landing.
- 1.1.10 During the interview the supervising FI of aircraft A4O-OAG stated that while monitoring the student pilot on the OAA operations frequency, the frequency was occupied by different calls from the other aircraft and the student pilot was already airborne as a result the supervisor FI could not instruct the student pilot to abort the flight
- 1.1.11 According to available records, the student pilot of aircraft A4O-OAG passed behind the aircraft A4O-OAI, which was vacating the runway via taxiway Bravo (B) 4, at an altitude of 600 feet Above Mean Sea Level (AMSL). Fig 3 indicate the point of the occurrence.



Figure 3 - Shows the position where the serious incident happened (Source: Operator).

- 1.1.12 The Supervising FI of student pilot of aircraft A4O-OAG instructed the student pilot to abort the sortie and return back to the airport after the instructor became aware of RI occurrence in the OAA operations frequency.
- 1.1.13 During the interview, the AFISO stated that when the student pilot of aircraft A4O-OAG announced readiness for takeoff, he cleared the pilot to proceed at his discretion. However, when the flight crew of aircraft A4O-OAI reported their intention to perform an EFATO, the AFISO did not relay updated traffic information to either aircraft. He explained that he believed the transmission from the flight crew of aircraft A4O-OAI for the EFATO was intended for other aircraft in the circuit and not for his direct action.
- 1.1.14 During the interview, the AFISO further explained that observing traffic movement from the current AFIS room was challenging due to its distance from the incident location. Additionally, the design of the AFIS room obstructs the view of the airfield. Factors such as sun glare, the size of the aircraft, and their colours being white further impaired visibility.
- 1.1.15 Following the serious incident, the OTSB investigation team visited the AFIS room at Sohar International Airport to assess its location and determine whether the AFISO had an unobstructed view of runway and airport operations. The team found that the room's design and placement limited visibility of the runway and surrounding areas. One of the operator's staff member advised the OTSB investigation team, that the current location makes it difficult to monitor all airfield traffic and maintain full situational awareness.
- 1.1.16 The OTSB investigation team also visited the unmanned Air Traffic Control Tower building which is located within Sohar International Airport. The location of the tower is in the center of the airfield. The tower building is equipped with the communication equipment which can be used to enhance safety and better visibility.

1.2. Injuries to Persons

1.2.1 Injuries to Persons (A4O-OAG)

Injuries	Pilot	Crew	Pass.	Total on Board	Other
Fatal	-	-	-	-	-
Serious	-	-	-	-	-
Minor	-	-	-	-	-
None	1	-	-	1	-
Total	1	-	-	1	-

Note: Other means people on the ground.

Injuries to Persons (A4O-OAI)

Injuries	Pilot	Crew	Pass.	Total on Board	Other
Fatal	-	-	-	-	-
Serious	-	-	-	-	-
Minor	-	-	-	-	-
None	2	-	-	2	-
Total	2	-	-	2	-

Note: Other means people on the ground.

1.3. Damage to Aircraft

1.3.1. No damages were reported to both aircraft.

1.4. Other Damage

1.4.1 No other damages were reported to both aircraft.

1.5. Personnel Information

1.5.1 Student Pilot (SP)- (A4O-OAG) (Pilot Flying)

Nationality	Omani		
Medical Validity	18 th Oct 2025	Licence Type	Still under training
Licence Validity	N/A	Type Endorsed	N/A
Ratings	N/A		
English Language Proficiency Level, Issue and Expiry Date	N/A		
Restrictions	Nil		
Previous Accidents	Nil		

Note: Previous accidents/incidents refer to past accidents/incidents the pilot was involved in, when relevant.

Flying Experience:

Total Flying Hours	35:26
Total Flying Hours as Student	6:30
Total Past 24 Hours	Nil
Total Past 7 Days	1:35
Total Past 30 Days	11:29
Total Past 90 Days	22:15

1.5.1.1 The Student Pilot was signed out on 09th April 2025 to fly solo.

1.5.1.2 The Student Pilot is issued a Class 1 medical certificate with no limitations on 20th October 2024 and expiry date of 18th October 2025.

1.5.2 Instructor – (A4O-OAI) Pilot Monitoring (PM):

Nationality	Malaysian		
Medical Valid	27 th AUG 2025	Licence type	Commercial Pilot License Aeroplane
Licence Valid	31 st OCT 2029	Type Endorsed	Yes
Ratings	SEP (L) & MEP (L)		
English Language Proficiency	Level 5, Expiry Date: 15 th Sep 2029		
Restrictions	VLD		
Previous Accidents	Nil		

Note: Previous accidents/incidents refer to past accidents/incidents the pilot was involved in, when relevant.

Flying Experience:

Total Flying Hours	2330
Total Flying Hours as PIC	2000
Total Flying Hours on Type	1000
Total Past 24 Hours	8:45
Total Past 7 Days	8:45
Total Past 30 Days	32:20
Total Past 90 Days	85:10

1.5.2.1 The Instructor is holder of a Commercial Pilot license issued by Sultanate of Oman CAA on 31st October 2024 and rated for Diamond DA40 NG. Instructor rating test/ check was conducted on 13th October 2024 and valid until 31st October 2027. The license was valid at the time of the serious incident.

1.5.2.2 The Instructor was issued a Class (one) 1 medical certificate with an expiry date of 27th August 2025. The last medical assessment was conducted on 28th August 2024 with Valid only with correction for defective distant vision (VLD) limitations.

1.5.3 Student Pilot (SP)- (A4O-OAG) (Pilot Flying)

Nationality	Omani		
Medical Validity	18 th Oct 2025	Licence Type	N/A
Licence Validity	N/A	Type Endorsed	N/A
Ratings	N/A		
English Language Proficiency Level, Issue and Expiry Date	N/A		
Restrictions	Nil		
Previous Accidents	Nil		

Note: Previous accidents/incidents refer to past accidents/incidents the pilot was involved in, when relevant.

Flying Experience:

Total Flying Hours	35:26
Total Flying Hours as Student	6:30
Total Past 24 Hours	Nil
Total Past 7 Days	1:35
Total Past 30 Days	11:29
Total Past 90 Days	22:15

1.5.4 Aerodrome Flight Information Service Officer (AFISO):

Nationality	Omani		
Medical valid	10 th Jun 2027	Licence type	N/A
Licence valid	13 th Apr 2026	Type endorsed	N/A
Ratings	N/A		
English Language Proficiency		Level 4, Expiry Date: 09 th Apr 2026	
Restrictions	Nil		

1.5.4.1 The AFISO works as operation officer and his last competency assessment evaluation was conducted on 12th August 2024. The AFISO conducted medical examination on 20th June 2022 which was valid until 10th Jun 2027.

1.5.4.2 During the AFISO competency assessment the following was identified: to be familiarized with SOPs, Methods of Work Plan (MOWP) process to be clear and needs more knowledge on Obstacle Limitation Services (OLS) were highlighted by the senior operation officer as areas that AFISO needs to improve on.

1.5.4.3 The AFISO was issued with English language proficiency rating LEVEL 4 and the Language Proficiency Check (LPC) renewed on 09th April 2023 with an expiry date of 09th April 2026.

1.5.4.4 (AFIS) course was conducted between the period 02nd February to 27th February 2020. AFIS Refresher Course was conducted between 09th April 2023 to 13th April 2023 that is valid for 3 years.

1.5.4.5 AFISO completed Human Factors course between the period 15th to 17th March 2022.

1.6. Aircraft Information

1.6.1 The DA40 fully integrated G1000 NXi flight deck, incorporating the latest features with optional ultra-precise GFC700 Automatic Flight Control System, offers superior situational awareness, convenience and safety. Available equipment provides Traffic Advisories, Synthetic Vision Technology, Satellite WX and Entertainment, and more. The OAA variants of the DA40 have a 168 hp turbocharged AE300 jet fuel engine and a 3 blade MT hydraulic constant speed propeller. It is automatically controlled by the engine's digital engine control through a conventional hydraulic governor.

Airframe Information: Airframe Information (A4O-OAI)

Manufacturer/Model	Diamond DA40 NG		
Serial Number	40.N596		
Year of Manufacture	2023		
Weight/Mass of the Aircraft	1310 kg MTOM		
Total Airframe Hours (At Time of Serious Incidents)	338:58 HRS		
Last Inspection (Date & Hours)	02 nd March 2025	297:15	
Last Inspection Airframe Cycles (CSN)	676		
Airframe Hours Since Last Inspection	297:15		
Type of inspection preformed	Scheduled (100 HRS/ 300HRS Insp)		
CRS Issue Date	25/03/2025		
C of A (Issue Date & Expiry Date)	30/03/2023	29/03/2026	
C of R (Issue Date)	30/03/2023)		
Operating Category	Training		
Type of Fuel Used	Jet A1		
Previous accidents/incidents/serious incidents	Nil		

Note: Previous accidents/incidents refer to past accidents/incidents the aircraft was involved in, when relevant to this incident

Engine (A4O-OAI):

Manufacturer/Model	Austro AE300
Serial Number	E4-A-06410
Part Number	AE300 E4-A
Hours Since New	338:58
Hours Since Overhaul	N/A
Hours since last shop visit	N/A
Cycles Available Before Next Shop Visit	1461:58 HRS
Oil type	Shell 5W-40

Aircraft Information (A4O-OAG):

Manufacturer/Model	Diamond DA40 NG	
Serial Number	40.N594	
Year of Manufacture	2022	
Weight/Mass of the Aircraft	1310 kg MTOM	
Total Airframe Hours (At Time of Serious Incidents)	316.03 hrs	
Last Inspection (Date & Hours)	29/04/2025	306:49
Last Inspection Airframe Cycles (CSN)	856	
Airframe Hours Since Last Inspection	306:49	
Type of inspection performed	Scheduled (100 HRS/ 300HRS Insp)	
CRS Issue Date	29/04/2025	
C of A (Issue Date & Expiry Date)	30/03/2023	29/03/2026
C of R (Issue Date)	30/03/2023	
Operating Category	Training	
Type of Fuel Used	Jet A1	
Previous accidents/incidents/serious incidents	Nil	

Note: Previous accidents/incidents refer to past accidents/incidents the aircraft was involved in, when relevant to this incident.

Engine (A4O-OAG):

Manufacturer/Model	Austro AE300
Serial Number	E4-A-06384
Part Number	AE300 E4-A
Hours Since New	316:03
Hours Since Overhaul	N/A
Hours since last shop visit	N/A
Cycles Available Before Next Shop Visit	1483:03 HRS
Oil type	Shell 5W-40

1.7. Meteorological Information

1.7.1 The weather information below was provided by the Directorate General of Meteorology (DGMET)-Meteorological Routine Aerodrome Report (METAR) on the 6th May 2025 at 08:50 UTC).

Wind Direction	020°	Wind Speed	06 kts	Visibility	CAVOK
Temperature	45°C	Cloud Cover	Sky Clear	Cloud Base	Sky Clear
Dew Point	04°C	QNH	1002HPA		

1.7.2 The weather information below was provided by the Operator OAA - Meteorological Routine Aerodrome Report (METAR) on the 6th May 2025 at 09:50 UTC).

Wind Direction	280°	Wind Speed	10 kts	Visibility	CAVOK
Temperature	46°C	Cloud Cover	Sky Clear	Cloud Base	Sky Clear
Dew Point	04°C	QNH	1002HPA		

1.7.3 According to DGMET office, the satellite image at the time of the incident was observed with no significant weather condition over Oman FIR.. Satellite imagery and METAR observations indicate stable atmospheric conditions over Sohar Aerodrome and across the region. Skies remain clear, with no significant cloud development or convective activity observed, consistent with presence of a dominant high-pressure system.

1.7.4 Wind Observations:

- At 08:50 UTC, surface winds were reported at 06 knots from 020°, indicating a light northeasterly breeze, temperature: 45°C and QNH: 1002 hPa.
- By 09:50 UTC, wind speeds increased slightly to 10 knots from 280°, showing a shift to a moderate westerly direction with increase in temperature to 46°C, QNH: 1002 hPa.
- Visibility remains good, and no precipitation or significant weather phenomena were observed during the reporting period.

1.7.5 Conclusion: The region remained under the influence of stable weather, with clear skies, light to moderate winds, and no significant weather hazards present therefore no aerodrome warnings or SIGMETs were issued.

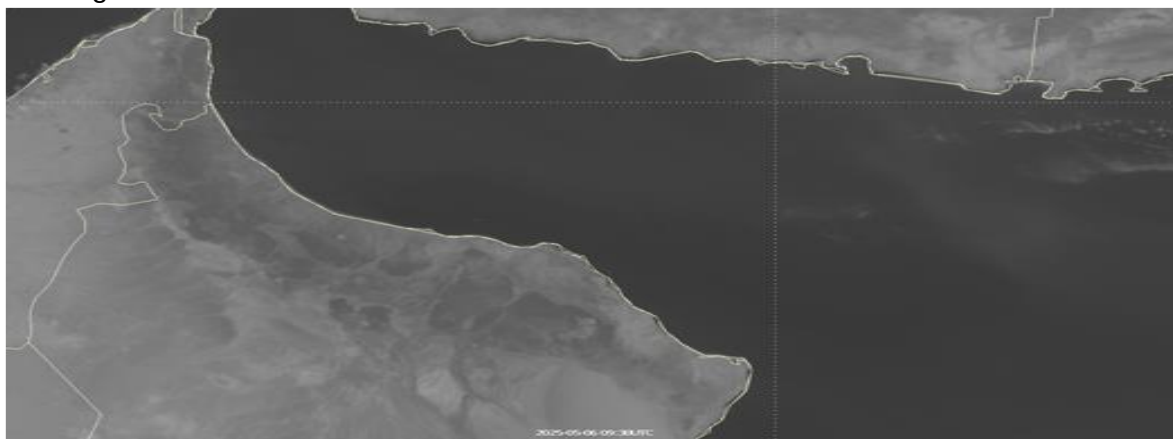


Figure - 4 showing satellite image at 09:30Z on 06th May 2025 (Source: DGMET)

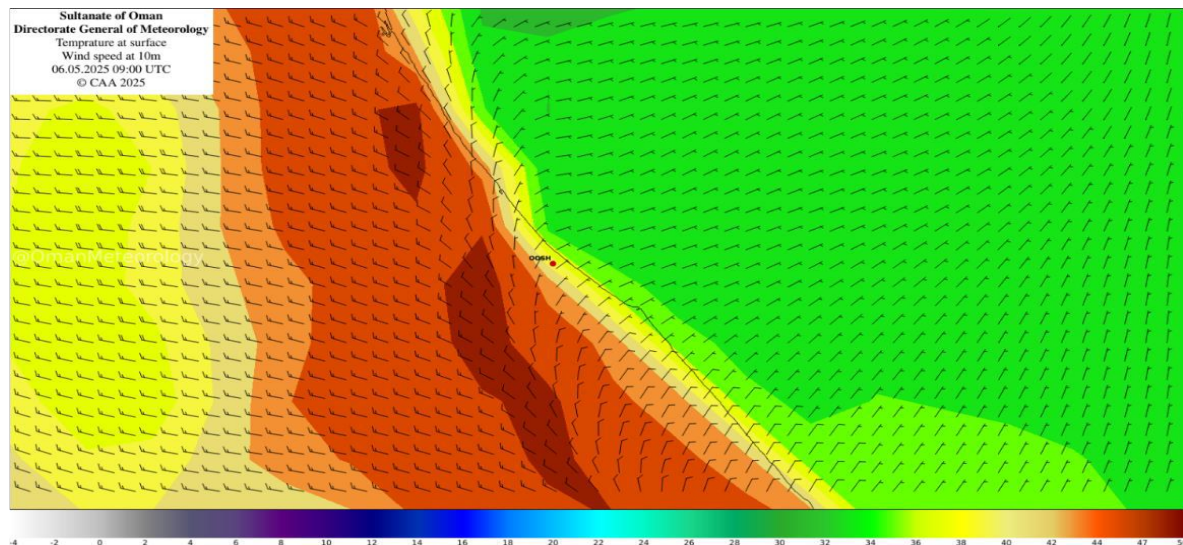


Figure - 5 showing surface temperature and 10m wind data at 09:00 UTC on 6th May 2025
(Source: DGMET)

No significant weather was expected over OOSH during the time of the incident. Forecasts indicated clear skies with moderate northeasterly winds at 12 knots (03012KT).

1.8. Aids to Navigation

- 1.8.1 Both aircraft were equipped with standard navigational equipment as approved by the Sultanate of Oman CAA. There were no records indicating that the navigation system was unserviceable prior to the serious incident.

1.9. Communication

- 1.9.1 Both aircraft were equipped with standard communication system as approved by the Sultanate of Oman CAA. No defects that could render the communication system unserviceable were recorded before the flight.
- 1.9.2 The AFIS communication system was not recording at the time of the incident, and it was confirmed that it was unserviceable since the 12th April 2025 due to electrical power source fluctuations. AFISO observe that the system lights are blinking as an indication it is working but doesn't indicate if it is recording or not. The system function check for the recording is done every 3 months at Muscat airport.
- 1.9.3 OAA has portable radio equipment used by flight instructors when they are supervising the student flying solo. The radio equipment have option of listening to two channels, OAA operations frequency and AFIS frequency. The Instructor could only listen to one channel at the time.

1.10. Airport Information

1.10.1. Departure/Destination Aerodrome (Both Aircraft):

Aerodrome Location	OOSH (Sohar International Airport, Muscat)
Aerodrome GPS coordinates	242309.98 N 0563732.23 E
Aerodrome Elevation	144 feet (ft) MSL
Runway Designations	RWY 15/33

Dimensions of Runway Used	4121 M / 30 M
Heading of Runway Used	15
Surface of Runway Used	Asphalt
Approach Facilities	Not Applicable
Category for Rescue Fire Fighting	7
Aerodrome status	03:00-13:30, 24/7 (Prior Permission Required)

Note: Both aircraft took off from OOSH airport and intended to land at OOSH airport.

1.10.2 OOSH AFISO is currently utilizing AFIS room which is located within the main terminal building and far from the runway, where the AFISO is having difficulty to observe all the aircraft taking off and landing and also movements on the runways, taxiways and aprons is obstructed as described in Fig 6 and Fig 7.

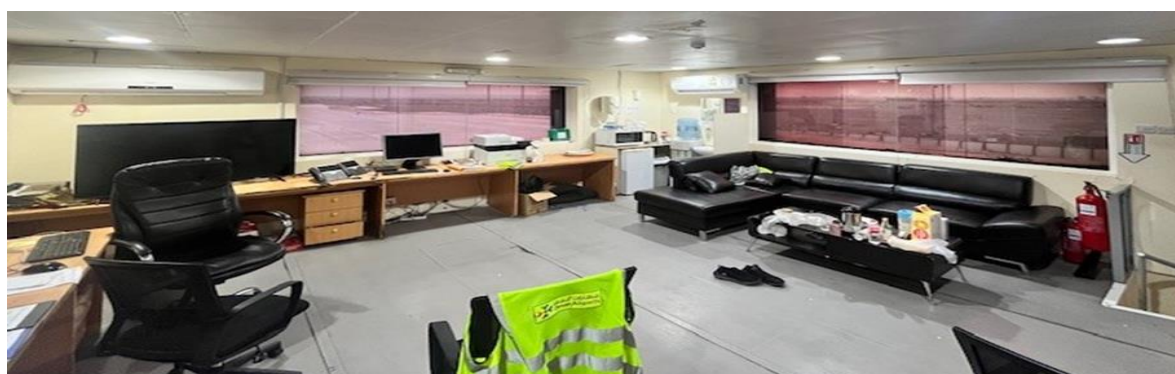


Figure - 6 showing the current AFISO office lighting and set up and view of the RWY15/33 west and north directions

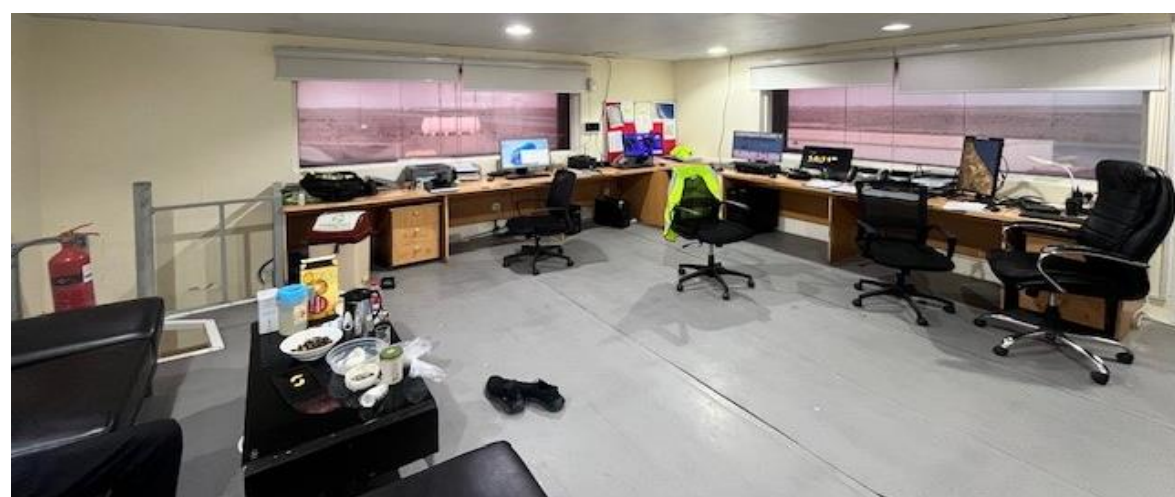


Figure - 7 showing the current AFISO office set up and view of the runway east and south directions of RWY 15/33

1.10.3 OOSH airport has a tower which is equipped and positioned in the middle of the airport where an air controller would be able to monitor and observe all the traffic taking off and landings and also all of the movements on the runway, taxiways and apron as it shown in Fig 8. This Control Tower environment is equipped with a modern communication equipment and modern visual aids that helps to observe traffic as it shown in fig 9.



Figure - 8 showing the clear view of the runway from the position of Sohar unmanned Control Tower viewing west direction



Figure - 9 showing the equipment fitted in the unmanned Control Tower viewing east direction

1.10.4 Flight Movements at OOSH International Airport;

The flights at OOSH International Airport were classified as scheduled, non-scheduled, and private operations. The following summarizes the movements during the relevant period:

1.10.4.1 Between 1 January 2025 and 6 May 2025, a total of 974 flights were conducted, of which 35 were out of base operations.

1.10.4.2 On 5 May 2025, 13 flights were recorded.

1.10.4.3 On 6 May 2025, 10 flights were recorded.

1.10.4.4 On 7 May 2025, 12 flights were recorded.

1.11. Flight Recorders

1.11.1 Both aircraft are fitted with a basic Digital Flight Data Recorder (DFDR), cockpit video monitoring equipment and ADS-B transceivers. The DFDR and video equipment are not mandated by Sultanate of Oman CAA regulations. The OTSB relied on flight information data from OAA operations ADS-B readout via Flight24 platform. FDM data was extracted by OAA but was not useful as the Traffic Information System (used to generate alerts for traffic conflicts) is suppressed on the ground.

1.12. Wreckage and Impact Information

1.12.1. Not relevant to the serious incident.

1.13. Medical and Pathological Information

1.13.1. There was no evidence that physiological factors or incapacitation affected the performance of both aircraft crew.

1.14. Fire

1.14.1. Not relevant to the serious incident.

1.15. Survival Aspects

1.15.1. Not relevant to the serious incident.

1.16. Tests and Research

1.16.1. Not relevant to the serious incident.

1.17. Organizational and Management Information

1.17.1 Both aircraft A4O-OAG, A4O-OAI were operated as a training flight.

1.17.1.1 The OAA, was issued with an Approved Training Organization (ATO) on 31st October 2022 by the State of Registry and State of Operator, Sultanate of Oman, CAA.

1.17.1.2 The OAA implemented Safety Management System (SMS), whereby occurrences are reported to the relevant authorities as and when they occur and they are reviewed, categorized, classified and investigated to identify the need for any gaps, risk assessment and risk management, remedial action that are required to be taken by the organization.

1.17.2 Oman Airport (OA):

1.17.2.1 The service provider OA have implemented Safety Management System (SMS) which includes all aerodromes, whereby occurrences are reported to the relevant authorities as and when they occur and they are reviewed, categorized, classified and investigated to identify the need for any gaps, risk assessment and risk management and remedial action that are required to be taken by the organization. This Occurrence was not reported as OA was not aware when it occurred.

1.18. Additional Information

1.18.1 The following Information was extracted from OAA Operations Manual / OAA-OM:

1.18.1.1 Aerodrome Flight Information Service (AFIS)

Aerodrome Flight Information Service (AFIS) is an advisory service provided at certain aerodromes by an Aerodrome Flight Information Officer (AFISO) to give information, useful for the safe and efficient conduct of flights in the immediate aerodrome vicinity and to give taxi instructions on the apron and maneuvering area.

1.18.1.2 The AFISO is responsible for:

- a. Issuing information to aircraft flying in the immediate aerodrome vicinity to assist pilots in preventing collisions;
- b. Issuing instructions and information to aircraft on the apron and maneuvering area to assist pilots in preventing collisions between aircraft and vehicles/ obstructions on the maneuvering area, or between aircraft moving on the apron;
- c. Issuing instructions to vehicles and persons on the maneuvering area;
- d. Informing aircraft of essential aerodrome information (i.e. the state of the aerodrome and its facilities);
- e. Provision of an alerting service;

AFISOs may not provide any additional air traffic service beyond this scope.

1.18.1.3 Oman Airports (AFIS) Obligations

- b. Oman Airports' AFISO is responsible for notifying pilots and AIS of any of the following:
 1. Any projection by an object through an obstacle limitation surface relating to the aerodrome;
 2. The existence of any obstruction or hazardous condition affecting aviation safety at or near the aerodrome;
 3. Any reduction in the level of services pertaining to Oman Airports at the aerodrome that are set out in an aeronautical information publication;
 4. The closure of any part of the maneuvering area of the aerodrome; and
 5. Any other conditions that could be hazardous to aviation safety at the aerodrome and against which precautions are warranted.

1.18.1.4 Aerodrome Flight Information Service Operations Apron:

1.18.1.5. Start-up and taxi procedures

- 1.18.1.5.1 Before moving on the apron and maneuvering area, the commander of the aircraft is required to obtain the permission from the AFISO, as the representative in charge of the aerodrome.
- 1.18.1.5.2 Prior to taxiing for take-off, the pilot shall be advised of the following information, with the exception of such items that the AFISO has already passed to the pilot and that have not changed:
 - a. Relevant information on local traffic, and aerodrome conditions
 - b. As well as taxi instructions to the holding point of the runway-in- use;
 - c. The runway to be used;
 - d. The QNH and, if so requested by the pilot, the aerodrome QFE;
 - e. The air temperature in the case of turbine-engine aircraft.
- 1.18.1.5.3 When the pilot requests taxi, the AFISO visually checks that the apron and taxiway are not obstructed and shall give taxi permission (*never "clearance"*) to the runway holding position.
- 1.18.1.5.4 In addition to providing instructions about the route to be followed, all taxi instructions are to contain a specific limit, which should be a location on the maneuvering area or apron.
- 1.18.1.5.5 This may include permission at the pilot's discretion to back track the runway.
- 1.18.1.5.6 AFISOs may use the phrase 'Hold Position' for aircraft taxiing on the apron and taxiway only, but an AFISO may not issue instructions to an aircraft on the runway.

1.18.1.6 Take-off and Information related to departing aircraft

- 1.18.1.6.1 AFISOs shall provide relevant information on local traffic and aerodrome conditions to assist pilots to decide when to take off. Such information shall be updated at AFISO discretion or when requested by the pilot. Runway and lighting inspections shall be completed according to the Aerodrome Manual.

1.18.1.6.2 When an ATC clearance is required prior to take-off, such as for Oman Air departures to Muscat, the AFISO shall advise “take off at your discretion” until the ATC clearance has been transmitted to and read back correctly by the aircraft concerned.

1.18.1.6.3 The AFISO shall only permit one aircraft at a time to enter the runway.

1.18.1.6.4 Pilots shall inform AFIS units of their intentions, e.g. ‘holding’, ‘lining up’, ‘taking off’. ‘Lining up’ denotes the act of entering the runway for departure, whereas ‘lined up’ indicates that an aircraft is in position on the runway, aligned with the take-off direction.

1.18.1.6.5 Pilots should not take-off if there are other aircraft or vehicles on the runway.

1.18.1.6.6 Where a pilot enters the runway before a preceding traffic has vacated the runway, he shall be informed ‘runway occupied’. The ‘take off at your discretion’ information shall be withheld and only transmitted when the traffic situation permits and there is no other aircraft, vehicle or person on the runway or within the runway holding positions.

1.18.1.6.7 When an AFISO has informed an approaching pilot ‘land at your discretion’, he shall instruct pilots who subsequently report ready for departure from the same runway to hold position at a suitable holding point. ‘Take off at your discretion’ information will be withheld and only transmitted when the traffic situation permits.

1.18.1.6.8 The AFISOs shall ensure that traffic information is passed if a departing aircraft may catch up a preceding aircraft.

1.18.2 The following information was extracted from CIVIL AVIATION NOTICES CAN 5-06, Rev: 03, issued on 18 May 2022:

1.18.2.1 AFISO Authorizations

Application of the Regulations:

CAR 179 prescribes the requirements for the establishment, implementation, and maintenance of a system for the provision of aerodrome flight information service (AFIS). Aerodrome Flight Information Service Operators (AFISO) having met the qualification and experience requirements stipulated in CAR 179.053, are required to be issued an authorisation from an Aerodrome Flight Information Service Provider to provide AFIS. CAR 179.053 (b) stipulates that personnel who provide AFIS are required to meet the following qualification requirements:

- (1) be at least eighteen (18) years of age;
- (2) hold an ICAO Class 3 medical certificate; and
- (3) speak and understand the English language used for radiotelephony communications, at a minimum of ICAO Level 4, as described in ICAO Annex 1.

CAR-FCL-3 prescribes the applicable medical standards required for the conduct of aviation medicals by certified Aviation Medical Examiners.

1.18.2.2 Revision of AFISO Authorisation Requirements

The requirements of CAR 179.053 (a & b) to be amended as follows:

- 1) Aerodrome Flight Information Service Providers shall establish procedures and programmes, which shall be acceptable by the authority, for AFISO;
 - a) Training, as required by 179.053 (c)
 - b) competence assessment; and
 - c) medical and physical fitness examination.

- 2) The Competence assessment in 1b) shall be conducted:
 - i) after completion of any training

- ii) At least once per annum to renew an AFISO Authorisation
- iii) After any period in excess of 30 consecutive days in which the duties of AFISO have not been performed.

3) The medical and physical fitness examination described in 1b) shall be valid from the date of the medical and fitness examination for a period not greater than:

- iv. Five (5) years for AFISOs aged below 40 years
- v. Two (2) years for AFISOs aged from 40 years and above but below 50 years
- vi. One (1) year for AFISOs aged from 50 years and above.

1.18.3 The following information was extracted from OAA Radiotelephony Manual/ OAA-RM /
Revision date: 02-JAN-2024:1.18.4.1 CLEARANCE AND READBACK

A clearance may vary from a detailed description of the route and levels to be flown to a brief landing clearance.

Controllers should pass a clearance slowly and clearly since the pilot needs to write it down. An ATC route clearance is not an instruction to take-off or enter an active runway. The words "TAKE OFF" are used only when an aircraft is cleared for take-off, or when cancelling a take-off clearance.

At other times the word "DEPARTURE" or "AIRBORNE" is used.

Strict adherence to readback procedures ensures not only that the clearance has been received correctly but also that the clearance was transmitted as intended. It also serves as a check that the correct aircraft, will act on the clearance.

Clearances to enter, land on, take-off on, cross and back-track on the runway in use shall be readback. ATC route clearances shall always be read back unless otherwise authorized by the appropriate ATS authority in which case they shall be acknowledged in a positive manner. An aircraft should terminate the readback with its call sign.

The runway in use, heading and speed instructions, level instructions, altimeter settings and SSR codes must always be read back.

Other clearances and instructions must be read back or acknowledged in a manner which clearly indicates that they have been understood and accepted.

1.18.4 The following information was extracted from OAA Radiotelephony Manual/ OAA-RM /
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The runway in use, heading and speed instructions, level instructions, altimeter settings and SSR codes must always be read back.

Other clearances and instructions must be read back or acknowledged in a manner which clearly indicates that they have been understood and accepted.

1.18.5 The following information was extracted from CAR 179.055 Facility Requirements:

- (a) An AFIS provider shall establish facilities that are appropriate to the Aerodrome Flight Information Services listed in the AFIS provider's operation manual.
- (b) Except as provided in paragraph (g), an AFIS provider shall establish procedures to ensure that any Aerodrome Flight Information Service unit, including any temporary unit, listed in the AFIS provider's operation manual is:
 - (1) constructed and situated to provide:
 - i. the maximum practicable visibility of aerodrome traffic; and
 - ii. protection from glare and reflection; and
 - iii. protection from noise; and
 - (2) safeguarded from any development that would affect the requirements of paragraph (b)(1); and
 - (3) at solo watch locations, provided with:
 - i. rest facilities that ensure the minimum possible interruption to, or degradation of, Aerodrome Flight Information Service; and
 - ii. storage and preparation facilities for food and drink in the visual AFIS room; and
 - (4) provided with the following minimum aeronautical telecommunication equipment according to the standards and specifications stipulated in CAR 171, SUBPART D: Operating Requirement:
 - a. redundant equipment for two-way voice communication with:
 - i. any aircraft, in or adjacent to airspace for which the AFIS provider has responsibility; and
 - ii. any aircraft, vehicle, and person, on, or adjacent to, the manoeuvring area.
 - b. a redundant AFTN terminal and its server or, if provided for in an ATS letter of agreement, an alternative means of reception and transmission of information normally conveyed by AFTN;
 - c. voice and, if applicable, data recording equipment for each two-way communication equipment, located at AFIS Station.
 - d. A Backup power supply for the provided Aeronautical Telecommunication Facility.

1.19. Useful or Effective Investigation Techniques

1.19.1. Not relevant.

2. ANALYSIS

2.1 General:

From the available evidence, the following analysis were made with respect to this incident. This shall not be read as apportioning blame or liability to any organization or individual.

2.1.1 Both aircraft are owned and operated by (OAA), which is properly licensed by the Sultanate of Oman (CAA). The OTSB investigation team noted that both the Operator (OAA) and the service provider (OA) have implemented a Safety Management System (SMS). This system ensures occurrences are promptly reported, reviewed, classified, and investigated to determine necessary remedial actions. The SMS also promotes a just culture that encourages reporting of errors and incidents.

2.2 Flight operations

2.2.1 Flight crew Qualifications

2.2.1.1 Both flight crew were properly licensed, held valid medical certificates, and were well rested with no rest period issues at the time of the serious incident.

2.2.2 Operational procedures

2.2.2.1 The instructor pilot of aircraft A4O-OAI performed an unplanned EFATO exercise after a TGL, the EFATO exercise was communicated on AFIS radio frequency after the TGL exercise. The AFISO heard the information about the EFATO exercise, however he thought that was meant for other aircraft and not for his action. The student pilot of aircraft A4O-OAG alleges that he didn't hear the information about EFATO exercise, however other aircraft in the aerodrome vicinity did hear the information about EFATO exercise. As a result, the student pilot of aircraft A4O-OAG took off on the occupied runway resulting in a near miss between aircraft A4O-OAI and aircraft A4O-OAG. The incident could have been prevented should the AFISO had informed aircraft A4O-OAG that aircraft A4O-OAI is performing an EFATO exercise with full stop landing after TGL. The student pilot of aircraft A4O-OAG could have prevented the incident should he had maintained a continuous listening watch on AFIS radio frequency.

According OAA operations manual, the following must be complied with:

- 2.2.2.2.1 The PIC must continuously monitor the correct radio frequencies whenever the aircraft is occupied for flight or taxiing.
- 2.2.2.2.2 Students must follow their instructor's guidance to ensure effective progress, actively participate or lead cockpit drills as directed, and are responsible for informing their instructor of any safety concerns affecting the crew or aircraft
- 2.2.2.3 During the interview with the supervising Flight Instructor (FI) of aircraft A4O-OAG it was noted that he was visually monitoring the student pilot from the dispersal area without the use of radio to listen to the student radio calls during taxi. Subsequently the supervising FI was transiting to OAA operations area on the AFIS frequency. These radio calls were not monitored by the supervising FI.
- 2.2.2.4 The instructor pilot of aircraft A4O-OAI did not hear the take-off information that was given to A4O-OAG by AFISO, however the student pilot onboard did hear and didn't warn the instructor about the potential danger of aircraft A4O-OAG taking off on the same runway. The student pilot's action was not consistent with the operator's operations manual. Operations manual requires student pilot to warn the instructor about the potential danger.
- 2.2.2.5 The student pilot of aircraft A4O-OAG did not hear when the instructor pilot of aircraft A4O-OAI communicate the EFATO exercise. The student pilot radio communication was serviceable and functioning properly, therefore it can be concluded that the student pilot got distracted and did not maintain continuous listening watch on the radio frequency, the student action was inconsistent with the operator's operations manual which require pilots to maintain continuous radio watch.
- 2.2.2.6 The OTSB concludes that although the instructor pilot of aircraft A4O-OAI alleges not to have heard the take-off clearance for aircraft A4O-OAG, the student pilot who was on board with the instructor pilot on aircraft A4O-OAI did hear the take-off clearance, confirming the radio communication system on aircraft A4O-OAI was functioning properly. This suggests that the instructor pilot of aircraft A4O-OAI was likely distracted and didn't maintain continuous listening watch on the correct radio frequency.
- 2.2.2.7 The student pilot of aircraft A4O-OAG did not readback the take-off communication from AFISO and instead responded only by clicking on the radio, which is not the correct communication procedure. Therefore, OTSB concludes that the student pilot action was not consistent with the established radio communication procedures in the operator's operations manual.

2.2.3 Weather

2.2.3.1 The flight crew observed clear weather with no clouds or deviations from the flight plan. Conditions were good and calm, with no significant or severe weather reported during the incident. Consequently, the OTSB investigation concluded that weather did not contribute to the serious incident.

2.2.4 Aerodrome Flight Information Service Officer (AFISO): 2.2.4.1 The AFISO held a valid authorization and a medical certificate issued on 22nd June 2022, which was within the required validity period of less than 5 years according to CAR 179.053, 3 (iv). The CAA introduced a new procedure requiring a medical declaration signed by the examining doctor, which the AFISO complied with. The latest edition of CAR 179 has been submitted, incorporating a Medical Declaration Form to be completed following the AFISO's medical evaluation. The form requires the signature of the authorized medical examiner as evidence of the assessment. The Medical Declaration Form shall remain valid and applicable for subsequent AFISO medical examinations until the next scheduled evaluation.

2.2.4.2 The AFISO provided relevant information to the flight crew and acted within the scope of authorization privileges as stipulated by CAR 179.053 (b), ensuring all required certifications—including ELP—were valid. During a competency evaluation on 12th August 2024, it was noted that the AFISO needed to improve familiarity with all standard operating procedures (SOPs). This observation was corrected by the operator by subjecting the AFISO to remedial training on SOP/Aerodrome Flight Information Service Manual and ensuring that the AFISO is familiar with his responsibilities.

2.2.4.3 During the interview, the AFISO stated that when the student pilot of aircraft A4O-OAG announced readiness for take-off, the AFISO communicated with the pilot to take-off at his discretion. However, when the flight crew of aircraft A4O-OAI reported their intention to perform an EFATO exercise after TGL, the AFISO did not relay updated traffic information to the student pilot of aircraft A4O-OAG. He explained that he believed the transmission from the flight crew of aircraft A4O-OAI was intended for other aircraft in the circuit and not for his direct action. OTSB concludes that the action of AFISO of not informing other aircraft including student pilot of aircraft A4O-OAG contributed to the serious incident.

2.2.5 Communications

2.2.5.1 The instructor pilot of aircraft A4O-OAI performed a TGL thereafter initiated an unplanned EFATO exercise. The EFATO exercise was only communicated to AFISO after TGL. As a result, the student pilot of aircraft A4O-AOG did not hear the communication about the EFATO exercise and took off from the occupied runway resulting in a near miss between the two aircraft as the student pilot thought that aircraft A4O-OAI had completed the TGL and has cleared the runway. It appears that the student pilot was distracted and couldn't maintain continuous radio listening watch.

2.2.5.2 The investigation team found that the student pilot of aircraft A4O-OAG acknowledged take-off information only by double clicking on the radio, and didn't readback the AFISO's information for take-off. The action of the student pilot was inconsistent with the operator's operations manual which requires the pilots to readback information received.

2.2.5.2.1 The AFIS radio communication system was not recording at the time of the incident, and it was confirmed that it was unserviceable since the 13th April 2025 due to electrical power source fluctuations. As a result, the communication records between AFISO, Instructor Pilot and student pilot could not be retrieved. The AFISO was not aware that the radio communication system is unserviceable and not recording voice communication, the AFISO became aware when OTSB requested radio communication records and they were unable to retrieve the records due to the radio communication system being unserviceable.

Subsequently post the incident the AFIS operator (OA) repaired the radio communication system and it became serviceable.

2.2.5.3. The investigation team found that supervising FI are equipped with a radio where they can either monitor the student on OAA operations channel or AFIS radio channel. At the time of the incident, the supervising FI was unable to hear communication between the student pilot and the AFISO because the FI of the aircraft A4O-OAG did not have the radio

2.2.5.3.1 OTSB concluded that the supervising FI of student pilot on aircraft A4O-OAG, was unable to warn or alert the student pilot of another aircraft on the RWY. This was as a result that the supervising FI left the OAA operation room without the radio and was unable to hear the communication between the AFISO, Student pilot and the flight crew of aircraft A4O-OAI.

2.2.5.4 OTSB concludes that the ineffective communication between the instructor pilot of aircraft A4O-OAI, student pilot of aircraft A4O-OAG and AFISO, contributed to the serious incident.

2.2.6 Aids to navigation

2.2.6.1 The OTSB investigation team found that the navigational systems on both aircraft were serviceable and functioning properly during the serious incident. Therefore, navigational aids were not a contributing factor to the serious incident.

2.2.7 Aerodrome

2.2.7.1 The serious incident occurred while aircraft A4O-OAG was on take-off while another aircraft A4O-OAI was backtracking after an EFATO exercise on the same runway. Since no runway defects were reported, the OTSB investigation team concluded that the runway aerodrome was not a contributing factor to the serious incident.

2.2.7.2 CAR 179.055 (b) requires that, except as provided in paragraph (g), an AFIS provider shall establish procedures to ensure that any Aerodrome Flight Information Service unit, including any temporary unit, listed in the AFIS provider's operation manual is: (1) constructed and situated to provide: constructed and situated to provide: i. the maximum practicable visibility of aerodrome traffic; and ii. protection from glare and reflection; and iii. protection from noise.

2.2.7.3 The investigation team also visited the unmanned control tower located within Sohar International Airport which is positioned at the center of the airfield. This tower is ideal for the AFISO as it allows the AFISO to clearly observe all movements across the entire airfield. It offers an unobstructed 360-degree view of the runway and surrounding manoeuvring areas.

2.2.7.4 The AFIS office is situated near the terminal area, adjacent to the threshold of RWY 15. The office is located on the second floor, which is relatively low, while the incident occurred near the middle of the runway, creating a significant distance that made observation difficult for the AFISO. Additionally, the AFIS office design includes small windows and wall corners that further restrict the AFISO's ability to have a full view of the airfield.

2.2.7.5 The investigation identified that the AFIS office design, position and surrounding environment as a contributing factor to the serious incident causing runway visibility obstruction for AFISO to be able to see the movements on the runway. This includes issues like inadequate - height, window angle and placement, and nearby obstructions such as buildings, all of which create visual blind spots or restricted views especially during take-off and landing.

2.2.7.6 Between 1st January 2025 and the date of the occurrence, a total of 974 flights were operated at OOSH, of which 35 were out base operating flights. A considerable number of these involved large aircraft, such as the Airbus A380, which, if not appropriately sequenced and coordinated, could pose a significant hazard to flight safety. The responsibilities of the AFISO

are limited to the coordination of traffic on the ground. In the absence of adequate airborne control, there exists an increased safety risk of airprox events, mid-air collisions, or incidents related to lack of air traffic management. Such risks are particularly critical when student pilots are engaged in training operations within the same airspace. In view of these considerations, the provision of Air Traffic Control (ATC) services is assessed to be the most effective and appropriate measure to ensure safe air traffic management, maintain safe separation, and mitigate potential hazards associated with mixed traffic operations at OOSH.

2.2.7.7.1. OTSB concludes that a review of current operation at OOSH must be conducted and determine if there is a need for ATS services to be provided at OOSH.

2.3 Aircraft

2.3.1 Both aircraft had valid certificate of airworthiness (CoA) and certificate of registration (CoR) and were maintained according to regulations and approved procedures. No maintenance issues or pre-existing defects were found. Therefore, the OTSB determined that aircraft maintenance did not contribute to the serious incident.

2.4 Human Factors

2.4.1 The OTSB investigation identified human factors as contributing factor to the serious incident, primarily due to the AFISO providing the student pilot of aircraft A4O-OAG to take-off at own discretion without confirming the runway was clear as required by the operator's procedures. Additionally, ineffective radio communication between the instructor pilot of aircraft A4O-OAI, AFISO and student pilot of aircraft A4O-OAG, and not maintaining continuous listening watch as required by the operator's operations manual, contributed to the serious incident.

2.4.2 The student pilot of aircraft A4O-OAG did not readback the take-off communication from the AFISOs; instead, the student pilot of aircraft A4O-OAG responded by double clicking on the radio, resulting in a non-standard communication that could confuse or missed by other operators.

2.4.3 The AFISO experienced difficulty in monitoring and observing aircraft movements due to the AFIS room's remote location from the incident area and its obstructed design, which limits visibility of the airfield. Visibility was further compromised by sun glare, as well as the size and colour of the aircraft.

2.4.4 During the interview, the AFISO stated that he assumed that the information transmitted by the flight crew of aircraft A4O-OAI regarding EFATO was intended for other aircraft in the circuit and not for his own action. Therefore, the AFISO didn't acknowledge the information that was provided neither did the AFISO communicate the information about EFATO exercise to other aircraft A4O-OAG. As a result, student pilot of aircraft A4O-OAG took off on the occupied runway resulting in a near miss serious incident with aircraft A4O-OAI.

2.4.5 The OTSB investigation team determined that human factors played a significant role in the serious incident, primarily due to deviations from established procedures and ineffective communication among instructor pilot, student pilot and AFISO. This compromised situational awareness, coordination and increased the risk of conflict.

2.5 Survivability

2.5.1 The rescue and fire services were not required, as there was no fire during or after the serious incident, therefore, survival aspect was not a contributing factor to the serious incident.

3. CONCLUSION

3.1. General

From the available evidence, the following findings, causes and contributing factors were made with respect to the serious incident. These shall not be read as apportioning blame or liability to any organization or individual.

To serve the objective of this investigation, the following sections are included in the conclusion heading:

- **Findings** — are statements of all significant conditions, events, or circumstances in this incident. The findings are significant steps in this incident sequence, but they are not always causal or indicate deficiencies.

3.2. Findings

- 3.2.1 The student pilot of aircraft A4O-OAG was properly authorized to conduct the flight. The authorization to conduct a solo flight was issued by OAA.
- 3.2.2 The flight crew of aircraft A4O-OAI were properly licensed and authorized to conduct the flight. Their license was valid and issued by the Sultanate of Oman CAA and the authorization was issued by OAA.
- 3.2.3 Aircraft A4O-OAG was properly registered and issued with Certificate of Airworthiness by the Sultanate of Oman CAA and was valid at the time of the incident.
- 3.2.4 Aircraft A4O-OAI was properly registered and issued with Certificate of Airworthiness by the Sultanate of Oman CAA and was valid at the time of the incident.
- 3.2.5 The AFISO, who also serves as an Operations Officer, underwent a competency assessment conducted by the Oman Airports Senior Operations Officer, that was identified: to be familiarized with SOPs, Methods of Work Plan (MOWP) process to be clear and needs more knowledge on Obstacle Limitation Services (OLS) were highlighted by the senior operation officer as areas that AFISO needs to improve on.
- 3.2.6 The AFISO assessment was valid at the time of the serious incident, with the most recent evaluation completed on 12th August 2024 and is valid for 1 year. Additionally, the AFISO completed a medical examination on 20 June 2022, which remains valid until 10 June 2025.
- 3.2.7 There was no evidence that incapacitation or physiological factors affected the pilots and AFISO's performance to control both the aircraft.
- 3.2.8 After the flight crew of aircraft A4O-OAI performed the TGL, the student pilot (solo) was given by the AFISO to take off at own discretion during which the flight crew of A4O-OAI were performing an EFATO exercise followed by a full stop landing and thereafter backtracking on the same runway (RWY) 33.
- 3.2.9 The crew of A4O-OAI transmitted their intention on AFISO radio frequency but did not receive any response from both the AFISO and the student pilot of A4O-OAG.

- 3.2.10 The student pilot of aircraft A4O-OAG took off from RWY 15 and passed behind aircraft A4O-OAI at an altitude of 600 feet (AMSL), which was back tracking from RWY 33 and thereafter vacating via taxiway B4,
- 3.2.11 The student pilot on A4O-OAI heard the takeoff information given to A4O-OAG but didn't advise the instructor of A4O-OAI about the situation.
- 3.2.12 During the interview, the AFISO stated that he believed the information transmitted by the flight crew of A4O-OAI was intended for other aircraft in the circuit and not for his own action.
- 3.2.13 The flight crew of A4O-OAI communicated on AFIS radio frequency to perform TGL exercise, and only after performing TGL exercise communicated that they are performing EFATO exercise with full stop landing.
- 3.2.14 At the time of the incident, the supervising FI of aircraft A4O-OAG, was monitoring the student on OAA operations radio channel and not on AFIS radio channel.
- 3.2.15 The location and design of the AFIS office, limited the AFISO's ability to maintain a clear and comprehensive view of the airfield. Moreover, the aircraft's white color and size, hindered effective visual monitoring during the occurrence.
- 3.2.16 Between 01st January 2025 and the date of the occurrence, OOSH experienced high air traffic density with 974 flights. This high traffic density at OOSH increased operational workload for the AFISO and may affect the management and sequencing of aircraft, potentially creating a risk to flight safety in future.
- 3.2.17 The AFISO's responsibilities are limited to provide information to aircraft within the designated airspace, which may affect overall flight safety during high traffic or complex operations.
- 3.2.18 OA has a recording facility for a two-way radio communication system, however at the time of the incident, there was no system in place to frequently check and validate the serviceability of the recording system.

3.3. Cause:

- 3.3.1 OTSB determines that the student pilot of aircraft A4O-OAG was given take-off on an occupied runway by the AFISO where aircraft A4O-OAI was backtracking following EFATO exercise, this resulted in a near miss between the two aircraft.

3.4. Contributing Factors

- 3.4.1 AFISO gave the student pilot of aircraft A4O-OAG to take-off without confirming the condition of the runway, if it was cleared.
- 3.4.2 The location of AFIS office obstructed the AFISO to view the entire runway surface.
- 3.4.3 Breakdown in radio communication between AFISO, student pilot of aircraft A4O-OAG and the instructor pilot of aircraft A4O-OAI
- 3.4.4 The supervising FI of aircraft A4O-OAG, was unable to hear the communication between AFISO, student pilot and the aircraft A4O-OAI as he was outside operation's room without the radio.

4. SAFETY RECOMMENDATIONS

4.1. General

The safety recommendations listed in this report are proposed according to paragraph 6.8 of Annex 13 to the Convention on International Civil Aviation and are based on the conclusions listed in heading 3 of this report. The OTSB expects that all safety issues identified by the investigation are addressed to the receiving States and organizations/entities. OTSB identified a need to issue a prompt safety recommendation to address the unsafe condition identified in the early stage of the investigation.

4.2. Safety Recommendation/s

4.2.1 OTSB issued safety recommendations during the investigation to OAA and OA, and all safety recommendations were accepted and necessary action taken.

4.2.1.1 Oman Airports

4.2.1.1.1SR08/2025; In the interest of safety, OTSB recommends that AFISO be subjected to remedial training on SOP/Aerodrome Flight Information Service Manual, this will ensure that the AFISO is familiar with his responsibilities as an AFISO.

Action taken by Oman Airports on the issued safety recommendation:

Oman Airport took the following safety actions: On June 1st 2025, a meeting was held with the Director-General and the Director of Safety and Compliance at the Oman Aviation Academy. It was agreed that the Academy should notify the Flight Information Services (AFIS) unit in advance of any unusual training, such as simulated engine failure after takeoff or any new training procedures.

4.2.1.1.2 Following the incident, OA has taken the following action regarding the recording facility:

- Upgrade UPS capacity to handle 2× existing load for 1 hour
- Install a secondary recording server at a different location connecting different source power
- Replace server data drive with enterprise-grade SSD
- Enable SMART monitoring with email/SMS alerts
- Implement file-integrity checks and automated service restarts
- Conduct quarterly disaster-recovery drills

4.2.1.2 Oman Aviation Academy (OAA):

4.2.1.2.1SR09/2025; In the interest of safety, OTSB recommends that OAA reiterate the importance of the instructor pilot and student pilot maintaining a continuous listening watch on the appropriate radio communication frequency. OAA to issue notice to all instructors and student pilot.

Action taken by OAA on the issued safety recommendation:

OAA issued notice to all instructors and students regarding the importance of maintaining a continuous listening watch on the appropriate radio communication frequency.

4.2.1.2.2SR10/2025; In the interest of safety, OTSB recommends that (OAA) issue a notice to all student pilots that they have a duty to make their instructor pilots aware of anything that could affect the safety of the crew or the aircraft.

Action taken OAA on the issued safety recommendation:

OAA issued a notice to all students "Duty of student pilots to report safety concerns".

4.2.1.2.3SR11/2025; In the interest of safety, OTSB recommends that OAA issue a notice to all instructor pilots that exercises shall be communicated well in advance to inform other traffic and AFISO and any changes to the exercise shall be communicated well in advance and be confirmed with AFISO prior to performing such exercise.

Action taken by Oman Aviation Academy on the issued safety recommendation:

OAA issued a notice to all instructors that training exercises shall be communicated well in advance to inform other traffic and AFISO and any changes to the exercise shall be communicated well in advance.

4.2.1.2.4SR12/2025; In the interest of safety, OTSB recommends that OAA issue a notice to all instructors and student pilot to use the standard phraseology during the use of the radio communication instead of the use of double click for acknowledgement of AFISO's instruction.

Action taken by Oman Aviation Academy on the issued safety recommendation:

OAA issued a notice to all instructors and student pilot to use the standard phraseology during the use of the radio communication instead of the use of double click.

4.2.1.2.5SR13/2025; In the interest of safety, OTSB recommends that OAA amend its procedures and require instructors to listen on AFISO radio communication frequency while they are instructing the solo student pilot.

Action taken by Oman Aviation Academy on the issued safety recommendation:

OAA issued a mandatory notice to all instructors and student for monitoring of AFISO frequency during solo flights.

4.2.2 OTSB is further issuing the safety recommendations to the following entities:

4.2.2.1 Civil Aviation Authority (CAA).

4.2.2.1.1 Given the increased traffic density and the limited responsibilities assigned to the AFISO, the OTSB recommends that the CAA review current operations at OOSH to determine whether Tower ATS services should be established at the aerodrome.

5. APPENDICES

5.1 Not applicable.

This report is issued by:

Oman Transport Safety Bureau (OTSB)
Sultanate of Oman