



Oman Transport Safety Bureau

Preliminary Report

OTSB Case File No: AIFN-002/11/2023

IndiGo Airbus A-320neo Unauthorized Turn



Operator: IndiGO

Make and Model: Airbus A-320neo

Nationality and Registration Marks: India, VT-IFK

Location of the Occurrence: 24 °43'N 057°27'E, Muscat FIR,

State of Occurrence: Sultanate of Oman

Date and Time of Occurrence: 12th November 2023, 00:36 UTC

Date of Publication: 12th December 2023



Table of Contents

Purpose of the Investigation	4
Abbreviations	5
Synopsis	5
1.Factual Information.	7
1.1. History of the Flight.	7
1.2. Injuries to Persons.	8
1.3. Damage to Aircraft.	8
1.4. Other Damage.	8
1.5. Personnel Information:.....	9
1.6. Aircraft Information:.....	10
1.6.1. General Data:.....	10
1.7. Meteorological Information:.....	10
1.7.1. Clouds:.....	10
1.7.2. Upper winds and Air Temperature (TAT):	10
1.8. Aids to Navigation.	10
1.9. Communications.	10
1.10. Aerodrome Information.	11
1.10.1. Departure Aerodrome:	11



1.10.2. Destination Aerodrome:	12
1.11. Flight Recorders.....	12
1.13. Medical and Pathological Information.	12
1.14. Fire.....	12
1.15. Survival Aspects.	12
1.16. Tests and Research.....	12
1.17. Organizational and Management Information.	13
1.18. Additional Information	13
1.19 Useful or Effective Investigation Techniques.	13
2. Analysis	13
3 Conclusions.....	13
3.1 General	13
3.2 Findings	13
3.3 Causes and Contributing Factors.....	13
4 Safety Recommendations.....	13



Purpose of the Investigation

The investigation was conducted by the Air Accident Investigation Section of Oman Transport Safety Bureau pursuant to Civil Aviation Law 76/2019 Chapter 10, and in compliance with the Civil Aviation Regulation CAR-13 -, Sub Part CAR 13.400 and CAR 13.405 (SUBPART F – ACCIDENT PREVENTION MEASURES) Aircraft Accident & Incident Investigation & Reporting Procedures. OTSB conducted an investigation on the occurrence in order to determine any preventive action and issue safety recommendations that can effectively, proactively, predictively reduce the number of incidents and generate the necessary countermeasures to prevent reoccurrence.

The sole objective of the investigation is to prevent future aircraft accidents and incidents and not to apportion blame or liability. Oman Transport Safety Bureau issued this Interim Report in accordance with the national and international standards, and industry best practice.

Unless otherwise mentioned, all times in this Report are UTC time. Local Time in The Sultanate of Oman is UTC plus (+) 4 hours. Photos and figures used in this report were taken from different sources and adjusted from the original for the sole purpose of improving clarity of the report.

This Report will be publicly available at:

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



Abbreviations

AAIB	Aircraft Accident Investigation Bureau
AAIS	Air Accident Investigation Section
AIRPROX	Aircraft Proximity
BEA	Bureau d'Enquêtes et d'Analyses pour la sécurité de l'aviation civile
ATC	Air Traffic Control
ATCO	Air Traffic Controller
FL	Flight level
ICAO	International Civil Aviation Organization
IIC	Investigator-in-charge
MCT	Muscat
MCT FIR	Muscat Flight Information Region
NM	Nautical miles
UTC	Universal Time Coordinated
IGO	IndiGo
VOR	Omnidirectional Range Navigational aid (VOR)
VHF	Very High Frequency
QTR	Qatar Airways



Synopsis

Oman Transport Safety Bureau (OTSB) was notified of the occurrence by Air Traffic Controller via ANSIC Report ASI,147-23(23/SI/23) dated 12th November 2023 at 8:51 AM Local Time, then followed by the Operator IndiGo`s report through the OTSB e-mail on the same day. The OTSB instituted an investigation and classified the occurrence as a Serious Incident requiring investigation. The following parties were notified: -

- AAIB as the State of Operator / State of Registry
- Bureau d'Enquêtes et d'Analyses pour la sécurité de l'aviation civile – BEA (France) as the State of Design and Manufacturer
- Germany (Federal Bureau of Aircraft Accidents Investigation - BFU) as the State of the Final Assembly.
- International Civil Aviation Organization (ICAO)
- Directorate General of Air Navigation – Civil Aviation Authority (DGAN – CAA)
- Directorate General of Meteorology - Civil Aviation Authority (DGMET- CAA)
- Minister of Transport, Communications and Information Technology (MTCIT)

In line with OTSB Investigation procedures, the Director of OTSB appointed an Investigator-In-Charge (IIC) and investigation team to assist the IIC with the investigation. The Air Accident Investigation Bureau (AAIB) - India is involved in the investigation by appointing an accredited representative and a Technical Advisor to the investigation.

After the investigation is completed, OTSB will release and publish the final report, the Final Report will be made public at link: <http://www.mtcit.gov.om>.

The incident involved IndiGo1667 Operated aircraft with registration marks VT-IFK, Airbus A320neo that departed Kuwait International Airport (OKKK) at 23:17 (UTC) on an international scheduled flight IGO1667 with 2 flight deck crew, 4 cabin crew and 178 passengers maintaining flight level 350 to Sardar Vallabhbhai Patel International Airport (VAAH).



On airway P307 between airway points PURNI – KUNUS, 24 °43'N 057°27'E, over Muscat Flight Information Region at about 00:36 (UTC) the aircraft encountered wake turbulence caused by traffic ahead which was about 21nm-QTR836, B777 from Hamad International Airport (OTHH) to Suvarnabhumi Airport (VTBS) maintaining Flight level FL350, flying on airway P307. IGO1667 requested to offset by 5nm to the right and this was not approved by the Air Traffic Controller, then IGO1667 requested to offset of 2nm to the right and ATC did not approve. ATC only approved 1 nm right of track as it was an Area Navigation (RNAV)1 route and that there was traffic on the right flying on the opposite airway N571 westbound. Thereafter IGO1667 requested to either turn right or descend. ATC cleared IGO1667 to descend to FL310 however the crew descended to FL310 and turned to the right onto a heading of 150 degrees without ATC clearance in order to avoid wake turbulence which hence Triggered Short Term Conflict Alert (STCA) on the controller`s radar screen.



1. Factual Information.

1.1 History of the Flight.

- 1.1.1. On the 12th November 2023 IGO1667, with registration marks VT-IFK, Airbus A320neo was on a scheduled flight from Kuwait International Airport (OKKK) to Sardar Vallabhbhai Patel International Airport (VAAH).
- 1.1.2. IGO1667 was on an international scheduled flight with 2 flight deck crew, 4 cabin crew and 178 passengers. While the aircraft was maintaining FL350 and crossing overhead reporting point TONVO, the crew established contact with Muscat ATC.
- 1.1.3. Between airway points PURNI and KUNUS on the airway P307, 24 °43'N 057°27'E, over Muscat FIR, at about 00:36 (UTC) IGO1667 encountered wake turbulence caused by traffic ahead by 21nm QTR836, B777, OTHH-VTBS maintaining FL350.
- 1.1.4. Shortly, IGO1667 requested to offset to the right by 5nm to avoid wake turbulence Air Traffic Controller did not approve the request of IGO1667. Then IGO1667 requested to offset by 2nm and again it was not approved by ATC and ATC explained to IGO1667 that's it's an RNAV 1 route. ATC cleared IGO1667 to offset by 1nm.
- 1.1.5. IGO1667 requested from ATC due to heavy turbulence either to descend lower or to turn right heading 150. The ATC immediately cleared IGO1667 to descend to FL310 and IGO1667 readback.
- 1.1.6. IGO1667 commenced a turn to the right onto a heading of 150 degrees and shortly after that started descending from FL350 for FL310. IGO1667 turning to the right onto a heading of 150 degrees was commenced without ATC clearance.
- 1.1.7. Due to conflicting traffic on opposite direction-QTR871, B77W, ZSPD-OTHH maintaining FL320, flying on airway N571, IGO1667 was instructed by the ATC to turn left onto a heading of 060, ATC cleared QTR871 to also turn left onto a heading of 270 to avoid midair collision.



1.2. Injuries to Persons.

Injuries	Pilot	Cabin Crew	Passengers	Total on Board	Other
Fatal	-	-	-	-	-
Serious	-	-	-	-	-
Minor	-	-	-	-	-
No Injuries	2	2	178	184	-
Total	2	4	178	184	-

Note: Other, means people on ground.

1.3. Damage to Aircraft.

No damages were reported.

1.4. Other Damage.

No other damages were reported

1.5. Personnel Information:

1.5.1. Pilot-in-command (Pilot Flying)

Nationality	Indian	Gender	Female	Age	38
Medical validity	28/09/2024	Licence type	ATPL 4468		
Licence validity	24 /12/ 2026	Type endorsed	Yes		
Ratings	A320 Instrument rating, Multi-Engine				
Latest LPC	To be notified	Latest OPC	To be notified		

Note: Previous accidents refers to past accidents and or serious incidents the Pilot was involved in, when relevant to this incident.



Flying experience:

Total hours	9336:45
Last 24 hrs	00:0
Last 7 days	2:18
Last 90 days	157:30

1.5.2 First officer (Pilot Monitoring)

Nationality	Indian	Gender	Female	Age	27
Medical valid	03/07/2024	Licence type	CPL 14603		
Licence valid	23/ 03 /2027	Type endorsed	Yes		
Ratings	A320 Instrument rating, Multi-Engine				
Latest LPC	To be notified	Latest OPC	To be notified		

Note: Previous accidents refers to past accidents and or serious incidents the Pilot was involved in, when relevant to this incident.

Flying experience:

Total hours	2470: 29
Last 24 hrs	00:0
Last 7 days	23:33
Last 90 days	203:00

1.5.3 Air Traffic Controller (ATCO)

Nationality	Oman	Gender	Male	Age	35
Licence Type	Air Traffic Controller Licence				
Licence Valid	Yes	Type Endorsed		Yes	
Ratings	ACC, ACC RDR				
Medical Expiry Date	16 th March 2024				
Restrictions	NIL				
Previous Incidents	None				

Note: Previous accidents refers to past accidents and or serious incidents the ATC was involved in, when relevant to this incident.

1.6 Aircraft Information:

1.6.1 General Data:

Airbus 320-232-India- VT-IFK

Serial Number MSN 5476

1.7 Meteorological Information:

To be discussed in the final report.

1.8.1 Aids to Navigation.

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

1.9 Communications.

The aircraft was equipped with a standard communication system as approved by the Oman CAA. No defects that could render the communication system unserviceable were recorded before the flight.

1.10 Aerodrome Information.

1.10.1 Departure Aerodrome:

ICAO designation	OKKK (Kuwait International Airport)	
Aerodrome co-ordinates	N29.23 E047.98	
Aerodrome elevation	205 ft above mean sea level (AMSL)	
Runway designations	15L / 33R	15 R / 33 L
Runway dimensions	3500 x 45 m	3500 x 45 m
Approach facilities	ILS, LOC, VOR, RNAV, PAPI's, runway lights	
Aerodrome status	Licensed Airport	



1.10.2 Destination Aerodrome:

ICAO designation	VAAH (Ahmedabad Sardar Vallabhbhai Patel Int. Airport)
Aerodrome co-ordinates	N23.07 E072.63
Aerodrome elevation	189 ft above mean sea level (AMSL)
Runway designations	05/ 23
Runway dimensions	3505 x 45 m
Approach facilities	ILS, RNP, VOR, LOC, PAPI's, runway lights
Aerodrome status	Licensed Airport

1.11 Flight Recorders.

The aircraft was fitted with both the Flight Data Recording (FDR) and the Cockpit Voice Recording (CVR) however, none was downloaded for this investigation. OTSB will be relying on Air Traffic Services (ATC) communication records to assist in the investigation.

1.12 Wreckage and Impact Information.

Not relevant

1.13 Medical and Pathological Information.

Not relevant

1.14 Fire.

Not relevant.

1.15 Survival Aspects.

To be discussed in the final report.

1.16 Tests and Research.

To be discussed in the final report.

1.17 Organizational and Management Information.

To be discussed in the final report.

1.18 Additional Information

To be discussed in the final report.

1.19 Useful or Effective Investigation Techniques.

To be discussed in the final report.

2 Analysis

To be discussed in the final report.

3 Conclusions

3.1 General

The investigation is on-going and we will be looking into other aspects of this incident investigation which may or may not have safety implications.

3.2 Findings

To be discussed in the final report.

3.3 Causes and Contributing Factors

To be discussed in the final report.

4 Safety Recommendations

Based on the aforementioned factual information, OTSB is anticipating issuing safety recommendations in due course.