ASRS Database Report Set

Altitude Deviations

Report Set Description.....A sampling of reports referencing altitude deviations for all types of operations

Update Number.....36

Date of Update.....August 7, 2024

Number of Records in Report Set.....50

Records within this Report Set have been screened to assure their relevance to the topic.

National Aeronautics and
Space Administration

Ames Research Center
Moffett Field, CA 94035-1000

TH: 262-7

MEMORANDUM FOR: Recipients of Aviation Safety Reporting System Data

SUBJECT: Data Derived from ASRS Reports

The attached material is furnished pursuant to a request for data from the NASA Aviation Safety Reporting System (ASRS). Recipients of this material are reminded when evaluating these data of the following points.

ASRS reports are submitted voluntarily. Such incidents are independently submitted and are not corroborated by NASA, the FAA or NTSB. The existence in the ASRS database of reports concerning a specific topic cannot, therefore, be used to infer the prevalence of that problem within the National Airspace System.

Information contained in reports submitted to ASRS may be clarified by further contact with the individual who submitted them, but the information provided by the reporter is not investigated further. Such information represents the perspective of the specific individual who is describing their experience and perception of a safety related event.

After preliminary processing, all ASRS reports are de-identified and the identity of the individual who submitted the report is permanently eliminated. All ASRS report processing systems are designed to protect identifying information submitted by reporters; including names, company affiliations, and specific times of incident occurrence. After a report has been de-identified, any verification of information submitted to ASRS would be limited.

The National Aeronautics and Space Administration and its ASRS current contractor, Booz Allen Hamilton, specifically disclaim any responsibility for any interpretation which may be made by others of any material or data furnished by NASA in response to queries of the ASRS database and related materials.

B Hooey

Becky L. Hooey, Director
NASA Aviation Safety Reporting System

CAVEAT REGARDING USE OF ASRS DATA

Certain caveats apply to the use of ASRS data. All ASRS reports are voluntarily submitted, and thus cannot be considered a measured random sample of the full population of like events. For example, we receive several thousand altitude deviation reports each year. This number may comprise over half of all the altitude deviations that occur, or it may be just a small fraction of total occurrences.

Moreover, not all pilots, controllers, mechanics, flight attendants, dispatchers or other participants in the aviation system are equally aware of the ASRS or may be equally willing to report. Thus, the data can reflect **reporting biases**. These biases, which are not fully known or measurable, may influence ASRS information. A safety problem such as near midair collisions (NMACs) may appear to be more highly concentrated in area "A" than area "B" simply because the airmen who operate in area "A" are more aware of the ASRS program and more inclined to report should an NMAC occur. Any type of subjective, voluntary reporting will have these limitations related to quantitative statistical analysis.

One thing that can be known from ASRS data is that the number of reports received concerning specific event types represents the **lower measure** of the true number of such events that are occurring. For example, if ASRS receives 881 reports of track deviations in 2010 (this number is purely hypothetical), then it can be known with some certainty that at least 881 such events have occurred in 2010. With these statistical limitations in mind, we believe that the **real power** of ASRS data is the **qualitative information** contained in **report narratives**. The pilots, controllers, and others who report tell us about aviation safety incidents and situations in detail – explaining what happened, and more importantly, **why** it happened. Using report narratives effectively requires an extra measure of study, but the knowledge derived is well worth the added effort.

Report Synopses

ACN: 2102174 *(1 of 50)*

Synopsis

B737 MAX 8 Captain reported a distracting high pitched tone on descent that led to being high on a fix. With the help of Maintenance, the Reporter discovered the problem may be caused by the ground crew's unsafe plug removal procedure.

ACN: 2096810 *(2 of 50)*

Synopsis

B737 MAX 8 flight crew reported they failed to make a crossing restriction on arrival into ATL after encountering wake turbulence from the preceding aircraft.

ACN: 2096120 *(3 of 50)*

Synopsis

ARTCC Controller reported an aircraft flying in icing and snow conditions was unable to climb above MVA resulting in a CFTT event.

ACN: 2095743 *(4 of 50)*

Synopsis

PC12 pilot reported receiving altitude warning during descent. Pilot corrected altitude and continued uneventfully.

ACN: 2095117 *(5 of 50)*

Synopsis

Air carrier flight crew reported loss of aircraft control due to severe turbulence encountered during final approach. The flight crew regained control of the aircraft and continued to landing.

ACN: 2095110 *(6 of 50)*

Synopsis

Air carrier flight crew reported receiving a low altitude alert from ATC during approach. Flight crew climbed back to correct altitude and continued.

ACN: 2095032 *(7 of 50)*

Synopsis

General aviation pilot reported a CFTT event during ILS approach when autopilot failed to capture glide slope. Pilot corrected and continued approach.

ACN: 2095015 *(8 of 50)*

Synopsis

Air carrier Captain reported loss of aircraft control due to severe turbulence encounter during arrival descent. The Captain regained control of the aircraft and continued to landing.

ACN: 2094842 *(9 of 50)*

Synopsis

Gulfstream 150 flight crew reported receiving a low altitude alert from ATC during circle-to-land in IMC. The flight crew corrected their altitude and continued the approach to a safe landing.

ACN: 2094473 *(10 of 50)*

Synopsis

Air carrier flight crew reported a momentary loss of aircraft control when the aircraft pitched down suddenly at top of descent. First Officer regained aircraft control and continued until aircraft did a "G-snap" roll to intercept the approach localizer requiring pilots to disconnect autopilot to regain control.

ACN: 2094092 *(11 of 50)*

Synopsis

Citation pilot reported while cleared for ILS approach they descended below the crossing altitude. Pilot rejoined the glideslope and landed at the airport.

ACN: 2093997 *(12 of 50)*

Synopsis

CRJ-700 flight crew reported selecting an altitude below the FAF altitude while on approach resulting in a descent below the FAF altitude. The flight crew corrected the flight path and landed safely.

ACN: 2093263 *(13 of 50)*

Synopsis

C525 pilot reported a partial loss of engine power in cruise. Pilot diverted and landed.

ACN: 2093255 *(14 of 50)*

Synopsis

Corporate helicopter flight crew reported receiving an ATC altitude alert when descending below crossing fix altitude on approach. Flight crew climbed to correct altitude and continued the approach.

ACN: 2093253 *(15 of 50)*

Synopsis

General aviation pilot reported loss of aircraft control when they became distracted with a door unlocked indication. Pilot recovered aircraft and continued flight.

ACN: 2093169 *(16 of 50)*

Synopsis

Corporate flight crew reported ATC stated a pilot deviation occurred as the aircraft descended the charted altitude on the localizer approach before being cleared for the visual approach. The flight crew denied a pilot deviation occurred, as the aircraft was established on the localizer course outside the waypoint with the altitude selector above the floor.

ACN: 2092979 *(17 of 50)*

Synopsis

Flight crew reported while transitioning from the LOC DME-E approach to a visual approach into ASE airport they received a low altitude alert from ATC.

ACN: 2092789 *(18 of 50)*

Synopsis

Air carrier flight crew reported an altitude deviation during approach to AVL airport resulting in a CFTT event. The crew climbed to appropriate altitude and continued the approach.

ACN: 2092075 *(19 of 50)*

Synopsis

Air carrier flight crew reported descent below assigned altitude due to broken transmissions resulted in a low altitude alert and a CFTT event.

ACN: 2092046 *(20 of 50)*

Synopsis

Air carrier flight crew reported temporary loss of aircraft control during a severe turbulence encounter. Reportedly, the aircraft sustained minor damage in the cabin area and some passengers were thrown from their seats.

ACN: 2092010 *(21 of 50)*

Synopsis

Pilot reported pilot flying descended below charted altitude prior to visual approach clearance resulted in altitude deviation and a TCAS RA.

ACN: 2091606 *(22 of 50)*

Synopsis

Air Carrier Captain reported due to turbulence the aircraft would not maintain airspeed or altitude in ZHU ARTCC airspace.

ACN: 2091133 *(23 of 50)*

Synopsis

GA pilot reported a NMAC during approach to OAK airport while on the SHARR ONE ARRIVAL. Reporter stated an evasive maneuver was executed after receiving a TCAS RA.

ACN: 2090483 *(24 of 50)*

Synopsis

Air carrier Captain reported climbing through an altitude restriction departing DEN after encountering turbulence associated with weather and wake from another aircraft.

ACN: 2090388 *(25 of 50)*

Synopsis

BE-58 Captain reported becoming disoriented during IMC weather and turbulence while under ATC control resulting in altitude and heading deviations. The pilot regained aircraft control, climbed above the turbulence and continued the flight.

ACN: 2090307 *(26 of 50)*

Synopsis

Air carrier crew reported a conflict with another aircraft while landing. The Captain identified the other aircraft taking off on the crossing runway and braked hard on landing rollout to remain short of the conflicting aircraft.

ACN: 2090284 *(27 of 50)*

Synopsis

Embraer-135 Captain reported a windshear warning during climb resulting in an altitude exceedance in gusty visual conditions. The crew performed the windshear escape maneuver and safely continued the climb out with no injuries.

ACN: 2089522 *(28 of 50)*

Synopsis

Military crew reported a near miss and TCAS RA with another aircraft while under ATC control. The pilot maneuvered the aircraft, following the TCAS RA guidance then landed safely.

ACN: 2089293 *(29 of 50)*

Synopsis

B737 air carrier crew reported a TCAS RA command to descend on final approach due to aircraft established on the parallel runway. The Captain followed the TCAS descend command until a minimum altitude then selected TCAS TA only and continued to a safe landing.

ACN: 2089081 *(30 of 50)*

Synopsis

CRJ-900 flight crew flew an unstabilized approach while in IMC.

ACN: 2089069 *(31 of 50)*

Synopsis

Air Carrier First Officer reported they descended below their cleared altitude during approach to SDF resulting in a CFTT event before climbing back to the appropriate altitude.

ACN: 2088730 *(32 of 50)*

Synopsis

Air carrier flight crew reported clearance confusion by ATC resulted in a low altitude alert and a CFIT event.

ACN: 2087795 *(33 of 50)*

Synopsis

Air carrier crew reported severe turbulence and an unstabilized approach when on the initial approach which resulted in altitude and speed exceedances. The crew performed a missed approach and diverted to an alternate airport.

ACN: 2087736 *(34 of 50)*

Synopsis

Air carrier Captain reported GPWS terrain warning while descending at a high rate, on a visual approach at night, in mountainous terrain. The Captain started a climb until the warning stopped then continued the approach to landing.

ACN: 2087653 *(35 of 50)*

Synopsis

Cessna Citation 560 Captain reported receiving a low altitude alert from ATC while on final approach in windshear and severe turbulence conditions. The Captain continued the approach and landed safely.

ACN: 2087166 *(36 of 50)*

Synopsis

B737 First Officer reported experiencing severe turbulence during cruise that resulted in the autopilot disconnecting with slight airspeed and altitude deviations. There was no damage to the aircraft and no injuries to any persons. The flight continued uneventfully.

ACN: 2086978 *(37 of 50)*

Synopsis

A330 Captain reported descending below an altitude restriction on descent into PHX after encountering wake turbulence.

ACN: 2086813 *(38 of 50)*

Synopsis

Air carrier pilot reported experiencing severe turbulence at cruise with airspeed and altitude deviations. The reporter indicated all crew and passengers were seated and no aircraft damage or injury occurred. The flight continued to destination.

ACN: 2086759 *(39 of 50)*

Synopsis

Air carrier flight crew reported severe turbulence at cruise altitude resulted in an altitude deviation and a Flight Attendant injury. The Captain recovered the aircraft and continued to destination where medical personnel met the flight.

ACN: 2086578 *(40 of 50)*

Synopsis

B-737 First Officer reported severe turbulence during cruise resulting in an altitude excursion and near over speed. A Flight Attendant in the cabin was injured during the turbulence and the flight continued to destination.

ACN: 2086529 *(41 of 50)*

Synopsis

P50 TRACON Controller reported very poor radio quality resulted in altitude readback error and a CFTT event.

ACN: 2085730 *(42 of 50)*

Synopsis

B767-300 Check Airman reported on final approach the pilot flying and on an OE initiated a go-around and reporter took control of aircraft. On the second approach the aircraft was again unstable and the pilot flying did another go-around. The third approach and landing were successful.

ACN: 2085593 *(43 of 50)*

Synopsis

First Officer reported loss of aircraft control and autopilot disengagement due to severe turbulence. Pilot performed upset recovery and flight continued.

ACN: 2085398 *(44 of 50)*

Synopsis

A300 flight crew reported loss of aircraft control and autopilot disconnect while flying through severe turbulence during cruise descent. Flight crew regained control and continued flight.

ACN: 2085272 *(45 of 50)*

Synopsis

B787 flight crew reported the right side forward cockpit window shattered in cruise and proceeded to divert. Direct communication with ATC was not working and the flight crew requested assistance from nearby aircraft for communications.

ACN: 2085070 *(46 of 50)*

Synopsis

Air carrier First Officer reported they failed to follow company descent profile and to complete briefings during approach.

ACN: 2084714 *(47 of 50)*

Synopsis

Air carrier flight crew reported receiving a low altitude alert from ATC on descent into BIL.

ACN: 2084407 *(48 of 50)*

Synopsis

Air carrier pilot reported descending too low on final approach. Flight crew corrected and landed uneventfully.

ACN: 2084380 *(49 of 50)*

Synopsis

B787 First Officer reported a CFTT event and an unstabilized approach while Captain was hand flying a visual approach. Pilot reported full scale "low" deviation on glide slope, an improperly set altitude alerter during event and the need to climb to return to glide slope.

ACN: 2084272 *(50 of 50)*

Synopsis

Air taxi Captain reported an overshoot of the ASE LOC/DME-E final approach course, citing strong winds and tight vectors as contributing. Reportedly, there have recently been other flights involving overshoots and descent below published altitudes on the LOC-DME approach.

Report Narratives

ACN: 2102174 *(1 of 50)*

Time / Day

Date : 202403
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 23000

Environment

Flight Conditions : IMC
Weather Elements / Visibility.Visibility : 1
Light : Night
Ceiling.Single Value : 25000

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B737 MAX 8
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Descent
Airspace.Class E : ZZZ

Component

Aircraft Component : Communication Systems
Aircraft Reference : X
Problem : Malfunctioning

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Last 90 Days : 220
Experience.Flight Crew.Type : 14000
ASRS Report Number.Accession Number : 2102174
Human Factors : Communication Breakdown
Human Factors : Distraction
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Altitude : Crossing Restriction Not Met
Anomaly.Deviation - Altitude : Undershoot
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Ground Event / Encounter : Ground Equipment Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

After being cleared direct to ZZZZZ on the arrival and cross it at 11,000 ft., we encountered a high pitch tone that had been building up after departing ZZZ [Airport]. Due to the high pitch tone encounter and late crossing restriction clearance, we arrived at the fix a little high. I contacted Maintenance the next day to find out the origin of the tone. It appears there could be a safety issue with the ground crew plug-ins on the MAX. Due to the height of the external jack, some ground crews use the nose gear access. Instead of pulling the cord near the base of the plug, it's pulled from several feet away, which breaks the tip of the plug off in the access. This creates a build-up in static noise, eventually becoming a high pitch tone. This causes a major distraction to crews due to the level of noise, making it difficult to communicate between crews and ATC. Aircraft malfunction caused physiological distraction due to high pitched tone. Recommend training for the ground crew regarding the plug removal technique and the potential for a safety issue.

Synopsis

B737 MAX 8 Captain reported a distracting high pitched tone on descent that led to being high on a fix. With the help of Maintenance, the Reporter discovered the problem may be caused by the ground crew's unsafe plug removal procedure.

ACN: 2096810 *(2 of 50)*

Time / Day

Date : 202403
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZTL.ARTCC
State Reference : GA
Altitude.MSL.Single Value : 16000

Environment

Light : Night

Aircraft : 1

Reference : X
ATC / Advisory.Center : ZTL
Aircraft Operator : Air Carrier
Make Model Name : B737 MAX 8
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Descent
Airspace.Class E : ZTL

Aircraft : 2

Reference : Y
ATC / Advisory.Center : ZTL
Make Model Name : Commercial Fixed Wing
Flight Plan : IFR
Airspace.Class E : ZTL

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
ASRS Report Number.Accession Number : 2096810
Human Factors : Distraction
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC
Analyst Callback : Completed

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Last 90 Days : 150
Experience.Flight Crew.Type : 480
ASRS Report Number.Accession Number : 2095777
Human Factors : Distraction
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Deviation - Altitude : Crossing Restriction Not Met
Anomaly.Deviation - Altitude : Undershoot
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Requested ATC Assistance / Clarification

Assessments

Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Ambiguous

Narrative: 1

We were flying the GLAVN 1 Arrival landing west at ATL. Center cleared us to cross GLAVN at 14,000 ft and we were sequenced behind another airliner approximately 5-7 NM in front of us. While passing through 16,000 ft, we encountered wake turbulence and the aircraft rolled left/right and shook with moderate force. I came out of VNAV Descent (we were on the path) and shallowed out our descent with V/S to get above the preceding aircraft's wake. I verbalized my intentions with the PM, but then contacted the cabin crew to let them know the source of our turbulence and inquire about any injuries. While communicating with the cabin crew, we continued to get higher and higher on the path descent. After terminating my call to the cabin crew, the PM informed me we were high. ATL Center switched us to ATL Approach. I resumed descending in LVL CHG with speedbrakes and asked the PM to inform Approach Control that we encountered wake and were going to be high at GLAVN. The PM checked in with Approach Control and advised them of our situation, but Approach did not acknowledge the altitude situation at GLAVN. We were informed to plan Runway 27L and then had to go about programming the FMC and briefing 27L, as we were expecting 26R. We crossed GLAVN around 14,700 ft instead of 14,000 ft. Approach did not inform us of a deviation. We were not given relief. The timing of the switch from Center to Approach complicated the request for relief. While I feel that I was communicating well with the PM, and that we had a shared mental model,

we both were distracted after the wake event. My initial reaction was to get out of the wake, however I then allowed myself to be distracted with concerns of the cabin crew, versus effectively flying the aircraft and maintaining our assigned clearance. I should've directed the PM to contact Center immediately to request altitude relief or a vector. By the time he brought it to my attention, we were 2,000 ft high on the path and were not going to make the restriction. The handoff to Approach Control complicated the issue at that point.

Callback: 1

Reporter stated the wake encounter was a significant distractor.

Narrative: 2

We were on the GLAVN1 Arrival and given the crossing restriction at GLAVN of 14,000 ft (landing west at ATL). We were in VNAV PATH with everything normal when passing through 17,000 ft we encountered moderate turbulence, which both the Captain and I agreed was caused by wake turbulence from preceding aircraft on the arrival. The Captain (PF), instructed the Flight Attendants to take their jumpseats, and he lessened the descent rate to stay above the wake, yet he was aware of the upcoming restriction at GLAVN. During this time, as PM, we had two changes with Approach frequency that were in quick succession. The first assigned us the 27L transition on the arrival. We were then handed off to the next Approach frequency. I alerted the Captain that on check-in I would inform Approach we would be high at GLAVN due to wake turbulence. On check-in with the Controller, I advised we were descending through our altitude (about 17,000 ft) to cross GLAVN at 14,000 ft but that we would be high because we encountered wake turbulence. On check in we were just outside three miles from GLAVN. The Controller did not mention anything with regard to the statement that we would be high and did not seem concerned. As we continued our descent there was no longer the threat of wake turbulence, we crossed GLAVN about 1,000 ft high and the Controller did not query. The descent and approach continued uneventfully. It would have been helpful for ATC to acknowledge our report of wake turbulence or acknowledge when I stated we would be high at the crossing restriction.

Synopsis

B737 MAX 8 flight crew reported they failed to make a crossing restriction on arrival into ATL after encountering wake turbulence from the preceding aircraft.

ACN: 2096120 *(3 of 50)*

Time / Day

Date : 202403
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Altitude.MSL.Single Value : 10000

Environment

Weather Elements / Visibility : Snow
Weather Elements / Visibility : Icing

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Make Model Name : Bonanza 36
Crew Size.Number Of Crew : 1
Flight Plan : IFR
Flight Phase : Final Approach
Route In Use.Other
Airspace.Class E : ZZZ

Person

Location Of Person.Facility : ZZZ.ARTCC
Reporter Organization : Government
Qualification.Air Traffic Control : Fully Certified
Experience.Air Traffic Control.Radar : 5
ASRS Report Number.Accession Number : 2096120
Human Factors : Time Pressure

Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Automation : Air Traffic Control
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

Aircraft X came into my sector at 10,000 ft. They were on an IFR flight plan heading to ZZZ1. 10,000 is fairly low for the terrain in the area and routing was going to be needed for Aircraft X to stay at 10,000. Roughly 5 minutes into my airspace Aircraft X reported getting into light rime icing. I advised them of my minimum IFR altitude in the area which was 9,000 but that I could only do that for a short amount of time as their was higher terrain ahead that would require climbing back to 10,000 eventually. At this point Aircraft X changed their destination to ZZZ. I cleared the aircraft to ZZZ and soon after they requested the descent to 9,000 as they reported "We are starting to get a little slow here". Aircraft X eventually requested the RNAV [Runway] X approach at ZZZ and I cleared them to the IAF of ZZZZZ. Throughout this communication I advised Aircraft X of an airport south of their position that was located in lower terrain, although that airport did not have an IFR approach and was overcast. I also mentioned possibly turning around away from the area of icing and again where there was lower terrain. Aircraft X reported they were going to continue on course at 9,000 for the approach. It was at this time I advised Aircraft X that I could not legally clear them for any approach at ZZZ at 9,000 and that I would have to have them climb to 10,000 for a clearance. Aircraft X acknowledged this information with "roger". As Aircraft X approached my MIA of 10,000 I advised them of a low altitude alert for the MIA and re-iterated I could not clear them for the approach, again receiving a response of "roger". At one point Aircraft X reported breaking out of the clouds so I asked if they could turn direct to ZZZ to avoid terrain or climb and they responded " we are going to continue inbound at 9,000. Once they entered the MIA block I gave another low altitude alert and had the aircraft report established over a fix on the approach that had a published altitude of 9,000 and verified their altitude. Aircraft X eventually reached the fix with an altitude on my radar indicating 8700 ft so I had them verify their altitude which they reported level 9,000. I cleared them for the remainder of the IFR approach, terminated radar services, advised to cancel the IFR on the ground, and sent them to the advisory frequency. All while this was happening I also had multiple IFR approaches to multiple other airports in my airspace, arrival and departure traffic in conflict from ZZZ2 approach, Overflight traffic making requests and general frequency congestion as the sector has 4 transmitters and aircraft cant hear each other due to high terrain. I can't say I would have a recommendation other than the sector should have been split off as I was working a combined configuration with way too much IFR approaches due to the weather of the day. I have a feeling our staffing level for the shift is a factor in this as we only had 6 people for a shift that should have 9 and I don't think the conditions of the day especially for a sector that can get very complex with winter weather was considered. I did have to request a D-side in the middle of this situation.

Synopsis

ARTCC Controller reported an aircraft flying in icing and snow conditions was unable to climb above MVA resulting in a CFTT event.

ACN: 2095743 *(4 of 50)*

Time / Day

Date : 202403
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US
Altitude.MSL.Single Value : 15000

Environment

Flight Conditions : VMC
Weather Elements / Visibility : Rain
Weather Elements / Visibility : Icing
Weather Elements / Visibility : Turbulence
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 12000

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Taxi
Make Model Name : PC-12
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 135
Flight Plan : IFR
Mission : Passenger
Flight Phase : Descent
Route In Use : Direct
Airspace.Class E : ZZZ

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Taxi
Function.Flight Crew : Single Pilot
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 5600
Experience.Flight Crew.Last 90 Days : 62
Experience.Flight Crew.Type : 1100
ASRS Report Number.Accession Number : 2095743
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Returned To Clearance

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

The decision to return to base was made enroute from ZZZ to ZZZ1 due to Un forecast weather conditions to ZZZ1 airport. We had just climbed through some cumulus clouds and picked up some light rime ice at 5,000ft. We cleared the tops of the clouds at FL120 and cruised at FL150. Center advised of some moderate showers enroute to ZZZZZ the IAF for the Rnav X into ZZZ1. ZZZ [Center] gave me direct to ZZZZZ1 IAF to avoid some of the weather for a straight in for the RNAV Y RWY XX. The decision to turn back to base was based on southerly winds on the approach with building cumulus clouds and ice conditions with a circle to land at ZZZ1. I decided that the swiss cheese model was starting to line up and decided to return to base. I requested the turn back through ZZZ [Center] and was given direct back to ZZZ. At this point I selected heading mode for an initial 180 degree turn to head back as I programmed the FMS back to base. I was given a pilots discretion to FL10. I maintained FL150 until I finished loading the FMS and reviewed the weather enroute back to the ZZZ. As I started my descent I was asked about the weather and notams at ZZZ and asked for deviations north of course to avoid weather build ups. Passing through 11,000 ZZZ gave me a another pilots discretion to 5,000. I set the altitude selection to 5,000 and continued my descent. On my way down I disconnected the AP to avoid some weather and was VMC by 6,000. I called ZZZ [Center] to cancel my IFR but stepped on by another Transmisson. As I went to call back ZZZ center gave me an altitude warning and I realized I was at 4,300 ft. The MVA for that sector is 5,000 I made a correction to 5,000 and called to cancel my IFR flight plan and navigated back to base VFR. Spring time weather in the area changes very rapidly and decisions have to be made promptly. Looking back at this situation I would have turned the AP back on so I could focus on other tasks at hand. Turn backs can get very busy and always an opportunity for several distractions. Single pilot environment the AP is crucial and needs to be turned on to reduce the workload. ZZZ center was instrumental in assisting me with this transport and I appreciated their prompt info about changing conditions. Looking forward I would need to turn on the AP and call for cancellation for VFR a bit earlier.

Synopsis

PC12 pilot reported receiving altitude warning during descent. Pilot corrected altitude and continued uneventfully.

ACN: 2095117 *(5 of 50)*

Time / Day

Date : 202403
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZZ.ARTCC
State Reference : FO
Altitude.MSL.Single Value : 5000

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Thunderstorm
Weather Elements / Visibility : Turbulence
Weather Elements / Visibility : Rain

Aircraft

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : B737 Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Mission : Passenger
Flight Phase : Final Approach

Person : 1

Location Of Person.Aircraft : X
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Last 90 Days : 134.97
Experience.Flight Crew.Type : 578.40
ASRS Report Number.Accession Number : 2095117

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Last 90 Days : 179.95
Experience.Flight Crew.Type : 664.38
ASRS Report Number.Accession Number : 2095127

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Regained Aircraft Control

Assessments

Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

On arrival into ZZZ we were assigned to hold at ZZZZZ intersection for the arrival into ZZZ. We held for about 10 minutes while getting moderate turbulence. We got our clearance to exit the hold direct to ZZZZZ1 for the ILS XXR. We were descending to 5000ft when we entered an area of severe turbulence. Autopilot disengaged. Immediately got a strong roll to the right and left...got a bank angle aural alert. Control of the aircraft was very difficult. Got a slight stick shaker at one point. Multiple bank angle aural alerts. It was difficult to even read the Primary Flight Display (PFD). I estimate this lasted for about 45 seconds until the turbulence reduced to a moderate level again. We ended up climbing around 1000ft during the recovery. We reported this to ATC and once stabilized we continued and descended toward ZZZZZ1 to fly the ILS approach. We landed uneventfully a few minutes later.

Narrative: 2

We held at ZZZZZ for 10min. After holding, Approach reader vectored us to Runway XXR. When Approach gave us direct to ZZZZZ1, we encountered severe turbulence. The auto pilot disengaged and hard to maintain altitude. Multiple bank angle warning.

Synopsis

Air carrier flight crew reported loss of aircraft control due to severe turbulence encountered during final approach. The flight crew regained control of the aircraft and continued to landing.

ACN: 2095110 *(6 of 50)*

Time / Day

Date : 202403
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US
Altitude.MSL.Single Value : 10000

Environment

Flight Conditions : VMC

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : A319
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Descent
Airspace.Class E : ZZZ

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days : 90.43
Experience.Flight Crew.Type : 1368.27
ASRS Report Number.Accession Number : 2095110
Human Factors : Human-Machine Interface
Human Factors : Situational Awareness

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Last 90 Days : 177.9

Experience.Flight Crew.Type : 205.65
ASRS Report Number.Accession Number : 2095111
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Automation : Air Traffic Control
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

While on vectors with ZZZ Approach we received 10 thousand foot descent, the First Officer selected 10000 ft., I remember verifying 10,000 ft. Shortly thereafter we received a low altitude alert from ATC. I took immediate corrective action by disconnecting the Autopilot and climbing back up to 10,000 ft while the First Officer re-selected 10,000 ft. in the window. We both remember seeing 10,000 ft. in the window. After debriefing what must have happened was his finger was on the knob, (to point at the altitude for my verification) and as he moved it of it rolled back one tick to 9,000 ft.

Narrative: 2

While on the downwind vector to runway XX into ZZZ. ATC lowered us from 11,000 to 10,000. 10,000 was selected in the window and the verified by the pilot flying. ATC warned us of a low altitude warning . The autopilot was quickly disconnected and a climb back from 9,500 to 10,000 was initiated. We leveled off with no further issues.

Synopsis

Air carrier flight crew reported receiving a low altitude alert from ATC during approach. Flight crew climbed back to correct altitude and continued.

ACN: 2095032 *(7 of 50)*

Time / Day

Date : 202403
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Angle.Radial : 075
Relative Position.Distance.Nautical Miles : 11
Altitude.MSL.Single Value : 2700

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 4000

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Personal
Make Model Name : SR22
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Training
Nav In Use.Localizer/Glideslope/ILS : ILS XXR
Flight Phase : Initial Approach

Component

Aircraft Component : Autopilot
Aircraft Reference : X
Problem : Malfunctioning

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Private
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 377
Experience.Flight Crew.Last 90 Days : 9.6
Experience.Flight Crew.Type : 377
ASRS Report Number.Accession Number : 2095032
Human Factors : Situational Awareness
Human Factors : Training / Qualification
Human Factors : Human-Machine Interface

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Automation : Aircraft Terrain Warning
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : FLC complied w / Automation / Advisory
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Overrode Automation
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

On the ILSXXR approach to ZZZ, in between ZZZZZ and ZZZZZ1, I accidentally descended well below the posted IFR altitude of 3100 MSL to roughly 2700 MSL before realizing and correcting. I was performing this approach autopilot coupled, and I missed that the autopilot had not captured the glide slope properly and was descending below my intended altitude. I realized this before ZZZ Tower called out the low altitude, and then they did, I advised I was correcting. I was on a filed IFR flight plan to ZZZ, but conditions were VFR at the time.

Synopsis

General aviation pilot reported a CFTT event during ILS approach when autopilot failed to capture glide slope. Pilot corrected and continued approach.

ACN: 2095015 *(8 of 50)*

Time / Day

Date : 202403
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Relative Position.Distance.Nautical Miles : 50
Altitude.MSL.Single Value : 29000

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Turbulence
Weather Elements / Visibility : Windshear
Light : Night

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B737 Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Descent
Airspace.Class A : ZZZ

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 2095015

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Speed : All Types
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Regained Aircraft Control

Assessments

Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

I was Captain acting as Pilot monitoring (PM). We were given brief holding followed by extensive vectoring on arrival into ZZZ due to stormy weather. We were given a right turn direct to ZZZZZ at FL290. The First Officer (FO) initiated the turn using LNAV and Autopilot. During the turn, we experienced severe turbulence and windshear. The aircraft gained 40kts of airspeed, 300ft of altitude, and excessive bank angle. The autopilot kicked off and I assumed control to stabilize the aircraft. The FO notified ATC of our altitude gain and windshear encounter, and no traffic conflicts occurred. We reengaged the autopilot and continued to landing without further incident.

Synopsis

Air carrier Captain reported loss of aircraft control due to severe turbulence encounter during arrival descent. The Captain regained control of the aircraft and continued to landing.

ACN: 2094842 *(9 of 50)*

Time / Day

Date : 202403
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 1800

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Cloudy
Light : Night
Ceiling.Single Value : 600

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Taxi
Make Model Name : Gulfstream G100/G150 (IAI 1125 Astra)
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Ferry / Re-Positioning
Flight Phase : Initial Approach

Component

Aircraft Component : Autoflight System
Aircraft Reference : X
Problem : Malfunctioning

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Taxi
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 2094842
Human Factors : Situational Awareness

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Taxi
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 2094843
Human Factors : Situational Awareness
Human Factors : Workload

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Altitude : Crossing Restriction Not Met
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Automation : Air Traffic Control
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Software and Automation
Contributing Factors / Situations : Human Factors
Primary Problem : Ambiguous

Narrative: 1

While descending on the RNAV XX Circle to XY, I was the PIC, and Pilot flying. The aircraft was configured for circling, and we were about 1NM from ZZZZZ. The aircraft was setup with autopilot on, NAV Mode was selected and activated for Lateral navigation. VNAV was selected for the aircraft for vertical navigation, and was in VVS for the selected decent mode, with 500fpm was depicted on the vertical speed tape. a magenta 2300 ft. was selected to indicate the aircraft would level at 2300 ft. to cross ZZZZZ at that 2300 ft. before continuing decent to the Cyan (blue) Cat C circling Minima. The aircraft instead descended below 2300, myself, and the Pilot not flying (PNF) caught it as it went below 2300. I was able to level the aircraft at 1800 ft momentarily. ZZZ Tower Issued a Low Altitude alert to us which we acknowledged immediately. While Leveling the airplane we came into visual conditions, and continued the decent to circling minima as we were now past ZZZZZ and in visual conditions. we continued to the airport and circled, and safely landed Runway XY without incident. We did not receive anything further from ATC about the incident. Following the Incident, the PNF and I agreed our response was acceptable, and further wondered the reason the aircraft did not level at the selected VNAV altitude at ZZZZZ. We are submitting this report as evidence of our experience to hopefully help fix any issues that may come up with other crews or aircraft with this same issue.

Narrative: 2

We were established on the RNAV XX planning to circle to Runway XY. I had already loaded the RNAV XX, checked the waypoints and altitudes, and loaded landing performance in the FMS. We had also briefed the approach and circle to land while still being vectored, prior to starting the approach. After checking in with tower who instructed us to continue the approach and advise starting our circle I verified that a magenta 2300 was displayed above the altitude tape, indicating that the aircraft would level at 2300 ft. at ZZZZZ before descending to minimums (1200). I then continued with the before landing checklist to verify the aircraft was in proper configuration for landing. Just prior to ZZZZZ both the Captain/PF (Pilot Flying) and I noticed the aircraft was below 2300 ft. and

descending to minimums. At the same time ZZZ Tower issued us a low altitude alert. I called to correct and PF simultaneously disengaged autopilot and stopped the descent/corrected our altitude. The correction was at approximately 1800 ft. MSL. We crossed ZZZZZ and continued with the approach, transitioning from IMC to VMC just prior to reaching minimums. The remainder of the approach along with the circle to land was uneventful. PF and I de-briefed the event after our flight and agreed we responded appropriately. We were both unsure as to why VNAV did not capture 2300 at ZZZZZ but rather descended right to minimums. I will ensure to pay closer attention to altitudes/automation when on final approach in IMC. We also agreed documenting the altitude deviation/incident with a report would be appropriate.

Synopsis

Gulfstream 150 flight crew reported receiving a low altitude alert from ATC during circle-to-land in IMC. The flight crew corrected their altitude and continued the approach to a safe landing.

ACN: 2094473 *(10 of 50)*

Time / Day

Date : 202403
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZLA.ARTCC
State Reference : CA
Altitude.MSL.Single Value : 24000

Environment

Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Center : ZLA
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use.Localizer/Glideslope/ILS : SNA
Flight Phase : Descent
Route In Use.STAR : DNSEE5
Airspace.Class A : ZLA

Component

Aircraft Component : Autoflight System
Aircraft Reference : X
Problem : Malfunctioning

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Last 90 Days : 222
Experience.Flight Crew.Type : 222
ASRS Report Number.Accession Number : 2094473
Human Factors : Troubleshooting

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Last 90 Days : 180
Experience.Flight Crew.Type : 9000
ASRS Report Number.Accession Number : 2094511

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation - Altitude : Crossing Restriction Not Met
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem
Result.Flight Crew : Overrode Automation
Result.Flight Crew : Regained Aircraft Control

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

We were at FL280 and was instructed to descend via the DSNEE5 Arrival into Orange County. I had put in 8,000 ft. for the bottom of the arrival in the MCP window, and we were armed in LNAV VNAV PATH. At the Top of Descent, all of a sudden, the aircraft pitched over into a step nose-down dive at 5,000 fpm. I quickly took control of the aircraft and used Vertical Speed, to help reduce the pitch angle and help me bring the nose back up towards a normal descent rate. At the same time, I extended flight spoilers, because the aircraft wanted to go to VMO overspeed condition. At the same time, my Captain was talking to the people in the back on a PA, and I had the radios and the flight controls, I had ATC calling me for a frequency change at the same time when I was trying to get control of the aircraft. I told the Controller to standby, I had to fly the aircraft. When the Captain came back, I informed him that something was wrong with the automation of the aircraft, and that it pitched over to 5,000 FPM, and that I was still in recovery mode and recovering the aircraft. ATC had given us a frequency change but I was not able to check on. By the time I was able to get the aircraft back under a stable descent rate and the airspeed in the normal airspeed parameter we had already gone through the 25,000 ft. and above restriction at waypoint guitar on the DSNEE5 Arrival. I was no more than 1,000 ft. below the 25,000 ft. restriction when we flew over the guitar fix. We checked on the new Controller and told us the level out at 23,000 ft. so we stopped at 23,000 ft. Also, on final approach into Orange County, as we intercepted the localizer, the aircraft in LVAV did a high G-snap roll to intercept the LOC and glideslope to the point where I disconnected the autopilot to recover that and keeping the aircraft from going into a stall. Suggestions: We need better descent software for LNAV/VNAV PATH especially coming in on the DSNEE5 Arrival into Orange County. That arrival tends to be difficult for the automation, which I have noticed. As my own skills, I relied on my training on flying the aircraft first. It took me a second to analyze the problem to figure out the correct action that I needed to

do, and I flew the aircraft first, navigated second, and communicated third. There was a lot that happened extremely fast, and I had to make quick educated decisions on how to recover the aircraft from a steep dive. My job was maintaining aircraft control at all costs, which I did, but in doing that, it caused me to go through a crossing restriction. I relied on my training, and I believe I did everything I could possibly do to maintain aircraft control. I will always do my best to comply with crossing restrictions on arrivals, but when I am in a steep, dive 5000 FPM, my focus will always be to fly the aircraft first and get it back flying safely. I was upset that I went through the crossing restriction, but my emphasis needs to be on recovering the aircraft first.

Narrative: 2

As the Captain, PM, I notified the very proficient First Officer, FO, that I was making my descent PA to the Passengers. While I was making my PA the aircraft dumped the nose at Top of Descent and immediately went into a probable overspeed situation. The PF did an excellent job recovering the aircraft from the nose over (approximately 5,000 fpm). By the time the aircraft was back in a normal state we had descended below the "At or above FL250" (FL240ish) restriction at LRSON on the DSNEE5 Arrival. As an aside, the aircraft made a VERY aggressive join up on the SNA localizer when it was in a position (angle and airspeed) to make a smooth transition to the localizer. Suggestions: As PM, I will NOT choose to make a PA at the Top of Descent. I will wait to make sure the aircraft is in a steady state before diverting my attention elsewhere.

Synopsis

Air carrier flight crew reported a momentary loss of aircraft control when the aircraft pitched down suddenly at top of descent. First Officer regained aircraft control and continued until aircraft did a ‟G-snap″ roll to intercept the approach localizer requiring pilots to disconnect autopilot to regain control.

ACN: 2094092 *(11 of 50)*

Time / Day

Date : 202403
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 8300

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Make Model Name : Citation Latitude (C680A)
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Ferry / Re-Positioning
Nav In Use.Localizer/Glideslope/ILS : ILS XXR
Flight Phase : Initial Approach
Airspace.Class E : ZZZ

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 2094092
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Crossing Restriction Not Met
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Result.Flight Crew : Returned To Clearance
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

While descending via the ZZZZZX arrival in ZZZ the controller cleared us for the ILS XXR approach off of ZZZZ which was the end of the arrival. We armed approach at ZZZZ since ZZZZ was on the final approach course inbound. After arming approach the FMS auto switched to green needles LOC/GS. We thought this was good since we were cleared for the approach. While inbound on the approach crossing ZZZZZ controller advised us that we were low for the ILS approach. We were at 8,300. We then noticed the mandatory altitude of 9,000 at ZZZZZ. The controller did not mind he just gave us a heads up. This happened due to us being cleared for the ILS way out on the arrival and switching from pink needles to green needles too early. Due to fatigue and being a long duty day.

Synopsis

Citation pilot reported while cleared for ILS approach they descended below the crossing altitude. Pilot rejoined the glideslope and landed at the airport.

ACN: 2093997 *(12 of 50)*

Time / Day

Date : 202403
Local Time Of Day : 0001-0600

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 890

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : Regional Jet 700 ER/LR (CRJ700)
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Approach
Airspace.Class B : ZZZ

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 2093997
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Flight Crew

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Person : Flight Crew
When Detected : In-flight

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

During a day VMC visual approach tracking to the FAF, the Pilot Flying (PF) selected a lower altitude to continue descending. While distracted with final configuration and checking on with Tower, I did not catch this altitude was lower than the FAF altitude. The aircraft continued to descended in vertical speed mode until I noticed 1250 on the RA. I advised the PF for final configuration and we were nearing 1000 AFE. The PF reduced VS but still continued descending. We ended up 5 miles from the field at which point the PF clicked the auto pilot off and corrected to the glide slope and approach continued normally. Cause: PF setting a lower altitude to capture than the FAF altitude and also getting distracted with configuring the aircraft. And the Pilot Monitoring not catching the lower altitude set and being distracted with ATC and checklists. Suggestions: Proper cross check of selected altitudes. Going around instead of making a large altitude correction even though fully configured.

Synopsis

CRJ-700 flight crew reported selecting an altitude below the FAF altitude while on approach resulting in a descent below the FAF altitude. The flight crew corrected the flight path and landed safely.

ACN: 2093263 *(13 of 50)*

Time / Day

Date : 202403
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Altitude.MSL.Single Value : 41000

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Icing
Weather Elements / Visibility : Fog
Weather Elements / Visibility : Rain
Weather Elements / Visibility : Thunderstorm
Weather Elements / Visibility.Visibility : 2
Light : Dusk
Ceiling.Single Value : 500

Aircraft

Reference : X
Aircraft Operator : Personal
Make Model Name : Citationjet (C525/C526) - CJ I / II / III / IV
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Personal
Flight Phase : Cruise
Route In Use : Direct
Airspace.Class A : ZZZ

Component

Aircraft Component : Powerplant Fuel Control Unit
Aircraft Reference : X
Problem : Malfunctioning

Person

Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 2800
Experience.Flight Crew.Last 90 Days : 25
Experience.Flight Crew.Type : 700
ASRS Report Number.Accession Number : 2093263
Human Factors : Troubleshooting
Human Factors : Training / Qualification

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Detector.Automation : Aircraft Other Automation
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Diverted
Result.Flight Crew : Landed in Emergency Condition

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Aircraft

Narrative: 1

Aircraft X with factory installed Williams FJ44 engines. Maintenance on the aircraft is current and has always been performed by Company X. The aircraft is enrolled in an engine program and parts and tech (labor) with Company X. The only recent work on the engines was a desalination wash of both engines at Company X a few weeks ago. On Day 0 at approximately XA:36 Eastern Time while flying single pilot at 41,000 feet I received a CAS message of "Engine Control Fault R". I immediately opened the abnormal procedures checklist, which called for turning on the Ice Protection for 2 minutes and then resetting the FADEC on the affected engine. This is designed to clear any ice that may have accumulated on the T2 engine probe. That did not resolve the fault CAS message. At the same time I noticed a gradual loss of true airspeed in cruise from approximately 395 kts to 338 kts and declining relatively rapidly. I advised Center ATC that I was [requesting priority assistance] due to a loss of partial engine power and needed to land. After some back and forth, I was vectored to ZZZ where I twice attempted the approach. The autopilot also would not engage, likely due to strong turbulence. I flew below the approach path at an excessive descent rate at two points during the approach. Weather was not suitable for the approach at ZZZ, so I diverted to ZZZ1 and landed successfully. I contacted Company X maintenance once on the ground. We ran some procedures on the ground, and I read them some fault codes from the MFD and sent data to Company X. They advised me approximately an hour later that they strongly believed that the cause of the message was a failure of the fuel control unit in the right engine. They advised that a precautionary landing was advisable given the decreasing power in that engine. Company X is sending maintenance to ZZZ1 to repair the engine. We will provide a log book entry once that repair is complete. The airplane will be flown by a Maintenance Company X pilot (and me) on the first flight out of maintenance to ensure it is in good working order. I intend to receive additional training on hand flying the aircraft in IMC conditions on an approach and general hand flying techniques.

Synopsis

C525 pilot reported a partial loss of engine power in cruise. Pilot diverted and landed.

ACN: 2093255 *(14 of 50)*

Time / Day

Date : 202403
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US
Altitude.MSL.Single Value : 1500

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Fog
Weather Elements / Visibility : Rain
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Corporate
Make Model Name : S-76/S-76 Mark II
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Passenger
Flight Phase : Descent
Airspace.Class B : ZZZ

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Corporate
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 11800
Experience.Flight Crew.Last 90 Days : 57
Experience.Flight Crew.Type : 6000
ASRS Report Number.Accession Number : 2093255
Human Factors : Situational Awareness
Human Factors : Human-Machine Interface

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Corporate
Function.Flight Crew : Pilot Flying

Function.Flight Crew : First Officer
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 11425
Experience.Flight Crew.Last 90 Days : 36
Experience.Flight Crew.Type : 100
ASRS Report Number.Accession Number : 2093276
Human Factors : Situational Awareness
Human Factors : Human-Machine Interface

Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation - Altitude : Crossing Restriction Not Met
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Automation : Air Traffic Control
Detector.Person : Air Traffic Control
Miss Distance.Horizontal : 230
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Overrode Automation
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Software and Automation
Primary Problem : Software and Automation

Narrative: 1

We were just vectored onto the final approach course for the ILS Z Runway X approach at ZZZ. We were descending to meet the 1500 ft. altitude at ZZZZZ intersection. The flight director did not capture the altitude and to correct the pilot flying ended up disconnecting the flight director and hand flying back to the glide slope between ZZZZZ and ZZZZZ1 to continue the ILS approach. We descended about 230 ft. below the 1500 ft. required altitude before starting the climb back up. We did get an altitude alert from the controller and were asked if we wanted to continue the approach. We told him we were correcting and would like to continue. We reengaged the flight director after climbing back onto the glide slope and continued the approach. Closely monitor the flight director and have your hands on the controls so that you may take immediate action before any altitude deviations can take place.

Narrative: 2

We had just been vectored onto the final approach course for the ILS Z Runway X at ZZZ. We were descending from 1700 to 1500 for ZZZZZ fix. The flight director did not capture the 1500 ft. altitude I disconnected the flight director to hand fly us back to 1500 ft. We continued onto ZZZZZ and then to ZZZZZ1 for the glide slope. Approach said they got an altitude alert and asked if we wanted to continue the approach. We told them we had corrected and would like to continue the approach. I reengaged the flight director and continued the approach without anymore deviations. Have hands on the controlls at all

times during approach phase, and during any altitude capture phase. Have focus on instrumentation, and ask the Pilot Not Flying for any questions on approach chart.

Synopsis

Corporate helicopter flight crew reported receiving an ATC altitude alert when descending below crossing fix altitude on approach. Flight crew climbed to correct altitude and continued the approach.

ACN: 2093253 *(15 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US
Relative Position.Angle.Radial : 130
Relative Position.Distance.Nautical Miles : 6
Altitude.MSL.Single Value : 5000

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Rain
Weather Elements / Visibility : Turbulence
Light : Daylight
Ceiling.Single Value : 1000

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Personal
Make Model Name : Cessna 425/441 Conquest I/Conquest II
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Personal
Flight Phase : Initial Climb
Route In Use : Vectors
Airspace.Class C : ZZZ

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Private
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 2283
Experience.Flight Crew.Last 90 Days : 41
Experience.Flight Crew.Type : 751
ASRS Report Number.Accession Number : 2093253
Human Factors : Human-Machine Interface
Human Factors : Situational Awareness
Human Factors : Distraction

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Regained Aircraft Control

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Human Factors

Narrative: 1

Received IFR Clearance from ATC for flight from ZZZ-ZZZ1. Released for departure off Runway XX, fly heading 130, to an initial altitude of 3,000 ft. For Take Off, conditions were IFR with visibility about 2+ miles, and overcast ceiling around 1,000 feet, and solid IMC above that. Climbed out as normal and engaged Autopilot before entering IMC. Contacted Departure, provided Ident and continued climb out toward 3,000 ft. Received to climb to 5,000 and I believe a turn to a heading of 100. As we were climbing through around 3,300 ft, we experience sudden mod++ turbulence enough to cause a change in direction with strong rolling forces and up and down turbulence. Autopilot was fighting, I was gripping the yoke strongly and disconnected the Autopilot to try to dampen out any abrupt control responses. Turbulence lasted about 5 seconds or so. I tried to re-engage the Autopilot and the plane continued to turn to the left (Northeasterly). I disengaged the Autopilot and began a turn back toward my course. Had some additional short duration moderate - turbulence. While in the turn I noticed the door unlock light on the annunciator panel was lit. It took a couple of seconds for me to try to figure out how that was possible. I personally locked the door, set the handle and checked all the pins (6) for the green indicator. I looked at the pressurization gauge to see if there was any indication of a potential door leak issue but there was no change at all in the pressurization. This issue caused me to divert my attention while in the turn and the plane banked beyond my intentions and began a rapid decent in a right hand turn. I got back on the gauges stopped the turn, leveled the wings and began an initial rapid climb back to my altitude and turning back to my course. I did re-engage the Autopilot while climbing, but did not re-set the altitude. We passed through 5,000 ft. when ATC asked me if I had a problem since I had an abrupt decent & climb. I told the controller that I had an Autopilot problem and need a moment to get things set. He asked if the Autopilot was working and if I wanted to continue. I replied the Autopilot was fine and it was my mistake. I did not get into all the gyrations and turbulence discussion. Only that we are good to continue and would get to 5,000 ft. Checked annunciator panel and the door unlock was no longer lit. After that, we received further ATC headings, altitudes and handoffs to continue the flight. The rest of the flight was uneventful. I checked the door upon landing and handle was in the receiver, and all was as it should be. Reviewing what had happened on my way to my destination and after we landed, the issue started with some very strong, abrupt turbulence that caught me by surprise in an otherwise smooth and typical climb out. My decision to disengage the Autopilot to reduce input/fighting the turbulence from the Autopilot was, I believe, the correct thing to do. When I re-engaged the Autopilot, I mistakenly place the Autopilot in NAV mode (not Heading Mode), so the Autopilot started to follow the programmed flight plan for a pre-set departure waypoint (ZZZZZ), hence the reason the

plane was still turning to turn left continuing to be off assigned heading. I did not realize at the time of the NAV vs Heading input discrepancy and couldn't figure out what was happening so I disengaged the Autopilot. First mistake, there was no real reason to try to re-engage the Autopilot. Should have just stayed on the Flight Director and fly back to the right course/altitude after the turbulence and advised ATC of the turbulence. In short, simply fly the plane, then sort it out. This just added to another distraction of heading. When I started to turn right to get back on course, I noticed the door unlock light on the warning panel (never saw this illuminated before). This became an additional distraction by trying to analyze if it was an issue. This should not have been a real priority at that time. Looking back, should have only noticed door unlock light and gone back to the Flight Director, fly the plane and waited until I was leveled and back on course for further investigation. Since we were at less than 5,000 ft. there was no urgent need for pressurization at that moment so I should have focused on the other tasks at hand to correct the deviations. I did not experience any spatial disorientation at all during these deviations. The abrupt turbulence began a string of actions on my part that, in reality, aggravated the situation and only further induced altitude & heading deviation until corrected. I have all my currencies for instrument/approaches and day & night landings.

Synopsis

General aviation pilot reported loss of aircraft control when they became distracted with a door unlocked indication. Pilot recovered aircraft and continued flight.

ACN: 2093169 *(16 of 50)*

Time / Day

Date : 202403
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ASE.Airport
State Reference : CO
Altitude.MSL.Single Value : 13000

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.TRACON : ASE
Aircraft Operator : Corporate
Make Model Name : Medium Transport
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Approach
Route In Use : Visual Approach
Airspace.Class D : ASE

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Corporate
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 2093169
Human Factors : Communication Breakdown
Human Factors : Confusion
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Corporate
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 2093171
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Deviation - Altitude : Crossing Restriction Not Met
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Person : Air Traffic Control
When Detected : In-flight

Assessments

Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Contributing Factors / Situations : Chart Or Publication
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Procedure

Narrative: 1

Aircraft being vectored from the east, north of Red Table (DBL). 270 heading cleared to 14,000 ft. then a turn southwest down to 13,000 ft. Cleared for LOC DME approach, maintain 13,000 ft. until established. With alt selector set to 13,000 ft. and descending to that altitude, Approach Control was told we had the airport in sight. As instructed by Approach, pilot monitoring called the Tower and reported airport in sight and we were cleared for the visual approach Runway 15. At that time we were joining the localizer course with green needle set to heading 151.The FMS was set with our course extended out from KICER, as that was the fix we were being vectored just outside of. NAV mode armed and 13,000 ft. set as the altitude with autopilot on. We proceeded to fly a smooth, stable visual approach to landing with a turn off of the runway at A4. Taxiing in, we were asked to contact Aspen Tower for a possible pilot deviation. I called the Tower and controller said that he needed to get some information. I asked what it was in reference to and he said that the Approach Controller felt that we may have descended below charted altitude on the localizer approach before being cleared for the visual approach. I do not believe that to be the case. We were established on the localizer course outside KICER with altitude selector set to 13,000 ft. As soon as the Tower was contacted, we were cleared for the visual approach. There was no delay from Approach Control to Tower Controller and the visual clearance was received right away. I do not believe that an altitude deviation actually occurred. Altitude selector was set to 13,000 ft. and the fix we were just outside of allowed for a descent to 12,900 ft. Perhaps the Approach Controller did not realize that the visual approach clearance was obtained so soon after the handoff was issued. Suggestion: Perhaps try to get clearance for the visual approach from the Approach Controller before being switched to Tower.

Narrative: 2

We were maintaining 13,000 ft. and told to maintain until KICER until Tower clears us for the visual approach. We advised Approach that we were visual and got switched to the Tower and cleared for the visual approach for Runway 15. My belief [is] that a deviation from altitude didn′t occur [as] the selector [was] set at 13,000, just outside the fix which

has a floor of 12,900 ft. Maybe the Approach Controller didn't realize that we had been given the visual approach clearance as soon as we were handed over. Maybe if Approach can issue the visual clearance before the Tower Controller might mitigate some of this communication lag.

Synopsis

Corporate flight crew reported ATC stated a pilot deviation occurred as the aircraft descended the charted altitude on the localizer approach before being cleared for the visual approach. The flight crew denied a pilot deviation occurred, as the aircraft was established on the localizer course outside the waypoint with the altitude selector above the floor.

ACN: 2092979 *(17 of 50)*

Time / Day

Date : 202403
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ASE.Airport
State Reference : CO
Altitude.MSL.Single Value : 12300

Environment

Weather Elements / Visibility : Turbulence
Weather Elements / Visibility : Windshear
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 13000

Aircraft

Reference : X
ATC / Advisory.Tower : ASE
ATC / Advisory.TRACON : ASE
Aircraft Operator : Corporate
Make Model Name : Medium Transport
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Passenger
Flight Phase : Final Approach
Route In Use : Visual Approach
Airspace.Class D : ASE
Airspace.Class E : ASE

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Corporate
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 8400
Experience.Flight Crew.Last 90 Days : 15
Experience.Flight Crew.Type : 100
ASRS Report Number.Accession Number : 2092979
Human Factors : Situational Awareness

Person : 2

Location Of Person.Aircraft : X
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying

ASRS Report Number.Accession Number : 2093136
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Automation : Air Traffic Control
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Airspace Structure
Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Human Factors

Narrative: 1

Assigned the LOC/DME-E into ASE, we followed the approach inbound. Approximately around the FIMSO fix we broke out into VMC conditions. Quickly assessing this we both agreed that we would assuredly maintain VMC conditions. Continuing descent we were just ready to advise ASE tower we had airport in sight, continuing with the visual when they called us with a low altitude alert. We immediately advised them we had airport in sight and were cleared for the visual approach and cleared to land. After landing we were advised of possible pilot deviation. There were no GPWS aircraft safety system alerts/notifications.

Narrative: 2

We were cleared for the LOC DME-E into ASE from Aspen Approach. We were on the approach and had the airport visually outside FIMSO when contacting Aspen Tower. They issued a low altitude alert and we told them we had the airport in sight. Tower cleared us for the visual. We continued the approach and landed with no issues. When we turned off the runway, Tower asked us to call due to possible pilot deviation. At no time did we receive any GPWS warnings nor excessive sink rate callouts during the approach and landing.

Synopsis

Flight crew reported while transitioning from the LOC DME-E approach to a visual approach into ASE airport they received a low altitude alert from ATC.

ACN: 2092789 *(18 of 50)*

Time / Day

Date : 202403
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : AVL.Airport
State Reference : NC
Altitude.MSL.Single Value : 3500

Aircraft

Reference : X
ATC / Advisory.Tower : AVL
Aircraft Operator : Air Carrier
Make Model Name : Medium Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Approach
Airspace.Class C : AVL

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 2092789
Human Factors : Situational Awareness

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 2092792
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Automation : Aircraft Terrain Warning

Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Air Traffic Control : Issued Advisory / Alert
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

We were in VMC being vectored for the RNAV 17 approach in to AVL. The airport came in to sight and were cleared for the visual Runway 17. As I began to turn in for the base leg in to AVL I thought we were inside of the FAF. So I set 3,000 in the altitude selector. As we began to descend through 4,000 feet it became clear that we′re outside of the FAF. Around 3,500 feet I had clicked the Autopilot off and began ascending up to 4,000 feet. While we were in the recovery the terrain callout was made from the GPWS. The terrain was insight and we were already in the recovery from the error. Cause: Lost awareness of where I was on the approach. We were in VMC and I could see it was clear and had the runway but I forgot where the aircraft was in relation to the approach. Suggestion: To prevent this I should have set the FAF altitude and entered the approach beyond the FAF and tracked the glide slope down from there.

Narrative: 2

We were cleared for the visual approach to Runway 17 at AVL and received a terrain conflict. The event started while we were on downwind and at 5,000 feet. Once we passed the final approach fix we began to turn our left base and began a decent. I reported our turn to the Approach Controller as he had instructed and we were handed off to Tower. I noticed that were about to pass through the final approach fix altitude and announced it, the First Officer (FO) immediately turned off the autopilot and began to correct the descent and started to climb to 4,000 ft. The Tower transmitted that we were low and gave us the altimeter setting, at that point we received a "terrain" aural. We were still climbing and the Tower quarried us again and I let the Tower know we were correcting our altitude to 4,000 and we received a second "terrain" followed by a "pull up" in which a slight right course correction was made as we reached the 4,000 feet altitude. We held the 4,000 feet until passing the final approach fix and intercepting the glide path. We then executed the landing without any further incident. Cause: I should have noticed sooner that we were glowing to go through the final approach fix altitude before intercepting the glide path. Suggestion: Ensure that on a visual approach you still maintain altitudes that correlate with safe altitudes such as those on the approach charts.

Synopsis

Air carrier flight crew reported an altitude deviation during approach to AVL airport resulting in a CFTT event. The crew climbed to appropriate altitude and continued the approach.

ACN: 2092075 *(19 of 50)*

Time / Day

Date : 202403
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US
Altitude.MSL.Single Value : 2000

Environment

Flight Conditions : IMC
Weather Elements / Visibility.Visibility : 4
Light : Daylight
Ceiling.Single Value : 500

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Approach
Airspace.Class C : ZZZ

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Last 90 Days : 270
Experience.Flight Crew.Type : 3500
ASRS Report Number.Accession Number : 2092075
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain

Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days : 215
Experience.Flight Crew.Type : 15000
ASRS Report Number.Accession Number : 2092084
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Ground Event / Encounter : Ground Equipment Issue
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : CFTT / CFIT
When Detected : In-flight
Result.Flight Crew : FLC complied w / Automation / Advisory
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Issued New Clearance
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : ATC Equipment / Nav Facility / Buildings

Narrative: 1

On arrival into ZZZ, we were talking with Approach Control. There was precipitation and overcast skies. We were given a heading and a descent down to an altitude. The last part concerning the altitude given was broken possibly due to the weather and on the radio transmission I believed I heard a 2,000 ft. I replied with the exact heading, and I also said and "the last was broken at the end, confirm 2,000." To which the Approach Controller said "affirmative". As the Pilot Flying heard me clearly confirm 2,000 ft. and the Controller responded affirmative, we set 2,000 ft. on the Mode Control Panel. Leaving 3,000 ft. for 2,000 ft., the Approach Controller gave us an immediate "confirm altitude of 3,000 ft.?" Which we said that we read back 2,000 ft. He also said he was receiving a low altitude alert and issued an expedited climb back up to 3,000 ft., to which we complied. He issued the turn on to final and we commenced the approach and landed safely.

Narrative: 2

On arrival into ZZZ, we were talking with Approach Control. We were given a heading and a descent down to 2,000 ft. The last part concerning 2,000 ft. was slightly broken on the radio transmission. I replied with the exact heading, and I also said and "the last was broken at the end, confirm 2,000." To which the Approach Controller said "affirmative" and then I replied again "down to 2,000". Leaving 3,000 for 2,000 ft., the Approach Controller gave us an immediate "confirm altitude of 3,000 ft.?" To which we said that we read back 2,000 ft. He also said he was receiving a low altitude alert and issued an expedited climb

back up to 3,000 ft., to which we complied. He issued the turn on to final and we commenced the approach and landed safely.

Synopsis

Air carrier flight crew reported descent below assigned altitude due to broken transmissions resulted in a low altitude alert and a CFTT event.

ACN: 2092046 *(20 of 50)*

Time / Day

Date : 202403
Local Time Of Day : 1801-2400

Place

Locale Reference.Intersection : KD45A
State Reference : CO
Relative Position.Distance.Nautical Miles : 50
Altitude.MSL.Single Value : 30000

Environment

Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Center : ZDV
Aircraft Operator : Air Carrier
Make Model Name : Medium Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Cruise
Airspace.Class A : ZDV

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
ASRS Report Number.Accession Number : 2092046

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 2092071

Events

Anomaly.Flight Deck / Cabin / Aircraft Event : Illness / Injury
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Detector.Person : Flight Crew
Were Passengers Involved In Event : Y
When Detected : In-flight
Result.Flight Crew : Regained Aircraft Control
Result.Aircraft : Aircraft Damaged

Assessments

Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

At (time) 50 NM east of the waypoint KD45A from BNA to ZZZ. We encountered severe mountain wave at Flight Level 300. We originally were at Flight Level 340; however, after coordinating with ATC were given ride reports that 320 or lower have reported better rides. At this point we were experiencing continuous light to occasional moderate chop. We turned on the seatbelt sign and had the speed window open to Mach .76. As we leveled, we experienced a brief period of smooth air. However, as the approached KD45A, we experienced a wave that began a climb rate at one point exceeding 1,000 FPM. Soon after the aircraft would reverse the climb trend and rapidly descend to 29,800 ft. The Captain and I were lifted from our seats along with loose items in the flight deck tossed. The autopilot never disconnected; however, speed was varying plus or minus 20 knots. At one point I had to extend full speedbrakes to prevent overspeed. The turbulence last 20 second and then we soon were out of the wave. Our A F/A then called us to explain what they had seen and heard. From there discussion lasting at least an hour were held between the Flight Crew, the Flight Attendants, Dispatch, and medical services. Several Passengers were thrown from their seats with some hitting the ceiling. None wanted immediate medical attention; however, two did ask for ice. Out of an abundance of caution we had medical personnel meet one Passenger who was suffering with a headache. No further severe turbulence was felt however it took time to collect all loose items that were thrown. Suggestions: In this case we had asked for ride reports along with a supposed better altitude. The event was freak and unexpected.

Narrative: 2

We experienced an isolated incident of severe CAT (Category) during Flight XXX BNA-ZZZ. Approaching the Rockies, DEN Center reported moderate mountain wave and turbulence ahead at our altitude FL340. We warned the Flight Attendants to take their seats and to expect turbulence for the next hour. The F/As made a PA to the Passengers, and we verified the seatbelt sign was on. ATC reported better rides below FL320, so we requested FL300 which we found mostly smooth with occasional light mountain wave and turbulence. The PF slowed to turbulence penetration speed. Approximately 50 miles east of KD45A, our airspeed slowed then increased rapidly, and we experienced a sudden abrupt drop in altitude of at least -200 ft. VMO/MMO was not exceeded, and the autopilot remained engaged. The aircraft returned to FL300 and 280 knots. We reported the incident to ATC and Dispatch. The F/As reported no injuries to themselves and none of the Passengers requested help. We told the F/As to remain seated and made a PA to the Passengers. We experienced only light mountain wave and turbulence following this severe isolated incident. Later, several Passengers reported losing their seats or bumping themselves on the ceiling or other Passengers. None requested immediate medical attention. The F/As

reported some minor interior damage to the aircraft. The Dispatcher contacted us, and we spoke with medical services. They gave us the ok to continue. Medical personnel met the flight to check, then released one of the Passengers. Suggestions: Coordinate a different route to avoid the area of mountain wave and turbulence completely understanding this is not always possible.

Synopsis

Air carrier flight crew reported temporary loss of aircraft control during a severe turbulence encounter. Reportedly, the aircraft sustained minor damage in the cabin area and some passengers were thrown from their seats.

ACN: 2092010 *(21 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Angle.Radial : 331
Relative Position.Distance.Nautical Miles : 13
Altitude.MSL.Single Value : 13250

Environment

Flight Conditions : Mixed
Weather Elements / Visibility : Turbulence
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 8000

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : Light Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Ferry / Re-Positioning
Flight Phase : Initial Approach
Route In Use : Visual Approach
Airspace.Class D : ZZZ

Aircraft : 2

Reference : Y
Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer
Airspace.Class D : ZZZ

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Taxi
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 2570
Experience.Flight Crew.Last 90 Days : 112
Experience.Flight Crew.Type : 647
ASRS Report Number.Accession Number : 2092010

Human Factors : Time Pressure
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation - Altitude : Crossing Restriction Not Met
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Automation : Aircraft RA
Miss Distance.Horizontal : 1200
Miss Distance.Vertical : 500
Result.Flight Crew : Took Evasive Action
Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Airport
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Procedure

Narrative: 1

We were on the LOC DME approach to Runway XX at ZZZ, in IMC, and Tower advised us to report the field in sight. As we got the field in sight, there was frequency congestion, and I waited my turn to report the field. The Pilot in Command elected to go visual as soon as we got the field in sight, descending several hundred feet below the charted minimum stepdown altitude at ZZZZZ, but before I was able to report the field in sight to the Tower. So we had yet to be cleared for a visual approach. ATC immediately advised us to climb, and at that time we reported the field in sight and were cleared for a visual approach. We later received a DESCEND RA, but after complying with the RA and visually acquiring the traffic, we landed normally. I believe that the Captain was remembering an event from a couple of days prior, where I was the Pilot Flying and was following the stepdown altitudes using VNAV. As we were flying the approach, we got a CLIMB, CLIMB NOW RA, which we complied with by climbing, and then initiating a go-around as we were then not in a position to accomplish a stabilized approach. I believe in that case, the Captain believed that we were too high on the approach before we got the RA, and now, with that experience in mind, wanted to go down as soon as we were visual, in order to flatten our descent path. And a complicating factor, of course, is ZZZ airspace, and the need for aircraft to have to land in one direction, and to have aircraft take off towards landing traffic. But in the future, as a crew, we need to do a better job of briefing approaches, and adhering to all published altitudes, speeds, and courses as we fly them.

Synopsis

Pilot reported pilot flying descended below charted altitude prior to visual approach clearance resulted in altitude deviation and a TCAS RA.

ACN: 2091606 *(22 of 50)*

Time / Day

Date : 202403
Local Time Of Day : 0601-1200

Place

Altitude.MSL.Single Value : 34000

Environment

Flight Conditions : IMC

Aircraft

Reference : X
ATC / Advisory.Center : ZHU
Aircraft Operator : Air Carrier
Make Model Name : Large Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Nav In Use : GPS
Flight Phase : Cruise
Route In Use : Direct
Airspace.Class A : ZHU

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Last 90 Days : 105.07
Experience.Flight Crew.Type : 394.82
ASRS Report Number.Accession Number : 2091606
Human Factors : Distraction
Human Factors : Situational Awareness
Human Factors : Workload
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Speed : All Types
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence

Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Regained Aircraft Control
Result.Flight Crew : Exited Penetrated Airspace

Assessments

Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

Due to turbulence, unable to maintain airspeed and altitude. Due [to] radio interference, unable to contact ATC on assigned frequency or guard. Descended to FL340. Once clear of the weather, started climb back to assigned altitude and was able to advise ATC of the situation. No further action required.

Synopsis

Air Carrier Captain reported due to turbulence the aircraft would not maintain airspeed or altitude in ZHU ARTCC airspace.

ACN: 2091133 *(23 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : OAK.Airport
State Reference : CA
Altitude.MSL.Single Value : 11000

Environment

Weather Elements / Visibility.Visibility : 10
Ceiling : CLR

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : NCT
Aircraft Operator : Personal
Make Model Name : Small Aircraft, Low Wing, 1 Eng, Retractable Gear
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Personal
Flight Phase : Descent
Route In Use.STAR : SHARR ONE
Airspace.Class E : NCT

Aircraft : 2

Reference : Y
Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer
Airspace.Class E : NCT

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Flight Instructor
Qualification.Other
Experience.Flight Crew.Total : 21000
Experience.Flight Crew.Last 90 Days : 65
Experience.Flight Crew.Type : 4000
ASRS Report Number.Accession Number : 2091133
Human Factors : Communication Breakdown
Human Factors : Situational Awareness

Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Conflict : NMAC
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Detector.Automation : Aircraft RA
Detector.Person : Air Traffic Control
Miss Distance.Horizontal : 0
Miss Distance.Vertical : 100
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

Was cleared to fly the SHARR ONE ARRIVAL into OAK except to maintain 11,000. We were at 11,000 feet as I recall we were at or near MAMIE intersection on the arrival. We were given a traffic location by ATC we acknowledged we were looking and almost instantly we received an RA. There was no TA just an RA which commanded about a 2500 foot per minute descent. I responded accordingly. The TCAS display on first ATC notice and RA command showed traffic very near us (I do not recall distance scale set) that was 100 feet above us and as I was responding to RA I saw vertical distance was at 0 feet. I descended to about 10,000 feet and then received a cleared of conflict. We reported RA to ATC with a weak response and with a delayed response of ROGER. There was no follow up response by controller. I therefore felt compelled to file this report as I was concerned that ATC may have missed the conflict until it was too close.

Synopsis

GA pilot reported a NMAC during approach to OAK airport while on the SHARR ONE ARRIVAL. Reporter stated an evasive maneuver was executed after receiving a TCAS RA.

ACN: 2090483 *(24 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : D01.TRACON
State Reference : CO
Altitude.MSL.Single Value : 10000

Environment

Flight Conditions : VMC

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : D01
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Climb
Airspace.Class B : DEN

Aircraft : 2

Reference : Y
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Flight Phase : Climb

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Last 90 Days : 235.12
Experience.Flight Crew.Type : 488.57
ASRS Report Number.Accession Number : 2090483
Human Factors : Situational Awareness

Person : 2

Location Of Person.Aircraft : X
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : First Officer

Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days : 73.6
Experience.Flight Crew.Type : 219.83
ASRS Report Number.Accession Number : 2090455

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Became Reoriented

Assessments

Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Human Factors

Narrative: 1

Went above 10000 ft. at KIDNG on the EPKEE7 RNAV. There was moderate turbulence on the departure followed by what appeared to be a wake from another aircraft. Departure requested us to expedite our climb through 9,000 ft. which I immediately complied. Through the entirety of the departure while helping a newer pilot, I just busted the at or below 10000 ft. restriction. I had no choice at KIDNG but to continue and comply with the remaining restrictions on the SID.

Narrative: 2

On the EPKEE 7 out of Denver we were given max rate of climb through 9000 ft. While doing this we climbed through 10000 ft. just prior to KIDNG which has an altitude restriction below 10000 ft. We leveled as soon as we noticed it and shortly after we crossed KIDNG and continued the climb in accordance with the SID.

Synopsis

Air carrier Captain reported climbing through an altitude restriction departing DEN after encountering turbulence associated with weather and wake from another aircraft.

ACN: 2090388 *(25 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ1.Airport
State Reference : US
Relative Position.Angle.Radial : 040
Relative Position.Distance.Nautical Miles : 3
Altitude.MSL.Single Value : 2000

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Fog
Weather Elements / Visibility : Turbulence
Light : Daylight
Ceiling.Single Value : 1000

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Personal
Make Model Name : Baron 58/58TC
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Personal
Flight Phase : Climb
Route In Use : Vectors
Airspace.Class E : ZZZ1

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Private
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 370
Experience.Flight Crew.Last 90 Days : 60
Experience.Flight Crew.Type : 85
ASRS Report Number.Accession Number : 2090388
Human Factors : Confusion
Human Factors : Situational Awareness
Human Factors : Training / Qualification
Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Detector.Person : Air Traffic Control
Miss Distance.Vertical : 500
When Detected : In-flight
Result.Flight Crew : Regained Aircraft Control
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Contributing Factors / Situations : Weather
Primary Problem : Procedure

Narrative: 1

I was practicing IFR approaches in actual IMC between 2 adjacent (XXnm) airports (ZZZ and ZZZ1). As i approached ZZZ1 ATC kept adjusting my vectors to final due to significantly higher winds aloft than expected. At one point i reported my aspen EFD was indicating a 42kt wind, which was met with a "wow" from ATC. Upon going missed at ZZZ1 (as planned), i signed off from CTAF, began turning the controls for a climb to 2,000msl, entered IMC, and turning to 220, as previously instructed by ATC. I reported back to Center, while also reducing power to stop by climb at 2,000 msl. ATC immediately began vectoring me around traffic, with a stern reminder to stay at or below 2k, i observed 2,175 indicated altitude, so pushed down on the yolk, but with the reduced power and turbulence, I immediately descended to ~1,800 indicated. To correct this I pulled up slightly, but hadn't notices that i was in a sharp turn to the right, which was also resulting in a sudden loss of altitude. ATC call to alert me that they had me at 1,500 msl and ask "are you ok", i responded yes, it's just very bumpy. I looked at the EFD and observed a sharp turn to the right and slight nose down indication. To correct, I leveled the controls to stop the turn, pulled up to stop the decent and began to climb back to 2k feet. ATC turned me to 270 and instructed a climb to 4k to get above the weather. the rest of the flight was normal, with vectors to final on the RNAV XX at my destination airport ZZZ. Cause: I had likely become disoriented when inadvertently make a hard right turn and descending to 1,500ft, i'm assuming the turbulence and high winds blew me sideways and with a high level of task saturation, i did't notice until ATC alerted me. Solution: While practice in IMC might be a great way to stay proficient, i should have continued using the autopilot upon going missed to help reduce the workload for maintaining heading and altitude. I wanted to manually fly the climb out, but in hindsight that was not the best decision. Maybe just using the Aspen Flight Director is a good compromise between manually flying and using the autopilot (AP).

Synopsis

BE-58 Captain reported becoming disoriented during IMC weather and turbulence while under ATC control resulting in altitude and heading deviations. The pilot regained aircraft control, climbed above the turbulence and continued the flight.

ACN: 2090307 *(26 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : BOS.Airport
State Reference : MA
Altitude.AGL.Single Value : 0

Environment

Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.Tower : BOS
Aircraft Operator : Air Carrier
Make Model Name : Medium Large Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Landing

Aircraft : 2

Reference : Y
ATC / Advisory.Tower : BOS
Make Model Name : Small Aircraft, High Wing, 1 Eng, Fixed Gear

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 2090307
Human Factors : Communication Breakdown
Human Factors : Situational Awareness
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer

Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
ASRS Report Number.Accession Number : 2090302
Human Factors : Communication Breakdown
Human Factors : Situational Awareness
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Conflict : Ground Conflict, Critical
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Ground Incursion : Runway
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments

Contributing Factors / Situations : Airport
Contributing Factors / Situations : Human Factors
Primary Problem : Airport

Narrative: 1

Maintenance write up just short of takeoff runway for seats not staying. PF/FO (Pilot Flying/First Officer) pushed through TOGA on takeoff roll as they did not feel the AT (Autothrottles) grab the throttles. It took me a moment to realize why we were above thrust and by then I elected to continue and maintain thrust until airborne. Once airborne, I corrected thrust and reengaged the autothrottles. We were then given a climb to 7000 which was immediately changed to 6000 at about 5500ft. This caused an altitude deviation up to 6200 ft which we then corrected. The remainder of the flight went well and we discussed what had occurred and why. On landing, we were given cleared to land [Runway] 15R/09. The PF (Pilot Flying) landed correctly and applied reverse thrust, and tower gave the aircraft on [Runway] 27 clearance for takeoff. I noticed an aircraft moving forward on [Runway] 22L approaching the intersection 15R/22L with their lights on and called out maximum braking. I simultaneously took the controls and applied max reverse thrust and braking, stopping short of 22L. We taxied into the gate with no further issues. I filled out a report and noticed I had never sent the response to accept the amendment for adding the MEL when reviewing the messages. I called dispatch and the dispatcher confirmed they never received an affirmative response to the amendment over ACARs. Suggestions: For taking off without the amendment, I need to go a bit slower and be sure I comply. I counseled the FO to not push through the detent on takeoff (it was the first time I've seen it done) and to push them up slowly so the AT has a chance to grab. For the altitude deviation I counseled the FO to fly the plane first, overriding as necessary and then we can check the modes and to not be over-reliant on the automation.

Narrative: 2

Taxied out to runway XX flight attendants called up stating an issue with the seat back. We pulled to the deice pad and wrote up the issue. Then applied a crew applied MEL for the issue. After completing those paperwork items we taxied to the runway we were given

a takeoff clearance with an aircraft on a 4 mile final on the other runway. The captain pulled the aircraft onto the runway with engines spooled. I then took the trust levers and flight controls. I continued the advancement of the throttles and accidentally went past TOGA. The pilot monitoring noticed the issue and corrected the issue. We cleaned the airplane up and engaged automation. However at approximately 5,500 feet we were given a level at 6,000 feet when originally given 7,000 and a direct to a fix. I dialed in the altitude to make sure it was set at 6,000 before the aircraft was above that altitude. Instead of watching the level off to ensure the automation did it correctly I went into the box to get the aircraft flying direct to the fix and the aircraft went to around 6200 feet before leveling at 6000. Also, we were given an altitude at cruise where the controller mentioned if we were starting down to that altitude and we had not yet and he instructed to start the descent at that point which we complied with. On landing we were given a hold short of runway 9. The touchdown was uneventful and I applied braking and reverse to comply with the hold sort of runway 9. Shortly after that the captain join the controls and said my controls. He braked heavily and stopped the aircraft. Further stating that the piston Cessna on 22L appeared to move and we stopped just short of 22L. We then taxied off clear of the runway and continued taxiing uneventfully to the gate. Suggestions: Not letting things compound starting with the maintenance issue than the takeoff clearance where I should have taken my time after reading back the takeoff clearance before receiving control and taken more time during throttle advancement to ensure it was done smoothly and does not exceed TOGA. Also, to pay closer attention to altitude clearances and closer attention to the automation to ensure the aircraft meets the altitude clearances without deviation from those clearances.

Synopsis

Air carrier crew reported a conflict with another aircraft while landing. The Captain identified the other aircraft taking off on the crossing runway and braked hard on landing rollout to remain short of the conflicting aircraft.

ACN: 2090284 *(27 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 500

Environment

Flight Conditions : VMC
Weather Elements / Visibility : Windshear
Weather Elements / Visibility : Turbulence

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Taxi
Make Model Name : EMB ERJ 135 ER/LR
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 135
Flight Plan : IFR
Flight Phase : Initial Climb

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Taxi
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 2090284
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Ground Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Regained Aircraft Control

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

High gusty surface winds all day, northwesterly gusting to 37kts. Moderate to severe on arrival on ZZZZZ. On taxi out surface winds switched to southeasterly, 10 to 15 kts. Taxied out to Runway XXL for departure. Two aircraft arrived as we were awaiting our flow time to ZZZ1. One a Mooney landing on YYR, one a Cessna 340 landing on XXL, with difficulty in gusty conditions. Tower winds were initially from different directions at different locations on the airport. Our flow time came for our take off. Surface winds were now more unison in direction and velocity from the southeast. On take off roll, First Officer (FO) had trouble staying on the centerline due to gusty conditions, but did manage throughout the take off roll. FO held the aircraft on the runway for a higher lift off speed due to the gusty conditions. Once airborne and about 500 ft. we get the "WINDSHEAR" warning with moderate to severe turbulence. Together FO and I execute the escape maneuver, autopilot off, full power and pitch high, unable to level off under these conditions at assigned altitude of 8000 ft. we finally get control of the aircraft climbing through 8600 ft. Reported the altitude deviation due to WINDSHEAR, with ZZZ Departure on frequency XXX.X. Moderate turbulence through 14,000 then better above 20,000 ft. Cause: WINDSHEAR Suggestions: Waiting even longer after the surface winds showed uniform direction and velocity around the airport. Crew team work mentioned above just to emphasize the quick and correct response from both of us.

Synopsis

Embraer-135 Captain reported a windshear warning during climb resulting in an altitude exceedance in gusty visual conditions. The crew performed the windshear escape maneuver and safely continued the climb out with no injuries.

ACN: 2089522 *(28 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US
Altitude.MSL.Single Value : 3000

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 9999
Light : Daylight
Ceiling : CLR

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Military
Make Model Name : Light Transport, Low Wing, 2 Turboprop Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 135
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Approach
Route In Use : Vectors
Airspace.Class E : ZZZ

Aircraft : 2

Reference : Y
ATC / Advisory.Tower : ZZZ
Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer
Airspace.Class E : ZZZ

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Military
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 2089522
Human Factors : Communication Breakdown
Human Factors : Situational Awareness
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.ATC Issue : All Types
Anomaly.Conflict : NMAC
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Detector.Automation : Aircraft RA
Detector.Person : Flight Crew
Miss Distance.Vertical : 200
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Software and Automation
Primary Problem : Human Factors

Narrative: 1

While under positive control receiving radar vectors to ZZZ 1:35 minutes into our flight at 3,000 ft MSL with a heading of 011 going 190 MPH. We overheard ATC talking to another aircraft in our vicinity, the other aircraft was directed to maintain 3,500 ft MSL and maintain current heading. On TCAS, we monitored an aircraft with a path directly opposite of our path (Heading directly toward our nose) enter into our 5 NM ring. ATC did not mention the aircraft nor let the other aircraft know we were on a path just off their nose. The TCAS system gave us a resolution advisory with direction to descend immediately. The Pilot on the controls disengaged the autopilot system and dove approximately 300 feet to react to the advisory. We immediately notified ATC that we were responding to an RA and were now going back to our assigned heading and altitude. ATC acknowledged the RA situation and told us to report when completed with the RA. The rest of the flight was un-eventful, and we safely landed at our destination. Immediately after landing the pilot and Co-pilot debriefed the situation and came to the conclusion that ATC never alerted either aircraft to the converging traffic.

Synopsis

Military crew reported a near miss and TCAS RA with another aircraft while under ATC control. The pilot maneuvered the aircraft, following the TCAS RA guidance then landed safely.

ACN: 2089293 *(29 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 1500

Environment

Flight Conditions : VMC

Aircraft : 1

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B737 Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Final Approach
Route In Use : Visual Approach

Aircraft : 2

Reference : Y
ATC / Advisory.Tower : ZZZ
Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Last 90 Days : 80.7
Experience.Flight Crew.Type : 329.82
ASRS Report Number.Accession Number : 2089293
Human Factors : Human-Machine Interface
Human Factors : Situational Awareness
Human Factors : Confusion

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Last 90 Days : 63.48
Experience.Flight Crew.Type : 181.08
ASRS Report Number.Accession Number : 2089303
Human Factors : Situational Awareness
Human Factors : Confusion
Human Factors : Human-Machine Interface

Events

Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Automation : Aircraft RA
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Overrode Automation
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Company Policy
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Procedure

Narrative: 1

Was vectored onto XXR approach by air traffic control and was asked if we saw the parallel traffic on XXL. We confirmed and at that point we were cleared the visual on XXR. Was coming on final approach to runway XXR on the visual and at 1500 ft AFE (Above Field Elevation) right at the final approach fix of ZZZZZ after being established for approximately 3-4 miles, we received the TCAS RA to descend. We advised Tower that we were responding to a TCAS RA and they said to let them know if we break off the approach. We rode the TCAS RA all the way down to approximately 600 ft. AFE and with the RA flying us towards the ground without turning off we decided to go to TA only as the aircraft that was causing the RA was stable and no where near our flight path so we could land uneventfully. What bothered us the most is that if we happened to have been IMC on an approach. Would the TCAS RA have went away? Technically we could have not executed a go-around in this scenario with a descending RA. We never heard any calls from the other aircraft.

Narrative: 2

On a vector to final for Runway XXR we got a traffic callout for the parallel runway from Tower. We had them in sight and continued the approach. While intercepting final we got a RA. The RA directed a decent. We complied with the RA and notified Tower. The RA directed a decent. The other aircraft was flying down the glide slope, so RA continued directing a shallow decent. At 1,000 ft. we turned the TCAS to TA only since the RA was directing us into the ground. We landed uneventfully.

Synopsis

B737 air carrier crew reported a TCAS RA command to descend on final approach due to aircraft established on the parallel runway. The Captain followed the TCAS descend command until a minimum altitude then selected TCAS TA only and continued to a safe landing.

ACN: 2089081 *(30 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US

Environment

Flight Conditions : IMC
Weather Elements / Visibility.Visibility : 5
Ceiling.Single Value : 800

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : Regional Jet 900 (CRJ900)
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Approach
Airspace.Class B : ZZZ

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Type : 1600
ASRS Report Number.Accession Number : 2089081
Human Factors : Workload
Human Factors : Distraction
Human Factors : Situational Awareness

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Type : 875
ASRS Report Number.Accession Number : 2089077
Human Factors : Fatigue
Human Factors : Distraction
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Became Reoriented

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

While on the ZZZZZ arrival into ZZZ we were cleared for the ILS [Runway] XXR. The arrival leads directly into the ILS XXR. We flew the arrival in white [needles] (FO (First Officer) was PF (Pilot Flying), I was PM (Pilot Monitoring)) and once we intercepted the final approach course switched from FMS to HDG (Heading) mode, sequenced the approach and then switched to green needles and hit approach mode. We were in IMC (ceilings were at 800 ft. and vis was 5 miles) After a few seconds I realized that we must have gotten pushed by the wind when we switched to HDG mode and were no longer on the LOC, just paralleling it, I called it out and the FO adjusted our heading bug to better intercept the LOC. The GS had begun to come in so we started to descend (by hitting VS) to stay close to that until the LOC was captured. This was right around the final approach fix. We had already configured and gotten clearance to land. At this point the plane still hadn't officially captured the LOC so the FO turned off the autopilot and started to hand fly. I bugged 3,000 ft for our missed approach. We received a "Glideslope" aural and I realized we had gone below the GS, I called that out and the FO began to level off to correct it. At this point our airspeed had started to bleed off. I called that out and the FO corrected. We then broke out around 700 or 800 ft. Right around this time the LOC started to deflect, the runway was in sight and off to our left. We corrected and landed normally. In hindsight I should have called a go-around. There were too many factors working against us and I shouldn't have allowed that approach to continue as it did. I also forgot to make the 500 ft call out because I was so distracted by everything else happening. Everything was going well until we didn't capture the LOC when switching from white to green needles, that started a chain reaction of us being behind the aircraft. I should have called a go-around when that happened. Suggestion: To always stay ahead of the aircraft and be extra cautious when switching from white to green needles. To call a go-around when things start to go wrong, especially that close to the ground in IMC. I should not have let that approach continue.

Narrative: 2

On approach into ZZZ on Day 0, when switching from white to green needles, the course didn′t capture. Autopilot was disconnected, and restabalized by 700 feet on the course and GS. On approach, we had a direct crosswind. When we lined up with the final approach course and went to green needles VIA heading mode, we did not intercept the course. We realized when we tried to catch up with GS, as it did not capture and we became low on the GS after being high. I disconnected the autopilot, reintercepted course. We received a GS warning during which we leveled off until it became alive and we followed it back to the ground. We broke out of clouds around 800 feet and we′re visually able to confirm we were aligned with the runway and had two red two white on the PAPI. During debrief, we said that either of us should have called a go-around, even if we did meet criteria that we had stabilized by 500 feet and had visually confirmed at 800 feet. Suggestions: When switching from white to green, visually ensure that the course has been intercepted. Don′t assume that just because we were aligned in one mode, we will be aligned in another. When at the FAF, should decide to go around instead of trying to make an S turn to reintercept course.

Synopsis

CRJ-900 flight crew flew an unstabilized approach while in IMC.

ACN: 2089069 *(31 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : SDF.Airport
State Reference : KY
Altitude.MSL.Single Value : 3000

Aircraft

Reference : X
ATC / Advisory.TRACON : SDF
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Approach
Airspace.Class C : SDF

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 2089069
Human Factors : Communication Breakdown
Human Factors : Situational Awareness
Human Factors : Workload
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Returned To Clearance

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

Approach cleared us for and approach, later issue us clearance for the approach and to cross the IAF at a lower altitude than what it's depicted and to expedite the descend. To comply with the clearance I started and expedited descend to comply with the new clearance. I selected the FAF altitude pre-select which was 500 ft. bellow the penultimate fix and during the descent trying to comply with the altitude for the IAF I descended bellow the penultimate fix, but not bellow the FAF. We saw we were descending and immediately stop the descend and regain appropriate altitude. No issues after that and continue with the approach. Cause: Attempting to comply with conflicting instructions at a high area of work. Not identifying future conflicts with the clearance. Improper FMS mode and work saturation. Suggestions: If unable to meet desired outcomes inform ATC immediately. Do not accept clearance that might create a hazard. Better crew communications. Not utilizing the proper flight mode to protect my altitudes and restrictions.

Synopsis

Air Carrier First Officer reported they descended below their cleared altitude during approach to SDF resulting in a CFTT event before climbing back to the appropriate altitude.

ACN: 2088730 *(32 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : JAC.Airport
State Reference : WY
Relative Position.Distance.Nautical Miles : 20
Altitude.MSL.Single Value : 13000

Aircraft

Reference : X
ATC / Advisory.Center : ZLC
Aircraft Operator : Air Carrier
Make Model Name : Medium Large Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : GPS
Flight Phase : Descent
Airspace.Class E : ZLC

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 2088730
Human Factors : Communication Breakdown
Human Factors : Confusion
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 2088737
Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation - Altitude : Crossing Restriction Not Met
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Automation : Air Traffic Control
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Chart Or Publication
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Procedure

Narrative: 1

On Day 0, I was Captain on Aircraft X ZZZ to JAC. JAC was landing north using Runway 01 and our filed flight plan had us filed to DNW, which is north of the airport. After passing CKW on the flight plan, we requested a descent to get lower as we did not expect to fly all the way to DNW. During our descent into JAC, we were cleared direct to the JOGOX intersection, while descending down to FL200. During our descent, we were cleared by ATC for the RNAV X Runway 01 approach into JAC. We were then given a descent to 13000 feet. We were level at 13000 feet with the Approach mode armed on the FMA with APP NAV showing. About 20 miles prior to JOGOX, the APPR mode captured FINAL APP and initiated a descent via the Multipurpose Control Display Unit (MCDU) profile. While level at 13,000 feet, the First Officer (FO) Pilot Flying (PF) had set 9,500 feet in the altitude window, which the altitude at the ZUGEN FAF. At 12,500 feet, ATC (Salt Lake Center XXX.XX) issued a low altitude alert and instructed us to climb to 13,000. The FO (PF) disconnected the autopilot and immediately climbed back up to 13,000 feet. ATC cleared us again for the RNAV X 01 approach with the restriction of crossing JOGOX at 13,000 feet. Before handing us off to JAC Tower, we were informed of a possible pilot deviation and given a phone number to call. After arriving at the gate, I called the number and spoke with someone. Discussing the issue after the call, my FO and I believe that there may have been either a frequency change or a Controller change between the two approach clearances. We believe that this may have led to the confusion regarding being cleared to descend via the approach. The weather was VMC the entire time and I had visual contact with the airport and surrounding terrain. Both pilots had their Terrain Displays active and at no time was any yellow or red terrain depictions observed. Cause: I would say that a causal factor could be that there is no "hard" altitude at any of the IAF's for the approach. Being on a vector direct to JOGOX versus having a STAR procedure with a bottom altitude is also a factor. A "hard" altitude at the IAF's would be a way to trap this potential error. Suggestions: With no STAR for a descent profile, a "hard" altitude at the IAF's would be a way to trap this potential error.

Narrative: 2

While operating Aircraft X from ZZZ to JAC on Day 0 we were instructed by Salt Lake Center to climb due to a low terrain warning on arrival decent into Jackson. I was the pilot flying during this leg. Jackson airport was landing 01 at the time. Our flight plan had a final fix before the airport as DNW. This fix is NW of the airport and is an unlikely fix for a Runway 01 landing. Due to the landing direction the Captain (CA) and I requested a lower altitude to compensate for the inevitable change of routing. We were given a decent to FL200 and direct to JOGOX for the RNAV X Runway 01. While in the decent to FL200 we were cleared down to 13000 and cleared for the RNAV X 01. The CA read back the clearance and I set 13000 ft. in the altitude selector. Once we leveled at 13000 ft. I began to slow the aircraft down to 210kts for the restriction at JOGOX, set 9500 in the altitude selector, and armed the approach. The aircraft intercepted the path and started a slow decent. Around 12500 ft. we received a transmission for Center about a low altitude alert and advised us to climb immediately. I disengaged the autopilot and started a climb to 13000 ft. The CA set the altitude selector to 13000 ft. and gave me a vertical speed climb. At the time the Controller issue a new clearance to cross JOGOX at 13000 ft. cleared for the RNAV X 01. I programmed 13000 ft. into the FMS for the requested crossing altitude at JOGOX, and rearmed the approach. Before our hand off to Tower the Center Controller advised us that there may have been a pilot deviation and gave us a number. We landed and taxied to the gate without incident in JAC. Once our post-flight duties were complete the CA called Center to discuss the situation. The weather was VFR and we had the airport in sight before the low altitude alert call from Center. At no time did we receive at aural alert about terrain or see anything other than green on our terrain displays. The CA and I think there may have been a Controller change or frequency change between the two approach clearances, but I am unable to recall with certainty. We are certain that we did not read back a crossing restriction on the first approach clearance we received. Cause: Miscommunication of intended ATC instructions. Non standard transition to the IAF of JOGOX charted at 11700 ft. Suggestions: I believe the approach clearance should have been given closer to the field. ATC gave us the initial clearance for the RNAV X 01 over 40 miles out over mountains terrain. If given the 13000 ft. direct to TUVOC it could elevate some of the misunderstanding and give more time for a decent.

Synopsis

Air carrier flight crew reported clearance confusion by ATC resulted in a low altitude alert and a CFIT event.

ACN: 2087795 *(33 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : MIA.TRACON
State Reference : FL
Altitude.MSL.Single Value : 2300

Environment

Flight Conditions : Mixed
Weather Elements / Visibility : Turbulence
Weather Elements / Visibility : Windshear
Weather Elements / Visibility.Visibility : 8
Light : Daylight
Ceiling.Single Value : 2000

Aircraft

Reference : X
ATC / Advisory.Tower : FLL
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use.Localizer/Glideslope/ILS : ILS 10R
Flight Phase : Initial Approach

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 2087795
Human Factors : Communication Breakdown
Human Factors : Situational Awareness
Human Factors : Workload
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier

Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
ASRS Report Number.Accession Number : 2087819
Human Factors : Situational Awareness
Human Factors : Communication Breakdown
Human Factors : Confusion
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Speed : All Types
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Ground Event / Encounter : Loss Of Aircraft Control
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Executed Go Around / Missed Approach
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

Had flown a reroute for an arrival arriving from the west coast of Florida and also held on the TEEKY arrival over PCOCK less than a full turn. ATC had cleared other aircraft to FLL ahead of our flight. At 2300 ft., we were flaps 3 and landing gear down, when another aircraft had landed told FLL Tower they had severe turbulence at 2000 ft. Our aircraft was descending on the ILS and about the time we heard the information from the previous aircraft, our aircraft had a rapid trend indication downward below V l/s. A go around was initiated and we, too, experienced the severe turbulence during this phase, at least twice. There was never any wind shear warning or caution however the Autopilot disconnected itself due to the turbulence. It was a team effort between the Captain and me to get the aircraft stabilized and took a few minutes to accomplish. During the recovery time, we gained approximately 1700 ft. above the go around altitude and had to seek relief for altitude deviation and also had rapid airspeed acceleration above 250 kts. below 10,000 ft. I had to ask ATC to standby at least once, maybe twice, so that we could rebuild all the automation and get the aircraft stabilized from the turbulence and go around procedure. We did not have any over speed of flaps or gear during the recovery phase. Cause: Severe turbulence not previously reported prior to starting arrival Solution: The recovery phase after the short timeframe of notification and startle factor was VERY different in the actual aircraft from what is done in the sim training phases of recurrent training with regards to

having severe turbulence at a final approach altitude. Maybe a training scenario to help with possible future events like this would help. (Ex- you're at the altitude, when you experience the severe turbulence in solid IMC, that is also your missed approach altitude and initiating TOGA and the Autopilot disconnecting itself from the turbulence.)

Narrative: 2

We were inbound to FLL, current adis was broadcasting XA:01, 150 11 kts 8sm -RA Sct 1200 Bkn 2000. We briefed the ILS 10R discussed landing distance and weather and decided to do a Flaps 3 landing. On approach we were getting plus and minus 10 kts. and requested 170 kts. speed, Tower said maintain 170 kts. until a 5 mile final. At 2300 feet we were given an ATC report from previous aircraft encountering severe turbulence at 2000 feet. When we received the report we were already starting to encounter the severe turbulence. We initially lost approximately 40 kts., We executed our wind shear recovery. We were in and out of the severe turbulence in the go-around, we recovered around 3500 feet we were then given 3000 and a heading by ATC. We assessed our fuel situation and weather in FLL and elected to proceed to our alternate airport of ZZZ1, Cause: I definitely had a startle factor. The weather being provided didn't match the actual conditions on the field. Had I known there was severe turbulence on the approach I would not had attempted the approach. We also would've briefed and reviewed the wind shear recovery procedures before entering the terminal area. Solution: I feel if we would have been given timely updates on the weather conditions, example severe turbulence by preceding aircraft at 2000 feet sooner not at 2300 feet. This could be helpful. If atis was updated with the actual conditions, this would have better prepared us for the actual conditions of the approach. In the future I will review the wind shear recovery anytime there is rain showers and gusty winds in the terminal vicinity.

Synopsis

Air carrier crew reported severe turbulence and an unstabilized approach when on the initial approach which resulted in altitude and speed exceedances. The crew performed a missed approach and diverted to an alternate airport.

ACN: 2087736 *(34 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : TYS.TRACON
State Reference : TN
Altitude.MSL.Single Value : 3700

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Night
Ceiling : CLR

Aircraft

Reference : X
ATC / Advisory.TRACON : TYS
Aircraft Operator : Air Carrier
Make Model Name : Medium Large Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Approach
Route In Use : Visual Approach

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 2087736
Human Factors : Communication Breakdown
Human Factors : Human-Machine Interface
Human Factors : Situational Awareness
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Automation : Aircraft Terrain Warning
Detector.Person : Flight Crew

When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Software and Automation
Contributing Factors / Situations : Procedure
Primary Problem : Human Factors

Narrative: 1

We were approaching TYS from the South when Approach turned us to a heading of 314 and cleared us to descend to 6000 feet. I briefed the approach as a VFR approach backed up by the RNAV 5R. Weather was CLR skies and better than 10SM at altitude. I had the Terrain Mode on which was part of my brief going into TYS. We were 12NM from the FAF VOYUR on the approach when ATC asked if we had the Airport in sight. We did have the airport in sight. Then ATC cleared us for the a VFR approach 5R. I then went direct to the FAF and select 3000 ft for the altitude and FLCH. Our speed was 210. The rate of decent was 1000-1200fpm. On the MFD the TERRAIN Mode was displaying low-density green dots ahead of us. The visibility was good and we see the lighted tower on the last ridge line to cross before the valley. The highest point on the ridge line on the was 2817msl (which was a tower). After passing at around 3,700ft we got the audio and message on the MFD for terrain. I then shallowed out the rate of descent to 500-600fpm. Message went away. TERRAIN mode on the display was still showing low-density green dots and looking outside we could see we were passing over the ridge line. Then we got a TERRAIN, PULL UP audio. I kicked off the AP, and started to climb. After climbing for about 5 seconds the audio stopped. Leveled off at 3,500ft. There was no indications of any RED or AMBER dots of the MFD in TERRAIN Mode. ATC also didn't warn us that we might have been to low in that region. We contacted ATC after the level off. ATC replied that the terrain we just crossed was 2000msl. Once over the valley we then continued our approach and landing with incident. Cause: Descending to early in a high terrain area and descending at to high of a rate contributed to GND PROX warning. Solution: Delay top of descent till you know you are clear of terrain. If not sure ask ATC what's the MVA altitude in the area you're flying through. And if necessary, ask for vectors to help descending to a lower altitude for a better stabilized approach.

Synopsis

Air carrier Captain reported GPWS terrain warning while descending at a high rate, on a visual approach at night, in mountainous terrain. The Captain started a climb until the warning stopped then continued the approach to landing.

ACN: 2087653 *(35 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Angle.Radial : 010
Relative Position.Distance.Nautical Miles : 3
Altitude.MSL.Single Value : 1200

Environment

Flight Conditions : Mixed
Weather Elements / Visibility : Turbulence
Weather Elements / Visibility : Windshear
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 1300

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Corporate
Make Model Name : Citation II S2/Bravo (C550)
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Personal
Flight Phase : Final Approach
Airspace.Class D : ZZZ

Component

Aircraft Component : Autoflight System
Aircraft Reference : X
Problem : Malfunctioning

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Corporate
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Function.Flight Crew : Captain
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Rotorcraft
Qualification.Other

Experience.Flight Crew.Total : 12000
Experience.Flight Crew.Last 90 Days : 25
Experience.Flight Crew.Type : 3000
ASRS Report Number.Accession Number : 2087653
Human Factors : Fatigue

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Automation : Air Traffic Control
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Regained Aircraft Control
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

Encountered windshear and severe turbulence nearing the final approach fix for the GPS-LPV Runway XXR approach. Simultaneously: 1. Aircraft dropped 250 ft. 2. LPV glideslope dropped off display 3. Autopilot disconnected 4. Aircraft entered VMC Prior to keying the mike to advise Tower of our situation, the Controller issued a "low altitude alert". We advised him we were cancelling IFR and landed uneventfully in 27 knots of wind that varied from ten to forty degrees from the left. The Tower Cab Controller working Ground Control gave us taxi clearance to parking. We discharged our passenger, received our outbound IFR clearance from the same Ground Controller, and proceeded to our next destination. No request to call ATC, but we should have reported our turbulence encounter for the record. No other recommendations. It was our fourth segment of the day, so fatigue may have been a factor.

Synopsis

Cessna Citation 560 Captain reported receiving a low altitude alert from ATC while on final approach in windshear and severe turbulence conditions. The Captain continued the approach and landed safely.

ACN: 2087166 *(36 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Altitude.MSL.Single Value : 36000

Environment

Flight Conditions : VMC
Weather Elements / Visibility : Turbulence
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B737 Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Cruise
Airspace.Class A : ZZZ

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Last 90 Days : 170.68
Experience.Flight Crew.Type : 427.95
ASRS Report Number.Accession Number : 2087166

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action

Result.Flight Crew : Regained Aircraft Control
Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Weather
Contributing Factors / Situations : Software and Automation
Primary Problem : Weather

Narrative: 1

Enroute from ZZZ - ZZZ1 we experienced severe turbulence during cruise. We saw reports of turbulence via the app so the passengers and flight attendants were all seated before we encountered the turbulence. The aircraft began rolling right then left up to 30 degrees of bank each direction. Minimal airspeed and altitude was gained/lost but the roll was enough to disconnect the autopilot automatically. The Captain assumed control of the aircraft and I notified ATC of the turbulence. We were given an immediate descent clearance to FL320 and the rest of the flight was uneventful. Captain made an ELB (Electronic Logbook) entry after the event for Maintenance to inspect the aircraft. No one was injured and the aircraft experienced no structural damage.

Synopsis

B737 First Officer reported experiencing severe turbulence during cruise that resulted in the autopilot disconnecting with slight airspeed and altitude deviations. There was no damage to the aircraft and no injuries to any persons. The flight continued uneventfully.

ACN: 2086978 *(37 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 0001-0600

Place

Locale Reference.Airport : PHX.Airport
State Reference : AZ

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : P50
Aircraft Operator : Air Carrier
Make Model Name : A330
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Descent
Airspace.Class B : PHX

Aircraft : 2

Reference : Y
ATC / Advisory.TRACON : P50
Make Model Name : Commercial Fixed Wing
Flight Plan : IFR
Airspace.Class B : PHX

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 2086978
Human Factors : Situational Awareness
Human Factors : Human-Machine Interface
Analyst Callback : Attempted

Events

Anomaly.Deviation - Altitude : Crossing Restriction Not Met
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Became Reoriented

Assessments

Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Human Factors

Narrative: 1

On the HYDDR 1 arrival with a 25L transition, I selected 250 KTS and requested to activate the APPR PHASE at around 10,000 feet. Concurrently, we encountered unusually strong wake turbulence lasting for several minutes. Two to three miles prior to CHAVO intersection, we noticed the aircraft was not leveling off at the 9000 foot crossing restriction. We then noticed the aircraft was in OPEN DESCENT. I immediately corrected back to the appropriate altitude. During the correction, we dipped approximately 400 feet below the appropriate altitude. This altitude diversion did not cause any conflict with any other traffic and ATC did not mention the deviation

Synopsis

A330 Captain reported descending below an altitude restriction on descent into PHX after encountering wake turbulence.

ACN: 2086813 *(38 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZAB.ARTCC
State Reference : NM
Altitude.MSL.Single Value : 22000

Environment

Weather Elements / Visibility : Turbulence
Light : Night

Aircraft

Reference : X
ATC / Advisory.Center : ZAB
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Cruise
Airspace.Class A : ZAB

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Other / Unknown
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 2086813

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Speed : All Types
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Regained Aircraft Control

Assessments

Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

Flying ZZZ to Los Angeles, moderate turbulence was reported and experienced at almost all flight levels. At FL220 over FST we had occasional light chop. We were given a PIREP of severe turbulence at FL220, 40 miles north of FST. At this point the flight attendants were seated as a precaution and a please be seated PA was made. As we were investigating other altitudes from ATC we experienced approximately 10 seconds of severe turbulence over FST with the aircraft gaining 30 kt. and climbing approximately 380 ft. The autopilot stayed engaged. All passengers and crewmembers were seated with no injuries or damage to the cabin. We experienced no systems or aircraft malfunctions. The severe turbulence was reported to ATC and Dispatch. We continued with an uneventful flight to LAX and a logbook entry was made.

Synopsis

Air carrier pilot reported experiencing severe turbulence at cruise with airspeed and altitude deviations. The reporter indicated all crew and passengers were seated and no aircraft damage or injury occurred. The flight continued to destination.

ACN: 2086759 *(39 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US

Environment

Weather Elements / Visibility : Turbulence
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Cruise
Airspace.Class A : ZZZ

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 2086759
Human Factors : Communication Breakdown
Human Factors : Situational Awareness
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine

ASRS Report Number.Accession Number : 2086768
Human Factors : Situational Awareness

Events

Anomaly.Flight Deck / Cabin / Aircraft Event : Illness / Injury
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Detector.Person : Flight Crew
Were Passengers Involved In Event : Y
When Detected : In-flight
Result.General : Physical Injury / Incapacitation
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Regained Aircraft Control
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Contributing Factors / Situations : Software and Automation
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

Aircraft X ZZZ - ZZZ1 encountered intermittent light to moderate turbulence not associated with a weather system during the first half of the flight. Turbulence was being monitored by WSI, the app, in addition to talking with ATC. The Captain had the flight attendants sitting down until we were clear of the moderate turbulence. The passenger seat belt sign was on. Approximately 10 minutes after the flight smoothed out and both apps showed no further turbulence along with no reports from ATC for the remainder of our flight, the Captain called the Flight Attendants to allow them to resume their duties. The passenger seat belt sign was still illuminated. Five minutes later, 25 miles east of ZZZ2, after being in completely smooth air at 25,000 ft. and a slower airspeed of 270 - 280 KIAS the plane hit a pocket, 2 - 3 seconds of severe turbulence with a jolt that immediately kicked the autopilot off and sent our iPads to the ceiling and both the Captain and I were butt off the seat and seat belts holding us in place. The Captain recovered the aircraft, which had minimal loss of altitude during the event, and turned the autopilot back on. We were back in smooth air after those few seconds. The Captain attempted to call the Flight Attendants for several minutes until they answered. The #4 Flight Attendant was on an aft galley jump seat when the turbulence lifted them off the seat airborne then brought them back down onto the jump seat which hit their midsection. There was a doctor on board that was able to assist with [Flight Attendant] #4. ATC was notified of the severe turbulence with a Flight Attendant injury and Dispatch was called. The flight landed at ZZZ1 about 30 minutes later with medical personnel standing by which took [Flight Attendant] #4 to the hospital. Due to the flight attendants performing their duties after a severe turbulence event the information was slow to make it to the cockpit. The Captain and I determined the quickest course of action was to continue to ZZZ1 executing the straight in approach that was already set up. Cause: Severe Turbulence that was not forecast and not reported by ATC. Suggestions: As technology advances and newer weather satellites are launched, provide better real time forecasting available to pilots.

Narrative: 2

During preflight briefing, I informed Flight Attendant Number 1, and Flight Attendant Number 4, who was present for part of it. I don′t recall when they arrived to take part and Flight Attendant Number 2, had not arrived yet. I showed Flight Attendant Number 1 the WSI [app] turbulence plot and expected it to start about 45 minutes into the flight. I told them I′m very cautious when it comes to turbulence with them and like to have them seated when I′m aware of it being a factor. I tell every crew that I don′t want them to remember my face because someone was injured in a turbulence event. Turbulence started a little sooner than I thought and we began moderate turbulence procedures, prior to encountering the moderate, which had pockets and lasted about 30 minutes. FO (First Officer) was using the application and I had the WSI turbulence plots on our iPads at the same time, so we could evaluate what altitudes at what locale were better. Aircraft were asking Center for better rides all over southern State 1 and west State 2, due to a strong jet stream. There was no convective activity associated with the moderate turbulence. The skies were clear and no weather phenomena was observed to alert us to any possible turbulence. FO and I made a plan around the halfway point to descend from FL290 to FL250, due to the turbulence plots on both apps and took the slower speeds, in case we encountered the moderate turbulence other aircraft were experiencing. I believe the cruise speed at FL250 was 270 - 280 KIAS. There was no convective activity associated with the turbulence. We were east of ZZZ2 and having been in smooth air for 5 to 10 minutes and consulting the WSI and applications, which indicated all clear of turbulence at all levels, I called the Number 1 FA (Flight Attendant), and told them I was leaving the seat belt sign on for a while longer, but if they needed to resume their duties just be careful, but all indications were a smooth flight ahead. A few minutes later we experienced severe clear air turbulence, about 2 seconds in duration, which was enough to turn off the autopilot, throw our iPads out of their cradles and lift us up in our seats against the lap belts. I gained control, climbed the 100 ft. back to FL250 and selected the autopilot back on. It took a few minutes to regain communication with the cabin, which was very worrisome and seemed like an eternity. We were close to starting down on the star when we received the initial report of no injuries. FO reported the event to ATC and then took over flying duties and the radios, so I could call and alert Dispatch and Maintenance Control, through the crew phone. We also informed ATC about no injuries. I resumed flying duties, FO radios, when we were informed of Flight Attendant 4 injury. I don′t recall how far down the arrival we were and the severity of the injury was not known. I asked Flight Attendant 1 if medical personnel were onboard and they were checking. I didn′t know the severity of the injury, so we were waiting for more information before asking for an incident report and [requesting priority handling]. We were also descending on the STAR to ZZZ1, but did ask for medical to be standing by upon arrival with both ATC by radio and Dispatch via ACARS. Dispatch asked for their name and age. After landing and shutting down at gate in ZZZ1, I went to the back to check on Flight Attendant 4 and see if I could assist before the EMTs made it onboard. This is when I found out a paramedic [a passenger], was attending to Flight Attendant 4. EMTs came onboard, while passengers remained seated and took them out via aisle chair and wheel chair to the terminal. We went to the hotel and I tried for an hour to get the name of the hospital they were taken to, so I could sit with them and bring their bags, if they needed to stay overnight. That information was not given, due to privacy concerns. The Duty Pilot informed me someone from the station was going to stay with and assist them. They also asked if I would take their bags to their room, which I did and left the key at the front desk. Cause: Severe clear air turbulence. Suggestions: I know of none, other than not having cabin service. We followed our SOPs, training and continuous evaluation of the turbulence plots to find the safest and most comfortable ride for all of us. This was a busy flight prior to the event. We were in light turbulence and using our tools, were able to implement moderate turbulence procedures, prior to encountering the moderate ride. Fortunately, none of our passengers or other crew were injured.

Synopsis

Air carrier flight crew reported severe turbulence at cruise altitude resulted in an altitude deviation and a Flight Attendant injury. The Captain recovered the aircraft and continued to destination where medical personnel met the flight.

ACN: 2086578 *(40 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 0001-0600

Place

Locale Reference.Navaid : ZZZ.VORTAC
State Reference : US
Relative Position.Distance.Nautical Miles : 10
Altitude.MSL.Single Value : 25000

Environment

Weather Elements / Visibility : Turbulence
Light : Night

Aircraft

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : B737-800
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Cruise

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
ASRS Report Number.Accession Number : 2086578
Human Factors : Communication Breakdown
Human Factors : Situational Awareness
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Flight Attendant

Events

Anomaly.Flight Deck / Cabin / Aircraft Event : Illness / Injury
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Speed : All Types
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Detector.Person : Flight Crew
When Detected : In-flight

Result.General : Physical Injury / Incapacitation
Result.Flight Crew : Regained Aircraft Control

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

Encountered unforcasted severe turbulence at FL 250. On the flight from ZZZ1 to ZZZ2, there were multiple reports of turbulence along our route of flight at various altitudes. No convective activity was present, and it was a relatively clear evening. I was the Pilot Flying. Our flight plan called for an initial cruise at FL310 until ZZZ VOR and then a climb to FL370. The first third of the flight was relatively uneventful with the ride fluctuating from smooth to light chop. During this time our Flight Attendants were able to perform their service, while the seat belt sign remained on to keep the isle clear. As we approached ZZZ, ZZZ3 was indicating turbulence (light to moderate chop) from FL250 up to and including FL370. Due to the aircraft weight and other pilot reports, the Captain and I elected to descend to FL250. After leveling, the ride still consisted of light chop, and we advised the Passengers and Flight Attendants to remain seated. Nine minutes after level off, the aircraft abruptly experienced large pitch and attitude changes resulting in the immediate disengagement of the autopilot. The ride was so rough that I found it difficult to focus on the instruments and it was a continuous battle to keep the wings level and keep the aircraft from over speeding. The Captain requested lower and the turbulence did not let up until passing FL230. We leveled at FL190 and began to assess the situation. We were informed by our Cabin Crew that our B Flight Attendant was injured, as she was standing at the time of the incident but was stable. The D Flight Attendant stated that a Paramedic, and possibly a Nurse, was providing care but did not feel her condition warranted a diversion. We contacted medical services through the Company, and they agreed to have Paramedics meet her at the gate in ZZZ2. I want to applaud the Cabin Crew as they performed wonderfully following the event. They provided the Flight Crew with good information and remained calm and collected. The rest of the flight was to ZZZ2 was uneventful. Just a reminder to the flight attendants that if they are briefed to remain seated to continue to do so until after they have been given the all clear.

Synopsis

B-737 First Officer reported severe turbulence during cruise resulting in an altitude excursion and near over speed. A Flight Attendant in the cabin was injured during the turbulence and the flight continued to destination.

ACN: 2086529 *(41 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : P50.TRACON
State Reference : AZ
Altitude.MSL.Single Value : 12000

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : P50
Make Model Name : Light Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 1
Flight Plan : IFR
Flight Phase : Descent
Airspace.Class B : PHX

Aircraft : 2

Reference : Y
ATC / Advisory.TRACON : P50
Make Model Name : Light Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 1
Flight Plan : IFR
Flight Phase : Descent
Airspace.Class B : PHX

Person

Location Of Person.Facility : P50.TRACON
Reporter Organization : Government
Function.Air Traffic Control : Approach
Qualification.Air Traffic Control : Fully Certified
Experience.Air Traffic Control.Radar : 5
ASRS Report Number.Accession Number : 2086529
Human Factors : Troubleshooting
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : ATC
Communication Breakdown.Party2 : Flight Crew

Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Automation : Air Traffic Control
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Contributing Factors / Situations : Procedure
Primary Problem : ATC Equipment / Nav Facility / Buildings

Narrative: 1

Aircraft X called on frequency, and I assigned them to cross YOLOW at 7,000. Pilot read back cross YOLOW at 7,000. I called another aircraft (Aircraft Y) and told them that traffic was no factor, descend and maintain 6,000. Our radios are terrible on the sector (previously reported by me), and apparently Aircraft X read back maintain 6,000 instead of or at the same time as Aircraft Y. Aircraft X descended below the MVA by 200 feet, and said airport in sight. I just cleared the aircraft for the visual approach at that point (bypassing a safety alert as he was only few hundred feet below the MVA and had the airport in sight). I've previously asked that we add "EXPECT to CROSS YOLOW at 7,000" on the DSERT2 STAR as this altitude bust is a common problem but nothing has been done. Suggestions: Fix the radio issues at the sector so that coverage is better and it doesn't sound like an HF radio with a lot of garbled messages as well as add "Expect to cross YOLOW at 7,000" on the DSERT2 STAR.

Synopsis

P50 TRACON Controller reported very poor radio quality resulted in altitude readback error and a CFTT event.

ACN: 2085730 *(42 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 2000

Environment

Light : Night

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B767-300 and 300 ER
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Cargo / Freight / Delivery
Nav In Use : INS
Flight Phase : Final Approach
Airspace.Class D : ZZZ

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Check Pilot
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 2085730
Human Factors : Distraction
Human Factors : Fatigue
Human Factors : Human-Machine Interface
Human Factors : Workload
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Flight Crew

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Unstabilized Approach

Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Executed Go Around / Missed Approach
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

I was conducting OE with a new hire. We had briefed the go-around and talked about it again briefly on downwind. The FO (First Officer) did the RNAV XX. The missed approach altitude is 2,000 ft., and we were in a light airplane. The approach was excellent but he floated the landing so I called go-around and initially everything was going great. At 1,000 ft., he called FLCH set speed 190. It was a little disarming because until this point everything had gone so well. I looked down to switch us to Departure but before I made the call I looked up and saw we were at 1,500 ft., and climbing at an extreme rate with rapidly increasing airspeed. I immediately took the aircraft went to flight idle and executed a smooth pushover. We peaked about 300 ft., high. I established a slight descent, called for FLCH, flaps 5, climb thrust and called for the center Autopilot. I am keenly aware of the danger in handing the aircraft to the Autopilot out of trim but I must have. ZZZ Approach gave us 3,000 ft., so my eyes went up to the MCP (Mode Control Panel) to set that and initiate the climb. By the time my eyes got back to the instruments we were 300 ft., low and descending. I intervened again, the low point being almost 500 ft., low, ZZZ advised us we were descending along with a clearance to climb. The rest of the missed approach went without incident. I opted to fly the second approach. The FO quickly setup the RNAV XX and I briefed it. The second missed approach was completely my fault and I did something I have never done before. The final approach fix is at 1,700 ft., so we were configuring and slowing as the VNAV initiated the descent. At about 1,500 ft., I rolled up the altitude to set the missed approach. I'm not sure what caused the aircraft to go into VNAV SPD. I may have rolled up the altitude too slowly and the VNAV caught and went to VNAV SPD or maybe it was failing to re-cruise the box. I quickly tried to reselect VNAV thinking it would grab the glide path only to look down and see that we were not only in VNAV SPD but the glidepath was completely absent from the scale. I immediately went around without incident. During the go-around, ZZZ advised us we were low. Thankfully we had ample fuel due to unused contingency fuel and this was briefed on all 3 approaches. As for the first missed approach, I was disarmed by the fact that it started so well and I assumed he had it under control. When he called for "FLCH, set speed" my mind transitioned to, the [problem] is over, I can start getting caught up on other things. As for how we got low, I believe it was a confluence of a little adrenaline causing me to not notice the aircraft was out of trim coupled with a massive thrust change and bringing the flaps up to 5. It was too much for the Autopilot. As for the second approach, I'm not sure if it was setting the missed to slowly or failure to re-cruise that caused the box to go to VNAV SPD. We had VNAV PATH heading into the final approach fix and it was doing a great job descending on the approach until that point. As for how I got low on that approach, it's not hard to see how the aircraft would have descended below the path if the thrust never came back up from the slowing to final speed When the VNAV logic flipped and it initially went unnoticed because large speed and pitch changes are very normal in that phase of flight. Also, my eyes were away from the flight instruments during this

critical transition verifying the speed brake was armed and gear was down in addition to resetting the MCP. While I had rested optimally prior to starting my day, it was XA:30 and the second leg of the day so I think a little fatigue played a part here as well. I probably should have emphasized and pushed a new FO to visualize exactly how the missed would go, to include the need to proactively reduce thrust with a light aircraft and a low alt cap. That will be better emphasized in the future. This incident also highlights how a little adrenaline can influence my perception of things and cause me to miss things that I normally would be keenly aware of. I should have taken a deep breath before re-automating not after. It could have waited another 2 seconds in this scenario. I am wondering if it might be best to have the NFP (non-flying pilot) select the missed approach altitude so that the FP (flying pilot) can be completely on the flight instruments instead of having our attention divided at a time when we are low to the ground and headed down. Regardless of the cause and timing, I certainly would have noticed it sooner if my eyes were not on the MCP. I will also stop flying like a normal line pilot with new FO's. I need to be checklist complete before I hit the final fix, if at all possible. This series of events highlights the need for better FMA (flight mode annunciator) awareness, detailed briefing of cadence and the delicate balance of aviate, navigate and communicate. 3 times in 10 minutes-a quick glance away at the wrong time allowed deviations to be exacerbated.

Synopsis

B767-300 Check Airman reported on final approach the pilot flying and on an OE initiated a go-around and reporter took control of aircraft. On the second approach the aircraft was again unstable and the pilot flying did another go-around. The third approach and landing were successful.

ACN: 2085593 *(43 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : MIA.ARTCC
State Reference : FL
Altitude.MSL.Single Value : 41000

Environment

Light : Night

Aircraft

Reference : X
ATC / Advisory.Center : MIA
Aircraft Operator : Air Carrier
Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Cruise
Airspace.Class A : MIA

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : First Officer
Experience.Flight Crew.Last 90 Days : 110
Experience.Flight Crew.Type : 110
ASRS Report Number.Accession Number : 2085593
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Speed : All Types
Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Regained Aircraft Control
Result.Flight Crew : Overcame Equipment Problem

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

We were at cruise and everything had been going normal at FL 410. It was smooth air the entire flight and ATC had been telling us it would continue. We were cruising at .78 with good margin below the red tape when all the sudden we hit severe turbulence. I looked down and saw the speed tape trending toward and overspeed so I pulled the thrust levers back, at that point I also noticed we were climbing at a very fast rate and the airspeed was still trending in the upward direction. The aircraft was also put into roughly a 25 degree bank. The autopilot automatically kicked off just before I was disengaging it and the throttles myself. At this point we were at FL 415 and the clacker was going off due to the overspeed. I performed the upset recovery procedure and brought the plane back down to 410 and back to a speed of .76. I had never experienced anything like that in my career and the Captain also said he hadn't. It only lasted a few seconds and then the air was back to being smooth the remainder of the flight. We advised ATC of what happened. No one was up during this and no one was injured. We landed with no other issues. Location: Just past ZPLEN on the TEEKY arrival. Suggestions: Our Company was ahead of us by like 20 miles or so at the same altitude and had no issues. We seemed to be the only aircraft to encounter that at that altitude that might. I would say the only thing I can think of would be to not operate the aircraft at the max operating altitude to give a buffer for if this were to happen again, the aircraft doesn't go above that altitude.

Synopsis

First Officer reported loss of aircraft control and autopilot disengagement due to severe turbulence. Pilot performed upset recovery and flight continued.

ACN: 2085398 *(44 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Altitude.MSL.Single Value : 30000

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Turbulence

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : A300
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Cargo / Freight / Delivery
Flight Phase : Descent
Airspace.Class A : ZZZ

Component : 1

Aircraft Component : Hydraulic System
Aircraft Reference : X
Problem : Malfunctioning

Component : 2

Aircraft Component : Autopilot
Aircraft Reference : X
Problem : Malfunctioning

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
ASRS Report Number.Accession Number : 2085398
Human Factors : Workload
Human Factors : Time Pressure

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 2085399
Human Factors : Time Pressure
Human Factors : Workload

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem
Result.Flight Crew : Regained Aircraft Control

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

While navigating direct ZZZ [VOR] from ZZZZZ1 at FL300, ATC ZZZ Center notified us of two areas of convective activity along our route of flight to ZZZ. We requested and were approved a left 10-degree deviation for weather. Our heading, 180, kept us outside of 20 NM from thunderstorms. ATC cleared us "when able" direct ZZZZZ - fix on the ZZZZZ STAR into ZZZ. Once proceeding direct ZZZZZ, ATC cleared us to cross 70 NM north of ZZZZZ at FL280. Approximately 100 NM north of ZZZZZ, we commenced our descent to FL280 from FL300 at 280 KIAS in LEVEL/CHANGE - autothrottles maintain speed on pitch. While IMC, clear of any convective activity we encountered severe turbulence for approximately 30 seconds while descending through FL295 until FL285. We experienced a momentary downdraft with 2000 FPM rate-of-descent, displayed on the Vertical Speed Indicator, VSI, followed by a momentary updraft with approximately 500 FPM rate-of-climb, on the VSI. During this excessive altitude oscillation, the aircraft's ATS (Autothrottle System) Arming Lever and the #2 Yaw Damper Arming Lever disengaged and were immediately manually reengaged and remained armed/engaged for the remainder of the flight. The Left ECAM also momentarily displayed YELLOW HYD SYS LO PR, but then extinguished without any corrective action. During level-off at FL280 the Autopilot #2, AP2, lever also disengaged, but was reengaged without issue for the remainder of the flight. We advised ATC that we were experiencing extreme/severe turbulence during the event. ATC then queried if there were any injuries or damage to the aircraft and we advised ATC there were no injuries or damage. Our filed route of flight was ZZZZZ1, RNAV SID from ZZZ1, to ZZZZZ2 for forecast thunderstorm development. Dispatcher annotated on the Flight Plan/Release, that "direct routing may be available after departure." Based upon the northeasterly movement of the surrounding weather, ZZZ1 Center had us

proceed behind, west, the majority of the convective activity and cleared us direct ZZZ [VOR] before reaching ZZZZZ1 on the SID. I think the flight crew, Dispatcher, and ATC properly managed the probable risks for the flight. Once we encountered the turbulence, we had few options but to continue to fly through it. The onset of the event happened so fast and was experienced so briefly, that other options for prevention were not available.

Narrative: 2

While encountering to ZZZ [VOR], ATC told us about some convective weather ahead. We chose to make a 10-degree left deviation in order to avoid it. This put us on a heading of 180 that would keep us further than 20 NM from both convective weather events. Once past the weather cells, ATC cleared us direct to ZZZZZ intersection and to cross 70 NM north of ZZZZZ at FL280. We began to descend to FL280 at 280 KIAS in LVL CHG. During the descent, close to level-off at FL280, we encountered severe turbulence. The turbulence lasted around 30 seconds. I watched the VSI go from a 2000 FPM descent and abruptly change to a 500 FPM climb. At that time the ATS (Autothrottle System) LEVER and Yaw Damper #2 and the Autopilot #2 turned off and we got a yellow hydraulic system LO PR ECAM message. We notified ATC of the severe turbulence event and told them there were no injuries or suspected aircraft damage. Cause: Weather/turbulence. Routing was good for flight. The weather/turbulence event was abrupt and couldn't be recognized before it happened. We continued to fly through it once it happened because there were no other options.

Synopsis

A300 flight crew reported loss of aircraft control and autopilot disconnect while flying through severe turbulence during cruise descent. Flight crew regained control and continued flight.

ACN: 2085272 *(45 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Altitude.MSL.Single Value : 35000

Environment

Flight Conditions : VMC

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B787 Dreamliner Undifferentiated or Other Model
Crew Size.Number Of Crew : 4
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Cruise
Airspace.Class A : ZZZ

Component

Aircraft Component : Cockpit Window
Aircraft Reference : X
Problem : Failed

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Relief Pilot
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Last 90 Days : 171.18
Experience.Flight Crew.Type : 391.85
ASRS Report Number.Accession Number : 2085272
Human Factors : Time Pressure
Human Factors : Troubleshooting
Human Factors : Workload
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Check Pilot
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 6752.48
Experience.Flight Crew.Last 90 Days : 139.72
Experience.Flight Crew.Type : 759.37
ASRS Report Number.Accession Number : 2085296
Human Factors : Workload
Human Factors : Troubleshooting
Human Factors : Time Pressure
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.ATC Issue : All Types
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.General : Flight Cancelled / Delayed
Result.Flight Crew : Diverted
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Landed in Emergency Condition
Result.Air Traffic Control : Issued New Clearance
Result.Aircraft : Aircraft Damaged

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

Aircraft X ZZZ - ZZZZ on Day 0 was an IOE for Captain A. Captain B was LCP (Line Check Pilot), I was relief Captain, and FO (First Officer) was relief FO. Crew change was [a few hours] into flight and myself and FO had just come on duty as we were approaching coast out point ZZZZZ from ZZZ Control at FL350. FO noticed a very faint arching in the lower right corner of the right forward window, followed by a loud bang and the right forward window shattering. I was pilot flying and FO did the checklist for EICAS message WINDOW HEAT R FWD, which led to checklist Window Damage FWD R. We determined that the best course of action was the divert to ZZZ1. We could not make contact with ZZZ [Center] on the last VHF frequency. I turned around, proceeded direct to ZZZ1, and descended to FL345. I turned on all the lights and FO [requested priority handling] on VHF and tried to contact ZZZ [Center] on the last assigned VHF frequency. I also tried to [request priority handling] on CPDLC but we were not logged on to ZZZ1 [Center] yet since we were still in

ZZZ [Center] radar controlled airspace. I relayed to other aircraft, Aircraft Y and Aircraft Z, to pass on to ZZZ [Center] our position, FL345 direct to ZZZ1 and that we are [requesting priority handling]. They passed that on to ZZZ [Center] and gave 3 VHF frequencies to try. FO also contacted ZZZ on HF and passed on all our information to ZZZ [Center]. I made contact with ZZZ [Center] on VHF and was cleared FL330B350 direct ZZZ1 and confirmed [priority] aircraft. FO called Captain B and Captain A back to the cockpit from their break in pilot rest area. Since I was the most rested, Captain B had me act as pilot flying and he would act as pilot not flying. Captain A IOE was over on this leg. Captain B sat in the right seat and assumed pilot not flying duties, I stayed in the left seat as pilot flying and Captain A and FO assisted from the FO observation position. Captain B contacted Dispatch and Maintenance Control and confirmed divert to ZZZ1 was the best course of action. Dispatch gave us the fuel burn and we calculated to dump 37,000 lb. of fuel to reach max landing weight. We got clearance to descend to 10,000 ft. and to dump fuel from ATC. Captain B ran the Fuel Jettison Checklist and requested data for max landing weight. Captain A briefed the flight attendants and made a PA to the passengers. FO ran the QRG (Quick Reference Guide) Divert Checklist to make sure we covered all items. Based on the checklist due to window damage, we made a 280-kt. descent to 10,000 ft. and 250-kt. descent below 10,000 ft. in order to prevent further window damage or cabin depressurization. We briefed the approach and did the Descent Checklist. Weather was clear and ATC cleared us ILS XXR. Landing was uneventful and we cleared the runway and taxied to the gate.

Narrative: 2

Shattered cockpit window. Aircraft X, ZZZ - ZZZZ, Day 0. I was operating as an LCP (Line Check Pilot), with a transition Captain on his first leg of OE. About 5 minutes after leaving the cockpit for our rest break, I received a call from relief crew that the right side forward cockpit window had shattered. I returned to the cockpit as soon as possible. The relief crew had followed the checklist for window heat, and broken cockpit window. The relief Captain determined the nearest suitable airport to be ZZZ1. [Priority handling was requested], they descended 500 ft., made appropriate radio calls on VHF, and began the divert to ZZZ1. VHF communication with ATC was initially unreliable, but the crew was able to relay information through other nearby aircraft. After returning to the cockpit, as LCP and pilot in command, I determined the safest course of action was to keep the Relief Captain in the left seat as pilot flying, and I replaced the Relief FO (First Officer) and became the pilot monitoring from right seat for the approach and landing. We descended as the checklist directed, notified Dispatch, and then confirmed [priority handling] with ZZZ ATC after VHF communication was reestablished. We jettisoned fuel to arrive ZZZ1 below max landing weight. Using the OE student, who now was in the center jumpseat, and the relief FO, we notified the Flight Attendant and the cabin of the situation. The Diversion QRG (Quick Reference Guide) was also consulted to confirm all necessary tasks were accomplished. The pilot flying performed a normal approach to ILS XXR at ZZZ1, and landed normally. We taxied to the gate, consulted Maintenance, and debriefed the Chief Pilot.

Synopsis

B787 flight crew reported the right side forward cockpit window shattered in cruise and proceeded to divert. Direct communication with ATC was not working and the flight crew requested assistance from nearby aircraft for communications.

ACN: 2085070 *(46 of 50)*

Time / Day

Date : 202301
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : SAV.Airport
State Reference : GA
Altitude.MSL.Single Value : 1800

Environment

Weather Elements / Visibility.Visibility : 10

Aircraft

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : Medium Large Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Final Approach
Route In Use : Visual Approach
Airspace.Class C : SAV

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 16000
Experience.Flight Crew.Last 90 Days : 50
Experience.Flight Crew.Type : 1500
ASRS Report Number.Accession Number : 2085070
Human Factors : Situational Awareness
Human Factors : Human-Machine Interface

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

On the RNAV Z28 into Savannah, We began [descending] in vertical speed vs prof mode resulting in minimum separation from crane, We also did not preform required briefings or approach review to reduce this threat. Descended on a VS path greater than 700 feet per min. Company policy is to fly a profile. Did not brief approach plan. It was a line check.

Synopsis

Air carrier First Officer reported they failed to follow company descent profile and to complete briefings during approach.

ACN: 2084714 *(47 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZLC.ARTCC
State Reference : UT
Altitude.MSL.Single Value : 12700

Environment

Flight Conditions : VMC

Aircraft

Reference : X
ATC / Advisory.Center : ZLC
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Descent

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 4319
ASRS Report Number.Accession Number : 2084714
Human Factors : Situational Awareness
Human Factors : Distraction

Person : 2

Location Of Person.Aircraft : X
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 5000
ASRS Report Number.Accession Number : 2084715
Human Factors : Situational Awareness
Human Factors : Distraction

Events

Anomaly.Deviation - Altitude : Crossing Restriction Not Met
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

Flew below a required altitude on YLSTN 3 RNAV STAR into BIL. When departing ZZZ, our release fuel was 15713 and the fuel we actually received was 16160. That in combination with a late addition of 4 passengers put us over our maximum landing weight. FMS initially showed our landing weight as 75,300 but then reduced to 75,150. As we approached BIL, we were cleared by ATC to descend via the YLSTN 3 STAR and the First Officer (FO) set 8000 as the bottom altitude for the STAR. Just prior to beginning descent on the YLSTN 3 STAR, we started the APU to begin burning extra fuel to lower our weight. The FO extended 1/2 speed brake to increase drag and we slowed the aircraft to 230 KIAS in order to lower the landing gear to also help with drag and fuel burn. When the FO was beginning the descent, we did not have the Descend Now prompt on the FMS, so he chose to use vertical speed and began descending at about 1000 fpm. After he set the descent up, we looked at the fuel situation again to discuss what we could do to burn enough to be below maximum landing weight and lost focus on the mandatory 15,000-foot altitude at the YLSTN waypoint. We still had not reached the YLSTN waypoint on the STAR when ATC called and gave us a low altitude alert and said we needed to be at minimum of 13,500 in that sector. At that point we were at 12,700 feet and hadn't yet crossed the YLSTN waypoint, so ATC reminded us that we were required to maintain 15,000 until that point. We raised the landing gear after acknowledging the call and the FO disengaged the autopilot and autothrottles and we climbed back up to 15,700. As we were climbing I noticed the speed brakes deployed and I stowed them. After we were back that the required altitude, the remainder of the arrival and approach into BIL were uneventful. ATC at both Salt Lake Center and Billings Approach asked us if we had any malfunctions and if we required assistance and I replied that we did not. When we came up with our plan to lower the gear to help us burn for fuel, we should have set aside the fuel problem temporarily, rather than continuing to fixate on it. We would have allowed ourselves to focus on flying the STAR correctly and then periodically revisit the fuel status. If we were still unable to get the weight below the maximum landing weight, we could have either asked ATC for holding or for extended vectors to help us to burn enough fuel to get to a proper landing weight. There were two better options that I should have proposed to the FO when he selected vertical speed for the descent. Since the YLSTN waypoint is listed as 15,000 or above, he could have made it a hard altitude and done a vertical direct to that point and then continued down the path of the STAR. The second option would have been to do a vertical direct to the BEARE waypoint, which is the bottom altitude on the STAR and what we had been cleared to fly. Either course of action would have protected the altitude at YLSTN and we would not have descended below that required altitude at that point.

Narrative: 2

[Narrative contained no additional information.]

Synopsis

Air carrier flight crew reported receiving a low altitude alert from ATC on descent into BIL.

ACN: 2084407 *(48 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : SAT.TRACON
State Reference : TX
Altitude.MSL.Single Value : 1200

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Icing

Aircraft

Reference : X
ATC / Advisory.TRACON : SAT
Aircraft Operator : Air Carrier
Make Model Name : Boeing Company Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Mission : Passenger
Flight Phase : Final Approach
Airspace.Class C : SAT

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Last 90 Days : 140.5
Experience.Flight Crew.Type : 1239.47
ASRS Report Number.Accession Number : 2084407
Human Factors : Time Pressure
Human Factors : Workload
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Became Reoriented

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Human Factors

Narrative: 1

At the end of the Quervo1 arrival approaching XLANT, we were told to go direct TRSMO and cleared the ILS 31L. Had to quickly load that into the FMC. We set 2200 for FAF altitude since we were cleared for the approach. We were also in icing conditions and had to slow down to 170 or less. Once inside TRSMO, I saw we were VNAV Path so we could set touchdown zone with Approach Mode on. After putting on the engine anti ice and putting out flaps to slow down, I look up and saw we were low and that our RA was reading just above 1200. I told the First Officer to pull up and we leveled off and caught the glide slope around 1200 at our final approach speed. Then continued for a normal landing.

Synopsis

Air carrier pilot reported descending too low on final approach. Flight crew corrected and landed uneventfully.

ACN: 2084380 *(49 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 1500

Environment

Flight Conditions : VMC

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B787 Dreamliner Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Approach
Airspace.Class B : ZZZ

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 8971.02
Experience.Flight Crew.Last 90 Days : 100.53
Experience.Flight Crew.Type : 1627.78
ASRS Report Number.Accession Number : 2084380
Human Factors : Human-Machine Interface
Human Factors : Situational Awareness
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Flight Crew

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Person : Flight Crew

When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Returned To Clearance

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

At some point during the approach phase, the CA decided to hand fly the airplane. We were on a base vector for the ILS somewhere outside of ZZZZZ. The approach controller asked if we had the field in sight. The CA indicated to me that I should respond that we did. We were then cleared for the visual. We had been given a descent to 2000 ft. prior to the visual clearance. I set the 2000 ft. altitude in the window and the CA verified it. As we were turning final, I noticed that the altitude window was set to 0000 and that we were in flight level change. I also observed that we were well (full-scale deflection) below the glide path. I asked the CA if he meant to have 0000 in the altitude window in FLC. He indicated that he did not. I pointed out also that we were well below the glide path. He then began correcting and at one point was even climbing to get back on the GP. We did so. The controller did not say anything. We were VFR the entire time.

Synopsis

B787 First Officer reported a CFTT event and an unstabilized approach while Captain was hand flying a visual approach. Pilot reported full scale "low" deviation on glide slope, an improperly set altitude alerter during event and the need to climb to return to glide slope.

ACN: 2084272 *(50 of 50)*

Time / Day

Date : 202402
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ASE.Airport
State Reference : CO
Relative Position.Angle.Radial : 331
Relative Position.Distance.Nautical Miles : 13
Altitude.MSL.Single Value : 13000

Environment

Flight Conditions : VMC
Weather Elements / Visibility : Turbulence
Weather Elements / Visibility.Visibility : 10
Light : Dusk
Ceiling.Single Value : 5000

Aircraft

Reference : X
ATC / Advisory.Tower : ASE
Aircraft Operator : Air Taxi
Make Model Name : Small Transport
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 135
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Approach
Route In Use : Visual Approach
Airspace.Class D : ASE

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Taxi
Function.Flight Crew : Captain
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 4338
Experience.Flight Crew.Last 90 Days : 18.6
Experience.Flight Crew.Type : 1331.5
ASRS Report Number.Accession Number : 2084272
Human Factors : Workload
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Crossing Restriction Not Met
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Track / Heading : All Types

Anomaly.Deviation / Discrepancy - Procedural : Clearance
Result.Flight Crew : Became Reoriented

Assessments

Contributing Factors / Situations : Chart Or Publication
Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Ambiguous

Narrative: 1

We were given very tight vectors from the west to join the LOC-DME/E at ASE, with a strong wind from the west, causing us to overshoot final. The autopilot was correcting as were were descending, but I picked up and verified ASE runway and decided to proceed visually as we were VMC and clear of clouds. I continued to correct back to final but the wind made that very challenging. I proceeded visually to descend and line up on final. In the heat of the moment, I missed whether we were updated to cleared visual approach, but continued to descend and line up on final due to the critical nature of descending to prevent a very steep approach at ASE. We were VMC the whole way and correcting to final. The approach was controlled and very normal for an approach into ASE. Once we landed, we were asked to call tower to discuss the event. They relayed to us that they had had a rash of overshooting finals lately and that pilots were descending below published altitudes. For us, the problem started with the tight vectors to the overshoot with the west wind complicating getting back to final. Once below the clouds, I descended to prevent an overly steep approach, which is what you get if you fly it as published. In the heat of the moment correcting back to center and descending, I missed whether we had been updated from cleared the LOC-DME/E to a visual approach. In the future, I will make sure we have been cleared to proceed visually before descending to prevent the steep approach.

Synopsis

Air taxi Captain reported an overshoot of the ASE LOC/DME-E final approach course, citing strong winds and tight vectors as contributing. Reportedly, there have recently been other flights involving overshoots and descent below published altitudes on the LOC-DME approach.