

ASRS Database Report Set

Altitude Deviations

Report Set Description	A sampling of reports referencing altitude deviations for all types of operations
Update Number	32.0
Date of Update	April 30, 2019
Number of Records in Report Set	50
Number of New Records in Report Set	50
Type of Records in Report Set	For each update, new records received at ASRS will displace a like number of the oldest records in the Report Set, with the objective of providing the fifty most recent relevant ASRS Database records. Records within this Report Set have been screened to assure their relevance to the topic.

National Aeronautics and
Space Administration

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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. 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 amplified 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.

A handwritten signature in cursive script that reads "B Hooley".

Becky L. Hooley, 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: 1620291 *(1 of 50)*

Synopsis

Light transport Captain reported executing a go-around on approach to MKE when they encountered wake turbulence in trail of a B737.

ACN: 1618536 *(2 of 50)*

Synopsis

A320 Captain reported missing an altitude restriction on arrival into IAH, citing a late runway change as contributing.

ACN: 1617648 *(3 of 50)*

Synopsis

Air carrier First Officer reported reaching clearance limit on the PCIFC 2 arrival to LGB airport without runway transition or further clearance.

ACN: 1616421 *(4 of 50)*

Synopsis

UAV operator reported exceeding maximum allowed altitude.

ACN: 1616420 *(5 of 50)*

Synopsis

Air carrier First Officer reported the aircraft experienced glideslope signal interference during an instrument approach.

ACN: 1615814 *(6 of 50)*

Synopsis

CE-750 Captain reported encountering wake turbulence while in cruise at FL240 12 miles in trail of an A320.

ACN: 1614317 *(7 of 50)*

Synopsis

Lancair pilot reported an excursion from altitude and ATC issued a low altitude alert during ILS approach.

ACN: 1614042 *(8 of 50)*

Synopsis

PC24 Check Pilot reported the pilot in training did not comply with ATC clearance.

ACN: 1614006 *(9 of 50)*

Synopsis

E170 flight crew member reported a wake turbulence encounter and a possible excursion from cleared altitude on arrival into JFK.

ACN: 1613679 *(10 of 50)*

Synopsis

A320 First Officer reported receiving a low altitude alert from ATC on descent into ONT after apparently taking a descent clearance meant for another aircraft.

ACN: 1613545 *(11 of 50)*

Synopsis

B737 flight crew reported encountering severe turbulence on climbout.

ACN: 1613422 *(12 of 50)*

Synopsis

GIV flight crew reported departing cruise altitude without a clearance due to confusion with CPDLC communication.

ACN: 1613267 *(13 of 50)*

Synopsis

EMB-145 flight crew reported an altitude deviation occurred after encountering wake turbulence on arrival into ORD in trail of a heavy aircraft.

ACN: 1613172 *(14 of 50)*

Synopsis

CRJ-200 flight crew reported receiving a Terrain Alert while conducting a night time Visual Approach to CAE airport.

ACN: 1613153 *(15 of 50)*

Synopsis

Fractional Captain reported failing to make the crossing restriction at RIDGY that had been modified by ATC on the KORRY 4 arrival into LGA.

ACN: 1613031 *(16 of 50)*

Synopsis

EMB-145 First Officer reported executing a go-around and diverting to an alternate following an unstable approach and an EGPWS windshear warning.

ACN: 1612876 *(17 of 50)*

Synopsis

Cleveland Center Controller reported an airspace deviation associated with a crossing restriction that the pilot busted.

ACN: 1612859 *(18 of 50)*

Synopsis

Memphis Center Controller reported an aircraft that descended below the Minimum Safe Altitude due to icing.

ACN: 1612690 *(19 of 50)*

Synopsis

A320 Captain reported failing to make a crossing restriction at RIDGY that was modified by ATC on the KORRY 4 arrival into LGA.

ACN: 1612606 *(20 of 50)*

Synopsis

B737-700 Captain reported an altitude excursion occurred on the BRAUN2 RNAV Arrival into SAT when TRACON issued a late runway change.

ACN: 1612592 *(21 of 50)*

Synopsis

Denver Center Controller reported observing an aircraft that received a Minimum IFR Altitude alert and climbed the aircraft but pilot was slow to respond.

ACN: 1612557 *(22 of 50)*

Synopsis

Small Transport First Officer reported an altitude deviation occurred on the RNAV Z Approach to Runway 9 at TEX.

ACN: 1612460 *(23 of 50)*

Synopsis

A319 flight crew reported executing a go-around due to an unstable approach resulting from inadequate spacing and 30-knot tailwind.

ACN: 1612323 *(24 of 50)*

Synopsis

B757 Captain reported discovering after the flight that all three altimeters were incorrectly set by one inch of mercury when they flew the PURRL2 RNAV arrival to DEN.

ACN: 1612299 *(25 of 50)*

Synopsis

B737 Captain reported being unable to comply with crossing restriction while on LAX arrival due to assigned speed restriction.

ACN: 1612282 *(26 of 50)*

Synopsis

B737 flight crew reported a communications breakdown between Captain and First Officer regarding approach clearance resulted in an altitude deviation and low altitude alert.

ACN: 1612268 *(27 of 50)*

Synopsis

New York Center Controllers reported a loss of separation, possibly due to miscommunication, stress and distractions from the government shutdown.

ACN: 1612250 *(28 of 50)*

Synopsis

Chicago TRACON Controller reported adverse weather and a malfunctioning glideslope caused aircraft to go around.

ACN: 1611932 *(29 of 50)*

Synopsis

A Center Controller reported an aircraft misunderstood their traffic information, possibly due to poor radio coverage, and climbed above their assigned altitude into conflict with converging traffic.

ACN: 1611654 *(30 of 50)*

Synopsis

Fractional flight crew reported encountering severe turbulence at FL230 over the Sierra Nevada Mountains.

ACN: 1611276 *(31 of 50)*

Synopsis

Air taxi Captain reported an airborne conflict during climb due to a communication breakdown with ATC.

ACN: 1611158 *(32 of 50)*

Synopsis

B757 Captain reported a trailing edge flap disagree problem.

ACN: 1611048 *(33 of 50)*

Synopsis

Palm Springs Tower Controller reported an unsafe approach due to weather and possible piloting issues.

ACN: 1611013 *(34 of 50)*

Synopsis

SF50 Pilot reported erroneous terrain alert on departure due to improperly configured portable EFB resulting in altitude clearance deviation.

ACN: 1610920 *(35 of 50)*

Synopsis

CE680 Captain reported loss of aircraft control due to severe turbulence during cruise.

ACN: 1610868 *(36 of 50)*

Synopsis

B787 flight crew reported accidental right engine shutdown in cruise with a successful restart and continuation to destination.

ACN: 1610835 *(37 of 50)*

Synopsis

B737-700 Captain reported being high on a crossing restriction on the RNAV Z Runway 12R approach into SJC after receiving a late ATC clearance.

ACN: 1610788 *(38 of 50)*

Synopsis

GA pilot and Air Traffic Controller reported confusion in regard to instrument operations near BORTY waypoint.

ACN: 1610699 *(39 of 50)*

Synopsis

Corporate jet Captain reported an unstabilized approach into VNY airport due to windshear resulting in a missed approach and Terrain Warning.

ACN: 1610431 *(40 of 50)*

Synopsis

B757 Captain reported a new First Officer had difficulty complying with procedures and clearances in reaction to an RA and subsequent go-around.

ACN: 1610344 *(41 of 50)*

Synopsis

HS125 Captain reported erroneous airspeed and altitude indications led to a return to the departure airport.

ACN: 1610230 *(42 of 50)*

Synopsis

B757 flight crew reported receiving a low altitude alert from ATC on approach to Runway 9R PHL after descending on a false glideslope.

ACN: 1610050 *(43 of 50)*

Synopsis

B737-700 Captain reported failing to comply with a crossing restriction that has been modified by ATC on the KORRY 4 arrival into LGA.

ACN: 1609710 *(44 of 50)*

Synopsis

EMB-175 First Officer reported a track deviation occurred on arrival into IAH when they got a last minute change in runway assignment but the new arrival was not correctly loaded in the FMS.

ACN: 1609577 *(45 of 50)*

Synopsis

Air carrier Captain reported receiving a GPWS obstacle warning on approach to ISP airport.

ACN: 1609471 *(46 of 50)*

Synopsis

Boeing 787 flight crew reported pilot approach procedural errors coupled with late ATC final vector heading resulted in speed and altitude deviations.

ACN: 1609411 *(47 of 50)*

Synopsis

Oakland Oceanic Controller reported an airborne conflict when an aircraft descended to a non turbulent altitude through the protected airspace of another aircraft.

ACN: 1609307 *(48 of 50)*

Synopsis

CRJ-700 flight crew reported an autopilot issue resulted in an altitude deviation while on the BOOVE 4 STAR to DFW airport.

ACN: 1609207 *(49 of 50)*

Synopsis

A319 Captain reported receiving a GPWS terrain warning when vectored off the charted course approaching TUS.

ACN: 1609198 *(50 of 50)*

Synopsis

B737-700 Captain reported a missed crossing restriction due to a communication breakdown or charting error.

Report Narratives

Time / Day

Date : 201902
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : MKE.Airport
State Reference : WI
Altitude.AGL.Single Value : 800

Environment

Weather Elements / Visibility : Fog
Weather Elements / Visibility : Icing
Weather Elements / Visibility.Visibility : 2
Ceiling.Single Value : 900

Aircraft : 1

Reference : X
ATC / Advisory.Tower : MKE
Aircraft Operator : Air Taxi
Make Model Name : Light Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 135
Flight Plan : IFR
Mission : Ferry
Flight Phase : Final Approach
Route In Use : Vectors
Airspace.Class C : MKE

Aircraft : 2

Reference : Y
ATC / Advisory.TRACON : MKE
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
Flight Phase : Landing

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Taxi
Function.Flight Crew : Captain
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 5000
Experience.Flight Crew.Last 90 Days : 60
Experience.Flight Crew.Type : 3500
ASRS Report Number.Accession Number : 1620291
Human Factors : Situational Awareness
Analyst Callback : Completed

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Automation : Aircraft Terrain Warning
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Executed Go Around / Missed Approach

Assessments

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

Narrative: 1

During the approach portion, we were given vectors to the final approach, as we were given our final altitude of 2,800 feet to intercept the ILS; we then intercepted the localizer and began our glide slope descent when all of a sudden we encountered severe turbulence and lost altitude in a rapid descent.

By the time we started the missed approach, ATC came on the frequency and gave us an altitude alert even though we had started our climb and went missed.

My First Officer and I had discussed this on the ground and came to the conclusion that we might have encountered severe turbulence from the previous aircraft that had landed in front of us, a B737.

What we've learned from this is that although human factor takes a few seconds to recognize a situation as such, perhaps a quicker reaction towards the turbulence to a missed approach could have been better, also I think ATC was good to promptly advise us of the situation

Synopsis

Light transport Captain reported executing a go-around on approach to MKE when they encountered wake turbulence in trail of a B737.

Time / Day

Date : 201902

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : IAH.Airport

State Reference : TX

Environment

Flight Conditions : VMC

Aircraft

Reference : X

ATC / Advisory.TRACON : I90

Aircraft Operator : Air Carrier

Make Model Name : A320

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Initial Approach

Airspace.Class B : IAH

Person

Reference : 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 : Air Transport Pilot (ATP)

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

ASRS Report Number.Accession Number : 1618536

Human Factors : Workload

Human Factors : Situational Awareness

Events

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Altitude : Undershoot

Anomaly.Deviation - Altitude : Crossing Restriction Not Met

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : Clearance

Detector.Person : Flight Crew

When Detected : In-flight

Result.General : None Reported / Taken

Assessments

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

Narrative: 1

First off, I don't think it is possible to properly brief for multiple runway assignments, especially when there are NOTAMs involved for each runway. Along with being informed late by ATC. Runway 27 was the last runway I would expect while on this arrival. The expected runway via the arrival is 26R. Me underlining the NOTAM for 27 did not help me to remember unfortunately. Switching the runway up is busy enough work in this phase of flight. I'll be more aware of this type of goat rope by ATC as a possibility after this incident. Next up. ATC giving a visual clearance with a crossing restriction over a fix that is only on the ILS 27 and RNAV approach plate. This to me is a very lousy clearance. That being said, I accepted the clearance. So I take some blame. At the same time ATC needs to refrain from giving such clearances. Last minute runway switches can be very troublesome especially when NOTAMs are involved. I'm not sure why the ATIS did not advertise Runway 27 RNAV instead of the visual. Both Runway 26R and 26L were shown on the ATIS as both ILS approaches. Had this been the case (RNAV 27 approach advertised) none of this would have happened. I know I am the last line of defense and I did catch these errors, unfortunately not as quick as I would have liked to. But it would help if the system was better set up to not set the pilots on such course.

Synopsis

A320 Captain reported missing an altitude restriction on arrival into IAH, citing a late runway change as contributing.

Time / Day

Date : 201902

Place

Locale Reference.Airport : LGB.Airport

State Reference : CA

Altitude.MSL.Single Value : 9000

Aircraft

Reference : X

ATC / Advisory.TRACON : SCT

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 : GPS

Nav In Use : FMS Or FMC

Flight Phase : Descent

Flight Phase : Initial Approach

Route In Use.STAR : PCIFC 1

Airspace.Class E : SCT

Person

Reference : 1

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 : Air Transport Pilot (ATP)

Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Last 90 Days : 283

Experience.Flight Crew.Type : 283

ASRS Report Number.Accession Number : 1617648

Human Factors : Confusion

Events

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Altitude : Undershoot

Anomaly.Deviation - Altitude : Crossing Restriction Not Met

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : Clearance

Detector.Automation : Air Traffic Control

Detector.Person : Air Traffic Control

Were Passengers Involved In Event : N

When Detected : In-flight

Result.Air Traffic Control : Issued New Clearance
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

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

Narrative: 1

We were given a descend via clearance on the PCIFC 2 RNAV Arrival. Because we hadn't been assigned a runway transition we both agreed that 9,000 feet would be the bottom limit. The FMS stopped at the STYFF intersection with an at or below 9,000 feet until you put a runway in for the approach. The routing on the STAR shows STYFF being the clearance limit until you have a runway transition. We were getting closer to 9,000 feet and STYFF intersection without a runway transition even though we were anticipating and briefed 30 per the ATIS. The Captain asked if we could request the RNAV Z for 30. We were told to make that request with the next controller. By the time we reached STYFF we weren't able to get radio transmission into approach for further clarification so we leveled off at 9,000 feet. Approach then asked why we stopped our descent and we explained that we were never given a transition. Approach then mistakenly thought we were on the ROOBY 3 which we were not. They gave us a heading and altitude and we continued with no further issues. This brought up the question as to what is correct. Without being assigned a runway the STAR is a bit confusing. According to the wording and the FMS your limit appears to be STYFF at 9,000 feet. However the depiction on the chart shows another waypoint after that of KAYNN at 7,000 feet before the arrival branches off depending which runway you are landing.

Synopsis

Air carrier First Officer reported reaching clearance limit on the PCIFC 2 arrival to LGB airport without runway transition or further clearance.

Time / Day

Date : 201901

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 400

Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Personal

Make Model Name : UAV - Unpiloted Aerial Vehicle

Crew Size.Number Of Crew : 1

Operating Under FAR Part.Other

Mission : Personal

Flight Phase : Initial Climb

Airspace.Class B : ZZZ

Person

Reference : 1

Location Of Person : Hangar / Base

Reporter Organization : Personal

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Private

Experience.Flight Crew.Total : 66

Experience.Flight Crew.Last 90 Days : 50

Experience.Flight Crew.Type : 35

ASRS Report Number.Accession Number : 1616421

Human Factors : Human-Machine Interface

Human Factors : Confusion

Events

Anomaly.Deviation - Altitude : Overshoot

Anomaly.Deviation - Procedural : FAR

Anomaly.Deviation - Procedural : Clearance

Detector.Person : Other Person

Miss Distance.Vertical : 89

When Detected : In-flight

Result.Flight Crew : Became Reoriented

Assessments

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

Narrative: 1

Operating on a FAA approved flight plan in controlled airspace under authorization. The flight plan was filed for and approved by the FAA LAANC UAS [Unmanned Aerial Vehicle] System. The flight plan was filed and approved in a 400 feet sector per the UAS FAA Facilities map. Pilot normally has lock on vertical altitude of 400 feet in third party app. When UAS unlock was required due to airspace, the altitude restriction normally set in the app was deleted therefore causing pilot to inadvertently ascend through the 400 feet UAS ceiling to an altitude of 489 feet for a period of 8 seconds and the altitude deviation was noticed. After descending immediately, I completed the photo mission and landed without incident. No property was damaged or injury of any kind happened during this altitude deviation. Two flights were flown during this mission. The first was a total flight time of 1:04 Minutes and the second was 01:36 minutes.

Synopsis

UAV operator reported exceeding maximum allowed altitude.

Time / Day

Date : 201902
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : BGM.Airport
State Reference : NY
Relative Position.Angle.Radial : 338
Relative Position.Distance.Nautical Miles : 3
Altitude.MSL.Single Value : 2500

Environment

Flight Conditions : Mixed
Weather Elements / Visibility : Rain
Weather Elements / Visibility : Windshear
Weather Elements / Visibility.Visibility : 4
Light : Night
Ceiling.Single Value : 2000

Aircraft

Reference : X
ATC / Advisory.Tower : BGM
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Flight Plan : IFR
Nav In Use : FMS Or FMC
Nav In Use.Localizer/Glideslope/ILS : Runway 06
Flight Phase : Final Approach
Airspace.Class D : BGM

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
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 : Flight Instructor
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 2080
Experience.Flight Crew.Last 90 Days : 185
Experience.Flight Crew.Type : 430
ASRS Report Number.Accession Number : 1616420
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Procedural : Clearance

When Detected : In-flight

Result.Flight Crew : Returned To Clearance

Narrative: 1

While flying an ILS approach to Runway 6, and while inside the final approach fix, our glideslope CDI began showing a series of significant deviations despite that the airplane was maintaining a consistent descent rate. The deviations are consistent with interference or a glideslope antenna issue at the airport. Beginning at approximately 2,600 feet, our glideslope course deviation indicator (CDI) showed a 1/2 scale downward deflection seemingly out of nowhere, followed by a 1/2 scale upward deflection. The Pilot Flying (PF) had configured the airplane to fly the approach by autopilot, and it had been doing a good job tracking the vertical path until that point. At approximately 2,000 MSL, our glideslope CDI showed an almost full deflection downward. The PF disconnected the autopilot, and then we immediately saw the airport and continued our approach in visual conditions. Had we not seen the airport, we would have gone around because the glideslope seemed incapable of properly guiding us to the decision altitude, and the deviation was exceeding our limitations for a stable approach in IMC. The sudden nature of the glideslope swings made us both think that it was not an issue with our airplane's equipment. In talking to other pilots at our company, this seems to be a known issue at this airport, but it also seems as if nobody has bothered to bring it up in a safety report or inquiry with the control tower. The PF and I notified the control tower of possible glideslope problems, and we also spoke with an airport ops tech once parked at the terminal about the issue. A contributing factor may have been low level wind shear; however, we had been dealing with this all day at other airports and not had it impact our autopilot's ability to track the glideslope on an ILS approach.

Synopsis

Air carrier First Officer reported the aircraft experienced glideslope signal interference during an instrument approach.

Time / Day

Date : 201902

Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZME.ARTCC

State Reference : TN

Altitude.MSL.Single Value : 24000

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.Center : ZME

Make Model Name : Citation X (C750)

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Passenger

Flight Phase : Cruise

Airspace.Class A : ZME

Aircraft : 2

Reference : Y

ATC / Advisory.Center : ZME

Aircraft Operator : Air Carrier

Make Model Name : A320

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Descent

Airspace.Class A : ZME

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

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 : 1615814

Analyst Callback : Attempted

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Air Traffic Control : Provided Assistance

Assessments

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

Narrative: 1

Aircraft was in cruise flight at FL240, nav data was set up for the FILPZ3 arrival [to] CLT. Auto pilot was ON. Experienced wake turbulence two times, back to back. The first wake turbulence onset, aircraft quickly banked right 30 degrees, loss of altitude of 100 feet. Crew recovered, approximately 45 seconds later the second wake turbulence onset occurred. Again, crew recovered and reported event while asking Memphis Center for heading change due to wake turbulence. Memphis Center issued 15 degrees left of course. Flight crew inquired as to type of traffic ahead. Crew referenced TCAS and identified traffic 12.5 miles ahead, twelve o'clock position. Memphis Center responded and stated traffic was an A320 that had descended through our altitude, 12 miles ahead. We concurred with info. Memphis Center apologized and a few miles later, gave us direct to next fix. Flight crew noticed A320 maintained constant descent on arrival and was approximately 1,500 to 2,000 feet below our altitude for remainder of arrival. Rest of flight uneventful.

Flight crew would suggest ATC to advise of A320's position 12 miles ahead of our position and A320 had descended through our present altitude "caution, wake turbulence". At FL240, flight crew's work load was relatively low which allowed for immediate recovery without any distractions. Purpose for this [report] is to try and help both flight crews and ATC with wake turbulence awareness via proper communication. ATC was very professional and apologized. Crew was well trained. All is good. Hope this helps in an effort for future wake turbulence avoidance.

Synopsis

CE-750 Captain reported encountering wake turbulence while in cruise at FL240 12 miles in trail of an A320.

Time / Day

Date : 201901
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Angle.Radial : 093
Relative Position.Distance.Nautical Miles : 12
Altitude.MSL.Single Value : 1300

Environment

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

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Personal
Make Model Name : Lancair Undifferentiated
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Personal
Nav In Use : FMS Or FMC
Flight Phase : Initial Approach
Route In Use : Vectors
Airspace.Class D : ZZZ

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 1375
Experience.Flight Crew.Last 90 Days : 35
Experience.Flight Crew.Type : 30
ASRS Report Number.Accession Number : 1614317
Human Factors : Workload
Human Factors : Situational Awareness
Human Factors : Distraction

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : CFTT / CFIT
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 : Human Factors
Primary Problem : Human Factors

Narrative: 1

Chain of events:

1. How problem arose: Had to disconnect autopilot to comply with speed restriction. During ILS clearance/intercept stage and pre-landing checklist, FMS was incorrectly loaded with altitude bug.
 2. Contributing factors: high single pilot workload with fairly new system. Programming complexity led to loss of Situational Awareness.
How discovered: ATC alerted of low altitude.
 3. Corrective action: applied power and regained altitude within seconds.
Human performance considerations:
 1. Perceptions: Thought FMS altitude bug was set correctly.
 2. Judgments: Checked altimeter and applied power immediately to regain 300 feet to proper altitude.
 3. Inactions: Failure to program FMS altitude bug and failure to recognize premature descent prior to FAF passage.
 4. Factors affecting the quality of human performance: High workload and relatively low time in type. First experience with specific speed restrictions.
- Solution: spend more time practicing high workload situations with various speed configurations under simulated hood with experienced safety pilot and avoid hard IFR until more experienced with aircraft.

Synopsis

Lancair pilot reported an excursion from altitude and ATC issued a low altitude alert during ILS approach.

Time / Day

Date : 201901

Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.ARTCC

State Reference : US

Altitude.MSL.Single Value : 44300

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Center : ZZZ

Aircraft Operator : Personal

Make Model Name : PC-24

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Training

Flight Phase : Climb

Route In Use : Direct

Airspace.Class A : ZZZ

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : General Seating Area

Reporter Organization : Personal

Function.Flight Crew : Check Pilot

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Total : 14000

Experience.Flight Crew.Last 90 Days : 200

Experience.Flight Crew.Type : 1800

ASRS Report Number.Accession Number : 1614042

Human Factors : Training / Qualification

Human Factors : Situational Awareness

Events

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Altitude : Undershoot

Anomaly.Deviation - Procedural : Clearance

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

Assessments

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

Narrative: 1

Pilot Flying was undergoing Supervised Operating Experience "Mentoring" on the Pilatus PC-24 for single pilot operations.

After checking on the pilot in the climb at FL430 and FL440 I returned to my seat in the cabin where I had a bird's eye position to watch the pilot with ATC on the overhead speaker. Pilot was climbing in PIT (PITCH) mode aware of the dangers in climbing in that mode. Many pilots like to climb in Pitch mode through FL300 as it gives the passengers a smoother ride and allows the pilot to reach cruising altitude without hunting in FLC or VS.

At FL443 I heard the Center controller yell in a DEMANDING VOICE "I need you at FL450 in 1 minute or less."

Hearing this exclamation, I ran to the flight deck to see the pilot's reaction. The Pilot Flying selected Manual Speed on the Autothrottle and dialed the speed back. (A common technique for climbing in Autothrottle FMS mode is when a controller asks you to expedite the climb you switch to Manual Speed on the Autothrottle and dial back 20-30 knots -- this will command the APFDS to pitch up exchanging airspeed for altitude); however, in this situation, the pilot didn't realize that dialing the speed back in PITCH mode would actually retard the throttles to IDLE.

The Pilot [Flying] immediately corrected for the situation; however, once the aircraft lost the energy, the plane would no longer be able to reach assigned altitude. The Controller under a lot of pressure from the government shutdown clearly took his stress on the situation that required the pilot to get to FL450 in 1 minute or less out on the Pilot Flying and hit him over and over again with radio calls task saturating the pilot. The Pilot Flying did a great job on flying the aircraft, lowering the nose to break the approaching stall, and finally when he had a minute to breathe, informed the controller he needed lower.

The pilot was ground schooled after the incident that he should of "Declared an Emergency for Safety" and told the controller of the situation.

The Pilot Flying now learned how to manage that type of situation and more importantly how to manage ATC in an emergency.

Synopsis

PC24 Check Pilot reported the pilot in training did not comply with ATC clearance.

Time / Day

Date : 201901

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : JFK.Airport

State Reference : NY

Aircraft : 1

Reference : X

ATC / Advisory.TRACON : N90

Aircraft Operator : Air Carrier

Make Model Name : EMB ERJ 170/175 ER/LR

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Initial Approach

Airspace.Class B : JFK

Aircraft : 2

Reference : Y

Make Model Name : Heavy Transport

Flight Phase : Initial Approach

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1614006

Human Factors : Confusion

Human Factors : Situational Awareness

Events

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Deviation - Procedural : Clearance

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter

Detector.Person : Air Traffic Control

When Detected : In-flight

Result.General : None Reported / Taken

Assessments

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

Narrative: 1

We were on approach vectors for Runway 4L at JFK in visual clear conditions. The Approach Controller notified us of a heavy aircraft on approach for 4R. Our vector would place us in a position to cross the wake of the heavy aircraft. Unfortunately I cannot remember specifically what our approach clearance was however I believe that we descended into the wake remnant area of the heavy aircraft. I don't recall encountering wake turbulence but I do know we were advised of the possibility. Unfortunately I do not recall the approach clearance specifics but it is possible that I read back acceptance of a clearance that did not involve an altitude clearance limit and thus violated that limit.

Synopsis

E170 flight crew member reported a wake turbulence encounter and a possible excursion from cleared altitude on arrival into JFK.

Time / Day

Date : 201901

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ONT.Airport

State Reference : CA

Altitude.MSL.Single Value : 8000

Environment

Flight Conditions : VMC

Aircraft

Reference : X

ATC / Advisory.TRACON : SCT

Aircraft Operator : Air Carrier

Make Model Name : A320

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Descent

Airspace.Class E : SCT

Person

Reference : 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 : Instrument

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Multiengine

ASRS Report Number.Accession Number : 1613679

Human Factors : Communication Breakdown

Human Factors : Situational Awareness

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

Events

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Inflight Event / Encounter : CFTT / CFIT

Detector.Person : Air Traffic Control

When Detected : In-flight

Result.Flight Crew : Became Reoriented

Result.Flight Crew : Took Evasive Action

Result.Flight Crew : Returned To Clearance

Result.Air Traffic Control : Issued Advisory / Alert
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

Captain was PF (Pilot Flying) and I was PM (Pilot Monitoring.) On the Eagle2 RNAV arrival ATC gave us a heading off of the arrival and to descend and maintain 4,000 feet. I think this was when we were at about 8,000 feet. I activated the approach and sequenced it for the visual backed up ILS 26R. After that as we were descending I was looking out the window at the terrain and houses but did not think we were in danger but just how low we were as we crossed over that area. To me this was not unusual because once crossing the terrain you are usually high on the approach. So I didn't think it was off. I go to ONT maybe once every 9-12 months. Both the Captain and I had our terrain map up on the MFD.

At about 6,400-6,500 feet ATC gave us a terrain alert and to climb to 8,000. I noticed the Captain did not react so I did and climbed the aircraft. On the way up I responded to ATC that we were in a climb to 8,000. ATC said I must have taken another aircraft's radio [call]. I do not agree, but I am human and do make mistakes so it is possible but I still don't think I did in this case. There was no evidence of stepping on anyone on the radio. The Captain and I both agree we heard our flight number and to fly present heading followed by a descent to 4,000 feet. I read back as such. Later we briefly discussed it with ATC. He claimed it was for another aircraft on the radio. I still believe ATC did tell us 4,000 feet. Either way I realize in the future when around terrain to look at the highest terrain altitude readout on my MFD map and reference that to where it is compared to what ATC gives us to be even more aware. We never got any GPWS alerts at all.

Synopsis

A320 First Officer reported receiving a low altitude alert from ATC on descent into ONT after apparently taking a descent clearance meant for another aircraft.

Time / Day

Date : 201901

Place

Locale Reference.ATC Facility : ZDV.ARTCC
State Reference : CO
Altitude.MSL.Single Value : 32000

Environment

Weather Elements / Visibility : Turbulence
Light : Night

Aircraft

Reference : X
ATC / Advisory.Center : ZDV
Aircraft Operator : Air Carrier
Make Model Name : B737 Next Generation Undifferentiated
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Flight Phase : Climb
Airspace.Class A : ZDV

Person : 1

Reference : 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 : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Last 90 Days : 435
ASRS Report Number.Accession Number : 1613545
Human Factors : Situational Awareness

Person : 2

Reference : 2
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 : 353
ASRS Report Number.Accession Number : 1613493
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Overshoot
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 : Weather

Narrative: 1

Climbing out of DEN westbound over the RLG VORTAC, our aircraft was cleared to climb to FL 320. At approximately FL 290, we encountered an area of turbulence in the moderate range that continued to increase in intensity. At approximately FL310, we entered severe turbulence associated with severe mountain wave. I disconnected the autopilot and autothrottle system in an attempt to control the aircraft from exceeding airspeed and altitude constraints.

The aircraft continued to climb uncontrollably to approximately FL330. We informed ATC of the event and requested a block altitude and descended back to FL320. The event lasted approximately one minute before the turbulence subsided to the light-to-moderate range. All passengers and flight attendants were seated and no injuries were reported. We continued to our final destination with no further aircraft systems or weather related problems.

Narrative: 2

On climbout, we were cleared to climb to FL320. ATC reported continuous light, occasional moderate turbulence through 340. These reports matched the [weather program] and Dispatch paperwork. The Captain had the flight attendants sit down and made an announcement to the passengers acknowledging the potential for turbulence and instructing them to remain seated with their seat belts fastened. As we were passing through 310, the aircraft encountered severe turbulence/mountain wave turbulence involving +/- 15 knot airspeed changes and violent attitude changes.

Upon reaching FL320, the Captain turned off the autopilot and autothrottle and attempted to level the aircraft. Despite his best efforts, due to the turbulence, the aircraft continued to climb up to 330. Upon reaching 330, the Captain notified ATC of the deviation, requested a block altitude, and began a descent back to 320. He also informed ATC that we encountered severe turbulence over RLG at 320. The event lasted about one minute. Shortly thereafter, another aircraft made the same report within the same vicinity. The severe turbulence was short lived, and we continued the flight without further incident.

Synopsis

B737 flight crew reported encountering severe turbulence on climbout.

Time / Day

Date : 201901

Local Time Of Day : 0001-0600

Place

Locale Reference.ATC Facility : ZOA.ARTCC

State Reference : CA

Altitude.MSL.Single Value : 41000

Environment

Weather Elements / Visibility : Turbulence

Weather Elements / Visibility.Visibility : 50

Light : Daylight

Ceiling.Single Value : 65000

Aircraft

Reference : X

ATC / Advisory.Center : ZOA

Aircraft Operator : Air Taxi

Make Model Name : Gulfstream IV / G350 / G450

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 135

Flight Plan : IFR

Mission : Passenger

Flight Phase : Cruise

Route In Use : Oceanic

Airspace.Class A : ZOA

Person : 1

Reference : 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 : Instrument

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Total : 15000

Experience.Flight Crew.Last 90 Days : 95

Experience.Flight Crew.Type : 6000

ASRS Report Number.Accession Number : 1613422

Human Factors : Situational Awareness

Human Factors : Communication Breakdown

Human Factors : Confusion

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

Person : 2

Reference : 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 : Flight Instructor
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 4700
Experience.Flight Crew.Last 90 Days : 75
Experience.Flight Crew.Type : 75
ASRS Report Number.Accession Number : 1613442
Human Factors : Situational Awareness
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Procedural : Clearance
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

We were flying our first trip using CPDLC (Controller Pilot Datalink Communications). Approximately 78 miles west of the DIALO intersection cruising at FL410. We sent a request for FL430. ATC replied unable due to traffic. [Later] we received the message "standby your traffic is climbing." [A few minutes later] we received the message "your traffic is moving." Shortly after receiving [that] message we received a message that both I and my First Officer interpreted as a clearance to climb to FL430. We initiated a climb rate of approximately 300 fpm. Passing approximately 41,800 feet we received a message to descend to maintain FL410. We immediately initiated a descent and returned to FL410. [We then] received the message "maintain FL410. Possible higher once traffic moves." [Shortly thereafter] we received the message "climb to and maintain FL430."

Both myself and my First Officer are perplexed with this series of events. We both saw a message which we both interpreted as a climb clearance. We both saw a message instructing us to descend to FL410. Neither of these two messages are stored in the message log.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

GIV flight crew reported departing cruise altitude without a clearance due to confusion with CPDLC communication.

Time / Day

Date : 201901
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ORD.Airport
State Reference : IL
Altitude.MSL.Single Value : 7000

Environment

Flight Conditions : VMC

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : C90
Aircraft Operator : Air Carrier
Make Model Name : EMB ERJ 145 ER/LR
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Flight Phase : Descent
Route In Use.STAR : MADII FOUR
Airspace.Class B : ORD

Aircraft : 2

Reference : Y
ATC / Advisory.TRACON : C90
Aircraft Operator : Air Carrier
Make Model Name : Heavy Transport
Operating Under FAR Part : Part 121
Flight Plan : IFR
Nav In Use : FMS Or FMC
Flight Phase : Initial Approach
Route In Use.STAR : MADII
Airspace.Class B : ORD

Person : 1

Reference : 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 : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 5830

ASRS Report Number.Accession Number : 1613267
Analyst Callback : Attempted

Person : 2

Reference : 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 : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 1613146
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

On flight to ORD air traffic control advised First Officer and I of a heavy aircraft ahead and 1,000 ft above our assigned altitude. I reported aircraft in sight. As the other aircraft appeared closer and closer on TCAS I had the flight attendant sit down for possible wake turbulence. While on the MADII 4 Arrival somewhere after SOOLU ATC told us to descend [to] 7,000 ft. While slowing in order to descend we encountered a wake, losing about 100 ft than gaining 150 ft but no more than 200 feet. After the encounter I asked ATC for a heading to aid in reestablish on the arrival. He gave us a heading of 090 and we descended to 7,000 ft and complied with new assigned heading. At no point did the aircraft [TCAS] give any type of proximity caution / warning. Would like more distance between heavy aircraft.

Narrative: 2

On [our] flight to ORD, on the MADII 4 Arrival, between SOOLU and KURKK we were instructed to descend from 10,000 to 7,000. While we were slowing to descend our aircraft encountered uncommanded pitch and attitude inputs that resulted in altitude changes of +/- 100/150 ft. We quickly realized that we had entered the wake turbulence from a Heavy Aircraft in close proximity. The Captain asked for a heading from ATC, while I maintained aircraft control. Once in the clear, I began the descent to 7000. We proceeded to fly the ILS to 27R. Upon landing we were told to give TRACON a call. We explained the

situation, fortunately, no one was hurt. We were a little frazzled by the event. I feel as a crew, we could have done a better job of communicating with ATC.

Synopsis

EMB-145 flight crew reported an altitude deviation occurred after encountering wake turbulence on arrival into ORD in trail of a heavy aircraft.

Time / Day

Date : 201901

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : CAE.Airport

State Reference : SC

Altitude.MSL.Single Value : 2000

Environment

Flight Conditions : VMC

Light : Night

Aircraft

Reference : X

ATC / Advisory.TRACON : CAE

Aircraft Operator : Air Carrier

Make Model Name : Regional Jet 200 ER/LR (CRJ200)

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use.Localizer/Glideslope/ILS : Runway 29

Flight Phase : Final Approach

Route In Use : Visual Approach

Airspace.Class C : CAE

Person : 1

Reference : 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 : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

ASRS Report Number.Accession Number : 1613172

Human Factors : Situational Awareness

Human Factors : Human-Machine Interface

Person : 2

Reference : 2

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 : 1613045

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Automation : Air Traffic Control
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.General : Flight Cancelled / Delayed
Result.Flight Crew : Became Reoriented
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Executed Go Around / Missed Approach
Result.Air Traffic Control : Issued New Clearance
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

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

Narrative: 1

I was at 2,600 feet and was cleared for the Visual Approach for Runway 29 to CAE. I then informed my First Officer to set the next expected altitude on the ILS of 1,600 feet. During our descent through 2,000 feet for 1,600 feet, we got an aural message of "Caution Terrain" because of two lighted Towers to our two o'clock direction from the cockpit. I then turned off the autopilot and started a left turn and climb. At this moment is when Approach came over the frequency and told us to climb to 2,400 feet and cancel the Visual Approach. Once leveled off, we were given a new heading and cleared for the Visual Approach again and was then told to contact Tower. We then checked in with Tower and was cleared to land. At this time we landed safely and taxied to the gate.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

CRJ-200 flight crew reported receiving a Terrain Alert while conducting a night time Visual Approach to CAE airport.

Time / Day

Date : 201901

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : LGA.Airport

State Reference : NY

Altitude.MSL.Single Value : 27000

Environment

Flight Conditions : VMC

Aircraft

Reference : X

ATC / Advisory.Center : ZDC

Aircraft Operator : Fractional

Make Model Name : Medium Transport

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 135

Flight Plan : IFR

Mission : Passenger

Flight Phase : Descent

Route In Use.STAR : KORRY FOUR

Airspace.Class A : ZDC

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Fractional

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 : 1613153

Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Undershoot

Anomaly.Deviation - Altitude : Crossing Restriction Not Met

Anomaly.Deviation - Procedural : Clearance

Detector.Person : Air Traffic Control

When Detected : In-flight

Result.Flight Crew : Became Reoriented

Assessments

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

Narrative: 1

On the KORRY 4 arrival into LGA, ATC issued a clearance to cross RIDGY at F270. The autopilot was engaged, in VNAV mode, and on profile for the KORRY 4 arrival fixes, but the actual procedure is published to cross RIDGY above F270, displayed in the FMS as "300/27000A." I failed to edit the STAR procedure to delete the "A" which caused the aircraft to fly the procedure as published, that is, to cross RIDGY above F270.

The Washington Center Controller informed us when we were 8 miles from RIDGY that "next time, let's cross RIDGY at F270, next time, listen up." Then he handed us off to the next controller.

I intervened and deployed the speed brakes and steepened the descent. We almost made the crossing, but missed RIDGY by 8 miles after we passed the fix. We then resumed the STAR as published.

Identification: We were made to be aware of the situation by the ATC controller and then immediately intervened with the automation to correct the error.

Cause: I neglected to change the published STAR procedure to the amended instructions given by the controller.

Response: Intervention with automation to attempt to comply with clearance.

Suggestions: Follow the standard procedure to brief the STAR and any changes issued by ATC should be crosschecked with the published procedure.

Synopsis

Fractional Captain reported failing to make the crossing restriction at RIDGY that had been modified by ATC on the KORRY 4 arrival into LGA.

Time / Day

Date : 201901
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : Us
Altitude.MSL.Single Value : 600

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Rain
Weather Elements / Visibility : Turbulence
Weather Elements / Visibility : Windshear
Light : Daylight
Ceiling.Single Value : 300

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : EMB ERJ 145 ER/LR
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.Localizer/Glideslope/ILS : 24
Flight Phase : Final Approach
Airspace.Class C : ZZZ

Person

Reference : 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 : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 2200
Experience.Flight Crew.Last 90 Days : 13
Experience.Flight Crew.Type : 13
ASRS Report Number.Accession Number : 1613031

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Speed : All Types

Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Executed Go Around / Missed Approach
Result.Flight Crew : Diverted

Assessments

Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

A large weather system was moving across the Northeast as a very warm air mass for January was being rapidly pushed out by a cold front, bringing widespread windy surface conditions and a strong low-level shear across PA-NJ-NY-CT-MA. These conditions were forecast to prevail until [the evening]. As we approached, ZZZ ATC advised that a 737 had reported windshear and 20 knot loss of airspeed 30minutes earlier, and that there was additional heavy to severe precipitation moving across the field and approach path. We elected to hold for a few minutes until there was a better weather report. At this time the winds at the field were approximate 180 at 25G36 using Runway 24, ceilings were reported 300 Overcast. Runways are wet; winds at 2,000 feet were 210 at 87.

Approaching 500 feet stable call, crew decided to execute Go-Around. EGPWS Windshear Warning.

Cause: The approach flown was ILS 24 into ZZZ, flaps 45 was used due to inadequate landing distance on a wet runway for flaps 22. Severe to occasional extreme turbulence was encountered below 2,000 feet due to windshear. At approximately 600 feet on approach, we began to execute a Go-Around for inability to remain in a stable configuration on approach. Simultaneously the EGPWS activated for the Windshear warning. A Windshear escape maneuver was performed. The airspeed limitation for flaps 45 was temporarily exceeded (160 knot for 10 seconds). The windshear was so severe that altitude deviation on the approach was unavoidable; ATC issued a low altitude warning after we had already accomplished the escape maneuver. I recall seeing 380 ft. on the Radio Altimeter, which for the distance from the runway triggered the Low Altitude alarm from ATC; we must have been well below Glideslope during the recovery.

Response: We executed Windshear escape maneuver. Elected to divert to ZZZ1 after ATC reported a 47 knot wind and conditions not improving.

Suggestions: The wind conditions were just barely inside of demonstrated crosswind components, but this is an example showing that a number of compounding conditions (Ceiling 100 feet above mins, windshear between 2,000 and surface, approach speed for flaps 45 at Operational Limit) while not outside of limits can result in an aircraft being legally dispatched into a dangerous situation. Checking a flight-tracking website of the same route showed that a previous crew had diverted due to conditions at ZZZ. Weather conditions at the time of our approach were forecasted to be the same or worse. This was something Dispatch could have communicated to crews this day until the weather was forecast to improve.

Synopsis

EMB-145 First Officer reported executing a go-around and diverting to an alternate following an unstable approach and an EGPWS windshear warning.

Time / Day

Date : 201901

Local Time Of Day : 0001-0600

Place

Locale Reference.ATC Facility : ZOB.ARTCC

State Reference : OH

Altitude.MSL.Single Value : 24000

Aircraft

Reference : X

ATC / Advisory.Center : ZOB

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

Nav In Use : FMS Or FMC

Flight Phase : Descent

Airspace.Class A : ZOB

Person

Reference : 1

Location Of Person.Facility : ZOB.ARTCC

Reporter Organization : Government

Function.Air Traffic Control : Enroute

Qualification.Air Traffic Control : Fully Certified

Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 3

ASRS Report Number.Accession Number : 1612876

Human Factors : Situational Awareness

Analyst Callback : Completed

Events

Anomaly.Airspace Violation : All Types

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Altitude : Overshoot

Anomaly.Deviation - Procedural : Clearance

Detector.Person : Air Traffic Control

When Detected : In-flight

Result.Flight Crew : Returned To Clearance

Result.Air Traffic Control : Provided Assistance

Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

Narrative: 1

Aircraft X checked on descending to FL240 from the high sector. I cleared him to descend via the TRYBE1 Arrival which has them crossing their next waypoint, UPPRR, at or above FL240 (keeping them above the adjacent low sector which owns up to FL230). The workload was low and I watched their descent rate. I remember thinking to myself as they approached leveling at FL240 that the last hit had too high of a descent rate for them to stop at FL240. So still several miles from UPPRR, they descended through FL240. At FL238 I inquired what they were doing and they said descending via. I stopped them at FL230 and PVD'd [Plan View Display] a datablock up on the airspace that was just violated to my east, Clarion Sector. After calling and explaining, I went back to Aircraft X and explained that they were to cross UPPRR at or above FL240. They apologized. I cleared them to cross UPPRR at FL230 then descend via. There were no other issues. I have seen several aircraft do this since Metroplex rolled out. Pilots just aren't paying attention. They are anticipating, displaying expectation bias and not listening/understanding the clearance. So far I haven't seen a loss of separation or NMAC, but it's only a matter of time. The issues I've seen are at the regional airline level.

Callback: 1

Reporter stated this is happening due to expectation bias. This intersection is right on the ZOB ARTCC and Cleveland TRACON Border. Pilots do not like having to slow at this point. Reporter stated this same problem happened to him about two weeks earlier.

Synopsis

Cleveland Center Controller reported an airspace deviation associated with a crossing restriction that the pilot busted.

Time / Day

Date : 201901

Local Time Of Day : 0001-0600

Place

Locale Reference.ATC Facility : ZME.ARTCC

State Reference : TN

Altitude.MSL.Single Value : 4000

Environment

Flight Conditions : IMC

Weather Elements / Visibility : Icing

Weather Elements / Visibility : Cloudy

Aircraft

Reference : X

ATC / Advisory.Center : ZME

Make Model Name : PA-34-200 Seneca I

Operating Under FAR Part : Part 91

Flight Plan : IFR

Flight Phase : Cruise

Airspace.Class E : ZME

Person

Reference : 1

Location Of Person.Facility : ZME.ARTCC

Reporter Organization : Government

Function.Air Traffic Control : Enroute

Qualification.Air Traffic Control : Fully Certified

ASRS Report Number.Accession Number : 1612859

Human Factors : Communication Breakdown

Human Factors : Situational Awareness

Communication Breakdown.Party1 : ATC

Communication Breakdown.Party2 : Flight Crew

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Anomaly.Inflight Event / Encounter : CFTT / CFIT

Detector.Person : Air Traffic Control

When Detected : In-flight

Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Weather

Primary Problem : Weather

Narrative: 1

Aircraft X was IFR from ZZZ. The aircraft had just passed the ZZZ1 airport when I noticed that the aircraft had descended from its initial altitude of 4000 ft. to 3600 ft. and had continued to descend to 3400 ft. I issued a low altitude alert to the aircraft and advised that the aircraft climb to 4000 ft. The pilot then told me that he was heading back to ZZZ. I asked the pilot for the reason for the change in destination and he told me that he was icing up and he did not want to climb back into the clouds where he picked up ice. The aircraft continued to fluctuate in altitude. I advised him that my minimum safe altitude was 3700 ft. The aircraft eventually leveled off at 4000 ft. and went back to ZZZ.

Synopsis

Memphis Center Controller reported an aircraft that descended below the Minimum Safe Altitude due to icing.

Time / Day

Date : 201901

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : LGA.Airport

State Reference : NY

Altitude.MSL.Single Value : 27000

Environment

Flight Conditions : IMC

Aircraft

Reference : X

ATC / Advisory.Center : ZDC

Aircraft Operator : Air Carrier

Make Model Name : A320

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Descent

Route In Use.STAR : KORRY FOUR

Airspace.Class A : ZDC

Person

Reference : 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 : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

ASRS Report Number.Accession Number : 1612690

Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Undershoot

Anomaly.Deviation - Altitude : Crossing Restriction Not Met

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : Clearance

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Became Reoriented

Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

While on the KORRY 4 arrival into LGA, Washington Center instructed us to cross RIDGY at FL270. The pilot flying set FL270 on the altitude select and managed the descent. The FMS was programmed to cross RIDGY at or above FL270. We forgot to reprogram the FMS to cross RIDGY at FL270. After a couple of minutes we realized our error and we knew we will not be able to make the altitude restriction. We informed Washington Center that we will not be able to make the altitude restriction. Washington Center instructed us to descend to FL240.

Make sure to verify and check that the proper altitude restriction is programmed in the FMS.

Synopsis

A320 Captain reported failing to make a crossing restriction at RIDGY that was modified by ATC on the KORRY 4 arrival into LGA.

Time / Day

Date : 201901

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : SAT.Airport

State Reference : TX

Altitude.MSL.Single Value : 6000

Environment

Flight Conditions : Mixed

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.TRACON : SAT

Aircraft Operator : Air Carrier

Make Model Name : B737-700

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Initial Approach

Route In Use.STAR : BRAUN2

Airspace.Class C : SAT

Person

Reference : 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 : Air Transport Pilot (ATP)

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Last 90 Days : 200

ASRS Report Number.Accession Number : 1612606

Human Factors : Communication Breakdown

Human Factors : Confusion

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

Events

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : Clearance

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 New Clearance

Assessments

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

Narrative: 1

Phase of flight was the descent to SAT on the BRAUN 2 RNAV Arrival. Initial check-in with approach was uneventful. ATIS stated 13R in use. The brief and plan was for the RNAV (RNP) Z 13R from CRISS. I was Pilot Monitoring (PM) and requested the approach upon check-in with SAT Approach. I retrieved the [new] ATIS via ACARS. The runway in use was now 31L. The Pilot Flying (PF) began loading the approach in the FMS and changing approach plates. I revised the approach request for the RNAV (RNP) Z Runway 31L from TROOP. SAT Approach cleared us for the approach to cross TROOP at or above 6000 ft. I read back the clearance. I do not recall exactly the readback if I included the restriction. The PF asked if we were cleared the approach, I stated "yes." The PF was verbalizing something about the vertical path. The PF put 5000 ft. in the altitude window initially and then 2200 ft. when cleared for the approach. The waypoint altitude in the FMS shows TROOP as an at or below altitude. The ATC clearance was for at or above. ATC restated the restriction when we descended below 6000 ft. prior to TROOP. A climb was initiated back to 6000 ft. to cross TROOP. The remaining part of the approach and flight were uneventful. TROOP is an IF on both the RNP Z 13R and on RNP Z 31L, but the altitude requirements are different. On the 13R Approach, TROOP is at or above 6000 ft. On the 31L approach, TROOP is at or below 6000 ft. Since the airport had just switched runways, I suspect that the controller was expecting us to cross TROOP at or above 6000 ft. yet once he cleared us for the 31R Approach without any altitude instructions, we continued our VNAV descent below 6000 ft. I suspect he was surprised to see our aircraft below 6000 ft. prior to TROOP.

Synopsis

B737-700 Captain reported an altitude excursion occurred on the BRAUN2 RNAV Arrival into SAT when TRACON issued a late runway change.

Time / Day

Date : 201901

Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZDV.ARTCC

State Reference : CO

Altitude.MSL.Single Value : 9300

Aircraft

Reference : X

ATC / Advisory.Center : ZDV

Make Model Name : Small Aircraft

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : IFR

Flight Phase : Climb

Airspace.Class E : ZDV

Person

Reference : 1

Location Of Person.Facility : ZDV.ARTCC

Reporter Organization : Government

Function.Air Traffic Control : Enroute

Qualification.Air Traffic Control : Fully Certified

Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 8

ASRS Report Number.Accession Number : 1612592

Human Factors : Communication Breakdown

Human Factors : Situational Awareness

Communication Breakdown.Party1 : ATC

Communication Breakdown.Party2 : Flight Crew

Events

Anomaly.Conflict : Airborne Conflict

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Deviation - Procedural : Clearance

Anomaly.Inflight Event / Encounter : CFTT / CFIT

Detector.Person : Air Traffic Control

When Detected : In-flight

Result.Air Traffic Control : Provided Assistance

Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

Narrative: 1

Aircraft X was flying level at 9000 ft. and I got an MIA [Minimum IFR Altitude] alert so I told the aircraft to climb to 10000 ft. to clear the MIA. I radioed him again right after to inform him I needed to vector him for some military airspace. He started to question it so I told him he would need a vector or he would need to be VFR and enter a military training complex at his own risk. I noticed that through this he was not climbing. I told him that I needed him to climb right now and that I would also need to vector him. He started to climb but had already entered the MIA box of 9300 ft. The pilot sounded as if to be a foreigner and did not take the appropriate action as directed. He was confused and his delayed response is the reason for the loss of separation. I also should have caught the MIA situation sooner.

Pilot needs to take action when given a clearance.

Synopsis

Denver Center Controller reported observing an aircraft that received a Minimum IFR Altitude alert and climbed the aircraft but pilot was slow to respond.

Time / Day

Date : 201901

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : TEX.Airport

State Reference : CO

Relative Position.Distance.Nautical Miles : 4

Altitude.MSL.Single Value : 12100

Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 7

Light : Daylight

Ceiling.Single Value : 3500

Aircraft

Reference : X

Aircraft Operator : Air Taxi

Make Model Name : Small Transport, Low Wing, 2 Turbojet Eng

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 135

Flight Plan : IFR

Mission : Passenger

Nav In Use : GPS

Flight Phase : Initial Approach

Airspace.Class E : ZDV

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Corporate

Function.Flight Crew : First Officer

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Total : 1235

Experience.Flight Crew.Last 90 Days : 34

Experience.Flight Crew.Type : 19

ASRS Report Number.Accession Number : 1612557

Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : Clearance

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
Primary Problem : Human Factors

Narrative: 1

While on the RNAV Z RWY 9 at TEX, we descended from 13000 ft. and leveled off at 12900 ft. Shortly after this I noticed we began descending again. Confused by this I double checked our position and the approach plate and realized we were descending prior to the final approach fix. I voiced my concerns to the PIC that we should still be at 12900 ft, the PIC immediately agreed and began a climb back to 12900 ft. The correction was made between 12200 ft. and 11900 ft.

Synopsis

Small Transport First Officer reported an altitude deviation occurred on the RNAV Z Approach to Runway 9 at TEX.

Time / Day

Date : 201901
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 1000

Environment

Flight Conditions : VMC
Light : Night

Aircraft

Reference : X
ATC / Advisory.Tower : 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
Nav In Use : FMS Or FMC
Flight Phase : Final Approach
Route In Use : Visual Approach
Airspace.Class B : ZZZ

Component

Aircraft Component : Autothrottle/Speed Control
Aircraft Reference : X
Problem : Malfunctioning

Person : 1

Reference : 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 : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
ASRS Report Number.Accession Number : 1612460

Person : 2

Reference : 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 : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 1612455

Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Speed : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Overcame Equipment Problem
Result.Flight Crew : Executed Go Around / Missed Approach
Result.Air Traffic Control : Provided Assistance

Assessments

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

Narrative: 1

Accomplished go-around below 1000 feet due to aircraft spacing created by approach and tailwind, which resulted in an unstable approach. Subsequent approach uneventful.

We were asked by ATC to slow to 160 knots on final. This was because of an aircraft 2.5-3 miles in front of us. We also had a 30-knot tailwind. We were using full automation and aircraft was not able to maintain 160 knots with flaps at configuration 2. In addition to the tailwind, the Autothrottles was actually increasing at a time that it should have been decreasing because of the increased speed. The increase in thrust could often be contributed to not being in the approach phase...but this was not the case. We were in fact in the approach phase. The First Officer disconnected Autopilot and Autothrottles and lowered the gear and flaps prior to 1000 feet. The airplane was above the Glideslope below 1000 feet. This resulted in an unstable approach in attempting to "catch" the Glideslope. We conducted a go around at approximately 750 feet.

As a result of the 30-knot tailwind, we should have lowered the gear further out to help maintain the speed. However, it is unclear as to why the Autothrottles was increasing at a time that it should have been decreasing to lower the speed.

Narrative: 2

Visual approach 37-knot tailwind and an aircraft placed 2.5 miles in front of slowed to 160kts by ATC. Autopilot was unable to maintain glide path with tailwind /160kts/ CONFIG 2/ in the APCH MODE (approach mode) pitch was causing airspeed to increase when

Autothrottles began to increase thrust for an undetermined reason, worsening the situation.

Synopsis

A319 flight crew reported executing a go-around due to an unstable approach resulting from inadequate spacing and 30-knot tailwind.

Time / Day

Date : 201901

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : DEN.Airport

State Reference : CO

Altitude.MSL.Single Value : 10500

Environment

Flight Conditions : VMC

Aircraft

Reference : X

ATC / Advisory.TRACON : D01

Aircraft Operator : Air Carrier

Make Model Name : B757 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Final Approach

Route In Use.STAR : PURRL TWO

Airspace.Class B : DEN

Person

Reference : 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 : Instrument

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Total : 6216

Experience.Flight Crew.Last 90 Days : 7

Experience.Flight Crew.Type : 1965

ASRS Report Number.Accession Number : 1612323

Human Factors : Situational Awareness

Events

Anomaly.Conflict : Airborne Conflict

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : Clearance

Detector.Person : Flight Crew

When Detected : Aircraft In Service At Gate
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

I was the Pilot Flying the PURRL2 RNAV Arrival to Denver. We were cleared to descend via the PURRL2 except maintain 11,000 FT, expect Runway 35L. At some point on the arrival, I believe about RECRD, and approaching/level at 11,000 FT we received a vector toward Runway 35L final (I can't remember the heading) and clearance to descend to 10,000 FT. The First Officer (FO) read back the clearance and I complied. There was also a speed clearance, I believe it was to maintain at or above 210 kt. While on the vector passing 10,400 FT, we received a confusing traffic conflict clearance call from ATC. We were told to climb to 10,000 FT and turn left heading 250 deg. I immediately turned to 250 deg heading but since we were descending through 10,400 FT to 10,000 FT, I didn't know whether to climb or descend. We discussed the altitude clearance briefly inside the flight deck and the First Officer queried the controller and the clearance. Again, the controller said, climb to 10,000 FT and turn left heading 250 deg. I had a choice to descend to 10,000 FT or climb to an unknown altitude, so I opted to go to the cleared altitude of 10,000 FT. As we descended and leveled off at 10,000 FT we got a TCAS RA alert to climb. Simultaneously with the TCAS RA, the First Officer reported the traffic aircraft in sight. I complied with the TCAS RA guidance and the FO reported the TCAS RA altitude deviation to the controller. Once we got the TCAS clear of conflict announcement, we received vector back to final and were cleared for the visual approach. After we landed we contacted ATC for clarification on what happened. While talking to ATC over the phone about the incident, I discovered they showed us about 1000 FT below our assigned altitude throughout the entire arrival and approach. The only thing I could think of that would have caused the altitude discrepancy/deviation was an incorrect altimeter setting. However, I was certain that we set all three altimeters to QNH passing 18,000. I called [Company] Denver Station and found that the aircraft was overnighing and still at the gate. I then contacted a Flight Office Representative and asked him to go to the aircraft to check our altimeter settings on the aircraft. The Flight Operations Representative reported that all three altimeters (Captain, First Officer and Standby) were set to 30.45 inches. The DEN ATIS altimeter was 29.45.

Synopsis

B757 Captain reported discovering after the flight that all three altimeters were incorrectly set by one inch of mercury when they flew the PURRL2 RNAV arrival to DEN.

Time / Day

Date : 201901

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : LAX.Airport

State Reference : CA

Altitude.MSL.Single Value : 9800

Aircraft

Reference : X

ATC / Advisory.TRACON : SCT

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 B : LAX

Person

Reference : 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 : Air Transport Pilot (ATP)

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Last 90 Days : 604

Experience.Flight Crew.Type : 11000

ASRS Report Number.Accession Number : 1612299

Events

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Altitude : Crossing Restriction Not Met

Anomaly.Deviation - Altitude : Undershoot

Detector.Person : Flight Crew

When Detected : In-flight

Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Procedure

Primary Problem : Procedure

Narrative: 1

Too much traffic arriving at LAX at the same time. We were issued multiple vectors and speed reductions throughout the arrival. We continued to increase drag to make each restriction. The clearances continued to be "descend via the IRNMN 2 except maintain xxx speed." We were able to make all the restrictions until they issued a 170 speed, but offered no relief from the 8000-9000 feet restriction at JUUSE. We crossed at 9800 feet. I would have asked for relief and would probably have gotten it, but there was no break in the radio traffic. All the other aircraft were told "do the best you can" which technically does not forgive an altitude deviation. It would be better if they stopped saying "descend via except..." and changed to "descend and maintain xxx, best rate down."

Change the clearance verbiage to include relief when issuing slower speeds on arrivals that make it challenging or impossible to meet the published restrictions.

Synopsis

B737 Captain reported being unable to comply with crossing restriction while on LAX arrival due to assigned speed restriction.

Time / Day

Date : 201901

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Relative Position.Distance.Nautical Miles : 16

Altitude.MSL.Single Value : 2000

Environment

Light : Dusk

Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : B737-700

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

Reference : 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 : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Last 90 Days : 200

ASRS Report Number.Accession Number : 1612282

Human Factors : Communication Breakdown

Human Factors : Human-Machine Interface

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : Flight Crew

Person : 2

Reference : 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
ASRS Report Number.Accession Number : 1612275
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Flight Crew

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Altitude : Crossing Restriction Not Met
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Person : Flight Crew
Detector.Person : Air Traffic Control
When Detected : Pre-flight
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Regained Aircraft Control
Result.Flight Crew : Became Reoriented

Assessments

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

Narrative: 1

Just outside the FAF with an altitude intercept of 2000 feet, and a FAF crossing of at or above 1700 feet, the Tower cleared us to land at the same time the VNAV indicator rapidly descended and my FO (First Officer) said "There is your five-mile point" which I should have been at 1700 feet instead of the 2000 feet I was at. I thought I was fairly high and over responded by going Vertical Speed and blindly entering two scrolls down, which unbeknownst to me resulted in a 4100 fpm descent rate putting us below the crossing altitude of 1700 feet or above. We ended up at just over 1400 feet as I quickly tried to recover manually. Then we received the low altitude alert from the Tower and continued to recover back to the glideslope, landing without further incident.

I should have entered 1700 feet in the preselect altitude when cleared to land and then the automation would have worked fine. I also should have visually verified my V/S input, I would never purposefully select 4100 feet, especially that low. My FO also had just entered a five-mile circle without telling me ahead of time, I thought we were at the five-mile point and therefore too high, when he said there is your five-mile point, along with the rapidly descending slope indicator. What my FO was meaning, and just wanting to help, is that he had just entered a five-mile fix circle, not that we were at the five-mile point.

Narrative: 2

RNAV GPS Runway XX ZZZ, autopilot on. FMC cruised at 2000 feet with speed window open and 180 knots ATC assigned speed. We were level flight, just outside [the FAF], approximately seven-mile final. Approach Controller said "Company XXXX, maintain 180 knots until five miles out, call the Tower at [FAF.]" At that point I went heads down to put a five-mile ring on the fix page and switched to the Tower. Without my knowledge the Captain switched from VNAV to Vertical Speed 4100 fpm down to regain what he

presumed as a 300 feet high vertical deviation with zero set in the altitude window.

We weren't high at all. At that time I the PM, FO (Pilot Monitoring, First Officer), was assessing why we had this situation that was controlled seconds earlier. At this point I stated altitude to the Captain and I could hear the Low Altitude Alert going off in the Controller Tower over the Air Traffic Controller's communications with other aircraft. ATC questioned our altitude and I responded "CORRECTING." In seconds (I'd estimate five to seven seconds) we had gone from level at 2000 feet to 1400 feet and 300 feet below the 1700 feet crossing altitude at [the FAF.]

Captain perceived situational awareness that he was high. We were not high. Next, we never set -4100 fpm down while at 2000 feet in the terminal area. Lastly verbalize to the PM, FO, in this case, that you are leaving VNAV.

Synopsis

B737 flight crew reported a communications breakdown between Captain and First Officer regarding approach clearance resulted in an altitude deviation and low altitude alert.

Time / Day

Date : 201901

Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZNY.ARTCC

State Reference : NY

Altitude.MSL.Single Value : 23000

Aircraft : 1

Reference : X

ATC / Advisory.Center : ZNY

Aircraft Operator : Air Carrier

Make Model Name : Medium Large Transport, Low Wing, 2 Turbojet Eng

Operating Under FAR Part : Part 121

Flight Plan : IFR

Flight Phase : Cruise

Airspace.Class A : ZNY

Aircraft : 2

Reference : Y

ATC / Advisory.Center : ZNY

Aircraft Operator : Air Carrier

Make Model Name : Large Transport, Low Wing, 2 Turbojet Eng

Operating Under FAR Part : Part 121

Flight Plan : IFR

Flight Phase : Climb

Airspace.Class A : ZNY

Person : 1

Reference : 1

Location Of Person.Facility : ZNY.ARTCC

Reporter Organization : Government

Function.Air Traffic Control : Enroute

Qualification.Air Traffic Control : Fully Certified

Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 14

ASRS Report Number.Accession Number : 1612268

Human Factors : Situational Awareness

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : ATC

Communication Breakdown.Party2 : Flight Crew

Person : 2

Reference : 2

Location Of Person.Facility : ZNY.ARTCC

Reporter Organization : Government

Function.Air Traffic Control : Enroute

Qualification.Air Traffic Control : Fully Certified

Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 3

ASRS Report Number.Accession Number : 1612258
Human Factors : Situational Awareness

Events

Anomaly.ATC Issue : All Types
Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Procedural : Clearance
Detector.Person : Air Traffic Control
When Detected : In-flight

Assessments

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

Narrative: 1

Was asked for a break. While I was starting to give a briefing, the controller relieving me was told someone else was going to relieve me. I had Aircraft X check in, climbed him to FL240. Aircraft X flashed to me at FL230. These aircraft were crossing traffic at CYN. I re-issued an amended ALT clearance to Aircraft X to stop at FL220. I put a Local INT alt of FL220 on Aircraft X. Aircraft Y was 8-10 MIT (Miles in Trail) with Aircraft X. I put INT of FL240 on Aircraft Y and Local INT of FL220 on the DB (data block) and climbed Aircraft Y to FL220. I then proceeded with the briefing.

As I was walking out, the relieving controller yelled over. I went to see what was going on, and Aircraft Y appeared to climb through Aircraft X. I am unaware if there was an RA or not, I was no longer listening to the frequency. I am certain I climbed Aircraft Y to FL220. With all of the distractions with the government shutdown, not getting paid yet again, and the horrible morale throughout this building, I could have been distracted. I have not been sleeping well, if at all some nights, to the distractions of this shutdown. I have added stress at home, so to deal with our financial situations caused by missing multiple paychecks. It's caused a strain on my marriage, and with the rest of my family. This added stress has multiplied, exponentially, the already stressful environment and job we engage in everyday. It's very difficult for any of us to not have these horrible goings-on in our thoughts distracting us, but I am positive I climbed the AC to FL220.

Having a distraction free environment.

Having the government not treat its employees' paychecks like bargaining tools in a hostage negotiation.

Narrative: 2

During briefing I was told Aircraft Y was climbing to FL220. At the time the data block reflected this information as well. Aircraft X was level at FL230. Both aircraft would cross paths by CYN. I issued a traffic call to Aircraft Y and pilot responded "Aircraft in sight". After the readback I noticed Aircraft Y altitude indicated FL223. I issued turns to both aircraft. Aircraft X responded to an RA and descended while Aircraft Y climbed. I asked Aircraft Y what altitude they were climbing to and the pilot said FL240. I do not know at this time if Aircraft Y responded to an RA or not.

Synopsis

New York Center Controllers reported a loss of separation, possibly due to miscommunication, stress and distractions from the government shutdown.

Time / Day

Date : 201901

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ORD.Airport

State Reference : IL

Altitude.MSL.Single Value : 2200

Environment

Flight Conditions : IMC

Aircraft : 1

Reference : X

ATC / Advisory.TRACON : C90

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

Flight Phase : Final Approach

Route In Use.Other

Airspace.Class B : ORD

Aircraft : 2

Reference : Y

ATC / Advisory.TRACON : C90

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

Airspace.Class B : ORD

Person

Reference : 1

Location Of Person.Facility : C90.TRACON

Reporter Organization : Government

Function.Air Traffic Control : Approach

Qualification.Air Traffic Control : Fully Certified

Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 9

ASRS Report Number.Accession Number : 1612250

Human Factors : Communication Breakdown

Human Factors : Workload

Human Factors : Situational Awareness

Communication Breakdown.Party1 : ATC

Communication Breakdown.Party2 : Maintenance
Communication Breakdown.Party2 : ATC

Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Anomaly.Inflight Event / Encounter : CFTT / CFIT
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 : Weather
Primary Problem : ATC Equipment / Nav Facility / Buildings

Narrative: 1

I was working West Arrival, vectoring aircraft for the ILS to RWY 28C at ORD. There was adverse winter weather in the area at this time, restricting ORD to a 2 runway arrival operation. Due to this, demand was high, and constant. All day, the RWY 28R glideslope had been out (presumed due to weather issues). During a busy period of traffic, the city wanted to have RWY28C groomed, cleaned and inspected due to the continuing ice conditions. At this point, 28R glideslope was returned to service. I was informed by the main arrival coordinator to begin vectoring arrivals to the new runway, and told the [glideslope] would be fully functional. I made the challenging switch to the new runway, and immediately had a full final to about 40 NM. I noticed the low altitude alert go off for Aircraft X, and issued the warning. Aircraft X arrested their descent, and noted they were having an issue with the glideslope.

At this point I noticed Aircraft Y that was also descending well below the glideslope. I immediately climbed them, and issued missed approach instructions. From this point, it was obvious there was still an issue with the glideslope, so I went ahead with the arduous task of reissuing every aircraft the localizer approach for runway 28R. This, along with what was already a busy airspace full of airplanes, Aircraft X and Aircraft Y both then needed to go around for unstable approaches. I was unable to make the coordination with the tower as I was too busy managing my aircraft. At this point the glideslope was taken out of service and deemed unreliable. This caused several ATIS changes, to reflect the equipment malfunction, and approach changes. Along with the rapidly changing weather, I again was oversaturated giving the new ATIS and weather conditions to pilots. It seems the appropriate work wasn't completed to remedy the problem on the glideslope, and nearly caused Aircraft X and Aircraft Y to descend below the MVA (Minimum Vectoring Altitude) as they crossed Downtown Chicago in IFR conditions. This seems like a serious safety issue.

Have some better form of verification equipment is working prior to resuming using that equipment.

Synopsis

Chicago TRACON Controller reported adverse weather and a malfunctioning glideslope caused aircraft to go around.

Time / Day

Date : 201901

Local Time Of Day : 0001-0600

Place

Locale Reference.ATC Facility : ZZZ.ARTCC

State Reference : US

Altitude.MSL.Single Value : 28000

Environment

Flight Conditions : VMC

Aircraft : 1

Reference : X

ATC / Advisory.Center : ZZZ

Aircraft Operator : Corporate

Make Model Name : Gulfstream G650

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 135

Flight Plan : IFR

Mission : Passenger

Flight Phase : Climb

Route In Use : Direct

Airspace.Class A : ZZZ

Aircraft : 2

Reference : Y

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

Route In Use : Direct

Airspace.Class A : ZZZ

Person

Reference : 1

Reporter Organization : Government

Function.Air Traffic Control : Enroute

Qualification.Air Traffic Control : Fully Certified

Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 26

ASRS Report Number.Accession Number : 1611932

Human Factors : Communication Breakdown

Human Factors : Distraction

Human Factors : Physiological - Other

Human Factors : Situational Awareness

Human Factors : Time Pressure
Human Factors : Workload
Human Factors : Fatigue

Events

Anomaly.ATC Issue : All Types
Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Procedural : Clearance
Detector.Automation : Aircraft RA
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : FLC complied w / Automation / Advisory
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued Advisory / Alert
Result.Air Traffic Control : Separated Traffic

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Staffing
Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Contributing Factors / Situations : Company Policy
Primary Problem : Human Factors

Narrative: 1

Aircraft X was climbing. I had to stop the aircraft at 26,000 ft. for traffic at 27,000 ft. When cleared, I climbed Aircraft X to 28,000 ft. because of Aircraft Y at 29,000 ft. passing overhead. A few minutes later, Aircraft X reported an RA. I informed pilot that traffic was passing to the west 1,000 ft. above. Pilot responded "ROGER, leaving FL280 for FL380." I replied "Negative, maintain FL280. FL280 was your assigned altitude". At this time, Aircraft Y informed me that they were responding to an RA also. I never observed Aircraft Y change altitude nor Aircraft X above 28,100 ft. The aircraft passed 2 miles abreast. Listening to the tape later, my clearance could have been garbled but the pilot read back FL380.

In my opinion, fatigue and frequency issues could be a contributing factor. As far as fatigue, I have worked 28 days of overtime in the last 36 weeks, with 6 scheduled for the next 6 weeks. I am lower in hours than most on the overtime list and we are not even into the high leave part of the year. After 31 years of a 2-2-1 schedule, I can cope with the ups and downs of that, but throw in a random shift on my weekend, never knowing which day or which shift, it make rest hard. With our staffing levels it appears this will continue for the foreseeable future. Add in home life, and now the stress of having to work and not getting paid and my anxiety levels are at a peak. The burn-out factor and negativity is high, and I feel I speak for a lot of controllers here.

As far as frequencies, they have been problematic for quite some time. Not as clear as they used to be, static on both the pilots side and ours, over all weak, with no clear plan for a fix. The SOC will change TELCO paths and it may clear them up momentarily but it is no true fix. The feeling around the control room is that no feels frequencies are a priority. We can't do our job without them. They are as important as the RADAR. I can't say any of these thing were truly contributory to this incident, but I also can't say they weren't.

Need to listen more closely to read backs. Increase staffing. Clean up frequencies. Get the Government opened back up.

Synopsis

A Center Controller reported an aircraft misunderstood their traffic information, possibly due to poor radio coverage, and climbed above their assigned altitude into conflict with converging traffic.

Time / Day

Date : 201901

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : SJC.Airport

State Reference : CA

Altitude.MSL.Single Value : 23000

Environment

Flight Conditions : VMC

Weather Elements / Visibility : Turbulence

Aircraft

Reference : X

ATC / Advisory.Center : ZOA

Aircraft Operator : Fractional

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

Flight Phase : Cruise

Airspace.Class A : ZOA

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Fractional

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Captain

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

ASRS Report Number.Accession Number : 1611654

Person : 2

Reference : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Fractional

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 : 1611655

Events

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

Assessments

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

Narrative: 1

Encountered severe turbulence over the Sierra Nevada's at FL230. Was on RAZZR arrival into SJC. Auto pilot went off line 3 times. Hand to hand fly the rest of the arrival. Turned off the arrival towards the San Joaquin valley. Tried climbing but was limited by traffic. 230 was highest altitude available. Turbulence subsided once over the valley and away from the foothills. Gained 200 plus feet at worst.

Narrative: 2

SJC RAZRR4 arrival at FL250 slightly south of STSHH intersection we encountered severe turbulence that caused a 200 ft. loss of altitude and temporary loss of control of the aircraft. The autopilot failed and the master warning was triggered.

We advised ATC with a PIREP and turned westbound to get away from the mountains.

This arrival with a section that flies along the windward side of the mountains should be avoided during inclement weather. It's very likely that icing and turbulence would be worse during weather events.

Synopsis

Fractional flight crew reported encountering severe turbulence at FL230 over the Sierra Nevada Mountains.

Time / Day

Date : 201901

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : TEB.Airport

State Reference : NJ

Altitude.MSL.Single Value : 40000

Environment

Flight Conditions : VMC

Aircraft

Reference : X

ATC / Advisory.Center : ZDC

Aircraft Operator : Air Taxi

Make Model Name : Medium Transport, Low Wing, 2 Turbojet Eng

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 135

Flight Plan : IFR

Flight Phase : Climb

Airspace.Class A : ZDC

Person

Reference : 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 : Instrument

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Multiengine

ASRS Report Number.Accession Number : 1611276

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

Events

Anomaly.ATC Issue : All Types

Anomaly.Conflict : Airborne Conflict

Anomaly.Deviation - Altitude : Overshoot

Anomaly.Deviation - Procedural : Clearance

Detector.Automation : Aircraft RA

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Took Evasive Action

Assessments

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

Narrative: 1

TCAS RA event during climbout. No injuries, no damage, no emergency declared.

Our flight was delayed on departure out of TEB due to ATC flow control restrictions over WHITE. Per TEB Ground control this was due to traffic saturation from the NYC airports going southbound. TEB was spacing departures at ten minute intervals. Our delay from passenger boarding to takeoff was approximately 1.5 hours. I mention this to note that traffic saturation along the route may have been a contributing factor to the IROP (Irregular Operations) event.

IROP narrative begins between the CYN VOR and VILLS intersection on J209 in level flight at FL300. Center issues a clearance to climb to FL400. Clearance is read back verbatim and not challenged or corrected by ATC. Crew begins climbing to FL400. We are then handed off to Washington Center on 121.025 MHz. We check in with our current altitude of approximately FL320 and climbing to cleared altitude FL400. ATC responds acknowledging our check-in and does not correct or challenge the altitude clearance. Continuing our climb through approximately FL342 we receive a TA (traffic advisory) at approx XA55Z. This is unusual in a climb situation at high altitudes and immediately got our attention. Weather was night VMC on top of a lower cloud deck.

As PF (pilot flying) I spotted the traffic quickly, Aircraft Y nearly head on with us at a high closure rate. Our climb rate at that point was approximately 1000 fpm. I immediately slowed the climb rate to zero / level flight realizing very quickly that the situation was not safe and we needed to act. At that point we received a TCAS RA (resolution advisory). The RA commanded a level descent of approximately 500 FPM. I disengaged the autopilot and hand-flew the RA. As the traffic passed overhead we were approximately 800 feet below Aircraft Y and descending per the RA. PM (Pilot Monitoring) immediately advised ATC that we were responding to an RA.

Once the RA was over and we were clear of the traffic we advised ATC. PM advised ATC that we were continuing our climb per our previous clearance to FL400. ATC then asked if our altitude clearance was FL340. PM responded "Negative, FL400." ATC then stated that we were cleared to FL340. PM read back that clearance and we maintained FL340. No further traffic issues after this.

At that point the other airplane came on the radio and asked ATC for our callsign, which was given. Other aircraft was Aircraft Y headed northbound level at FL350. He stated they received a TA during the event, but no RA.

The RA maneuver commanded a slight descent of 500 FPM. The passengers were not aware of the RA and there were no negative Gs. The maneuver was smooth with no noticeable change from a passenger perspective. Entire event lasted less than one minute.

In hindsight, it was strange that we were handed off several times quickly before reaching Washington Center after receiving a climb to FL400 clearance. There is a possibility that we took a handoff for a similar sounding callsign. Another possibility is that ATC issued us the clearance that was meant for the other aircraft with similar callsign. It is further possible that the handoff was also in error and/or ATC did not catch it when we took the

handoff. ATC vigilance was needed in this situation and was missing. Crew vigilance also needed due to heavy traffic. Crew vigilance was compromised due to fatigue, distraction with a minor mx issue, and lack of nutrition due to long day with mx issues and no time to eat lunch or dinner. The clearance to climb to FL400 was unusual given the location, and could have been clarified/questioned earlier by crew. However, it was not completely out of the ordinary or unexpected given the 10 minute traffic spacing. These issues did not rise up to conscious concerns until after-the-fact.

Suggestion for improvement is to clarify altitude clearances in the NYC area if anything doesn't seem correct, even for just a gut feeling.

Synopsis

Air taxi Captain reported an airborne conflict during climb due to a communication breakdown with ATC.

Time / Day

Date : 201901
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Angle.Radial : 350
Relative Position.Distance.Nautical Miles : 10
Altitude.MSL.Single Value : 3000

Environment

Flight Conditions : IMC
Weather Elements / Visibility.Visibility : 10
Light : Night
Ceiling.Single Value : 4000

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B757-200
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Cargo / Freight
Route In Use.Other
Airspace.Class C : ZZZ

Component

Aircraft Component : Trailing Edge Flap
Aircraft Reference : X
Problem : Malfunctioning

Person

Reference : 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 : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 10200
Experience.Flight Crew.Last 90 Days : 66
Experience.Flight Crew.Type : 500
ASRS Report Number.Accession Number : 1611158
Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Procedural : Clearance
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Executed Go Around / Missed Approach
Result.Flight Crew : Returned To Clearance
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

We were descending through 3000 feet on the ILS. After selecting flaps 20 we received a master caution TE FLAP DISAGREE EICAS message and corresponding annunciator light. I asked the PM (Pilot Monitoring) to run the TE FLAP DISAGREE checklist. While retrieving the check list, we decided a GA (Go Around) was the best course of action to work the issue. Our instructions were to fly runway heading and climb to 3000 feet. When I initiated the GA I anticipated the aircraft to level off or climb very little since we were already close to 3000 feet. It became apparent that it was not going to be close. So I disconnect the auto pilot and began a controlled level off and power reduction, aware of our potential flap issue and possible flap overspeed. We climbed to approximately 3500 feet while ATC gave us clearance to 4000 feet. We remained on ATC vectors while working the checklist and communicating with Dispatch. After completing the checklist and conversing with the company we landed flaps 20 uneventfully.

On our taxi to the ramp [ground personnel] thought they detected a possible hot brake, so they followed us to our parking spot. We advised ramp control to keep the ground personnel clear until [others] could better assess the situation. Once in the blocks the brake temps were determined to be ok. Looking back my altitude deviation could have been avoided by simply selecting ALT HLD immediately after GA, then selecting V/S for the smaller adjustments.

The FO (First Officer) did a great job running the checklist, talking to Dispatch, as well as staying engaged with me while I was flying the aircraft and talking to ATC. I'd like to express a thank you to our great training department and the people involved. It was brought to our attention that our 757/767 fleet experiences these types of flap/slat issues 1 to 2 times a week. If this is the case it would be beneficial to notify our crews that there is an issue with the fleet.

Synopsis

B757 Captain reported a trailing edge flap disagree problem.

Time / Day

Date : 201901

Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : PSP.Tower

State Reference : CA

Altitude.MSL.Single Value : 900

Aircraft

Reference : X

ATC / Advisory.Tower : PSP

Make Model Name : Light Transport, Low Wing, 2 Turbojet Eng

Flight Plan : IFR

Flight Phase : Final Approach

Route In Use.Other

Airspace.Class D : PSP

Person

Reference : 1

Location Of Person.Facility : PSP.Tower

Reporter Organization : Government

Function.Air Traffic Control : Other / Unknown

Qualification.Air Traffic Control : Fully Certified

Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 5

ASRS Report Number.Accession Number : 1611048

Human Factors : Situational Awareness

Human Factors : Confusion

Events

Anomaly.Conflict : Airborne Conflict

Anomaly.Deviation - Altitude : Crossing Restriction Not Met

Anomaly.Deviation - Altitude : Overshoot

Anomaly.Deviation - Track / Heading : All Types

Anomaly.Deviation - Procedural : Clearance

Detector.Person : Air Traffic Control

When Detected : In-flight

Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Weather

Primary Problem : Weather

Narrative: 1

Weather was deteriorating at PSP. We had just started advertising RNAV approaches (only) in use to RWY 31L. SCT coordinated one last try of the VOR-B approach by Aircraft X. The local controller and I figured, all that can happen is he'll try, if he makes it, he

makes it, if not, he goes missed. Pilot checked on like normal. After crossing Mulch at 3,000 ft. (per approach plate), pilot descended to 1,800 MSL. The minimum is 2,300 ft, but the chart lists 1,826 ft. as height above airport. LC (Local Controller) asks pilot if he has the field in sight. Pilot states he does not. LC queries the pilot if he is aware the minimum is 2,300 ft. The pilot says he is aware. LC asks again, does pilot have airport in sight. Pilot states he does. LC or I never see aircraft at this point. Pilot asks if he can circle left for left downwind. Due to terrain, this is not authorized per the approach plate. LC informs pilot of this. Pilot is now over the airport at 1,800 ft. heading roughly 310 (to my best recollection). Pilot turns right to join a right downwind. Pilot ends up on the extended center line, final for RWY 31L going the opposite direction (heading 130). He then turns right (toward terrain), but the turn is tight, so the terrain is no factor. He is descending to 900 ft. Pilot ends up in a close in left downwind for RWY 31L, except going the opposite direction (heading 330) at 900 MSL. LC tells me he may hit the tower. I seriously consider this is going to be the case. The LC is about to key up to tell the pilot to execute a missed approach when the pilot keys up and tells us he hit a cloud bank and is going to perform the missed. LC tells the pilot to execute the published missed approach procedure (right turn direct PSP VORTAC, climb to 4,000). LC and I are relieved.

This is the only point LC and I ever see the aircraft. It is in the left downwind, opposite direction, heading 320 or so, about 1/4 mile south of the tower, and about 300 ft. above it, but in a climb. Once LC observes the pilot in a climb and safely away from the ground, LC hands off radar and communication of aircraft to SCT. LC and I then watch. Pilot remains runway heading (310) and climbs to 4,000. While talking to SCT, he begins descending to 3,500 MSL. SCT instructs him to turn direct the PSP VOR. Pilot begins a left turn (would have been a left 240 versus a right 120). SCT observes the descent and tells pilot to climb. SCT observes the left turn and tells pilot to turn right. Within three sweeps of the radar, roughly 12 seconds, pilot climbs 3,000 ft. SCT has to stop his insanely quick climb due to traffic. Pilot complies. That's about when LC and I couldn't even watch anymore out of pure exhaustion and pandemonium. I believe the rest of his flight over Coachella Valley was uneventful. Afterwards, I called SCT up and told them not to allow the pilot to return on the VOR-B approach, and no further VOR-B approaches would be accepted.

I don't know about recommendations. Maybe IQ tests for pilots. Or maybe the pilot was suicidal, so a psychology test? All I know is that if I could have a do-over, I would have never let SCT even allow the pilot to try the VOR-B Approach. Next time, when we advertise an approach in use, that is the only approach we will accept.

Synopsis

Palm Springs Tower Controller reported an unsafe approach due to weather and possible piloting issues.

Time / Day

Date : 201901

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 2500

Environment

Flight Conditions : IMC

Weather Elements / Visibility.Visibility : 3

Light : Dusk

Ceiling.Single Value : 600

Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Personal

Make Model Name : Cirrus Vision SJ50

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Ferry

Flight Phase : Initial Climb

Route In Use : Direct

Airspace.Class D : ZZZ

Component

Aircraft Component : Electronic Flt Bag (EFB)

Aircraft Reference : X

Problem : Improperly Operated

Problem : Malfunctioning

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Flight Instructor

Experience.Flight Crew.Total : 1789

Experience.Flight Crew.Last 90 Days : 62

Experience.Flight Crew.Type : 103

ASRS Report Number.Accession Number : 1611013

Human Factors : Situational Awareness

Human Factors : Distraction

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : Clearance
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Air Traffic Control : Provided Assistance

Assessments

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

Narrative: 1

Departed ZZZ for ZZZ1 for repositioning. After takeoff on initial climb, the terrain alert sounds "loudly". "TERRAIN" "PULL UP" "PULL UP". This was a surprise and a distraction, I was told to climb to 2500/Heading 140. I had the autopilot on and engage and all instruments were reading accurately. However it was disturbing to be in IMC/Dark and getting this type of alert. Flying the Plane first, I was unable to switch to Departure in a timely manner, and dealing with this alert, I passed my altitude and continued climbing, as she keep saying pull up. I was finally able to contact Departure who was aware I was having trouble, as I told Departure Tower-to let them know I was having trouble and unable to call at this moment. Settled level 4000 and still on assigned heading, and all was fine again. No more alerts, until descent into my destination airport. It started again descending through 3000. As I was confident in the instruments I ignored the alerts, but it was still a distraction. After landing, and calling Field Service, we discovered it was not the plane at all! It was my device that had an EFB Garmin Pilot, that was bluetooth to my headset that was giving me the alerts. My lesson: Pilots need to verify that portable EFBs that are bluetooth connected to headsets are properly workings or not turned on. Although I regret passing my assigned altitude, and delaying my contact to Departure. My #1 priority was to fly the plane, and talk later. I was able to do this. I will however, always check my portable EFB and turn it off when not using it. I hope this lesson will help other pilots.

Synopsis

SF50 Pilot reported erroneous terrain alert on departure due to improperly configured portable EFB resulting in altitude clearance deviation.

Time / Day

Date : 201901

Local Time Of Day : 0001-0600

Place

Locale Reference.ATC Facility : ZZZ.ARTCC

State Reference : US

Altitude.MSL.Single Value : 36000

Environment

Flight Conditions : IMC

Weather Elements / Visibility : Turbulence

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Center : ZZZ

Aircraft Operator : Fractional

Make Model Name : Citation Latitude (C680A)

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Passenger

Flight Phase : Cruise

Airspace.Class A : ZZZ

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Fractional

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 : 1610920

Events

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 : Took Evasive Action

Result.Flight Crew : Regained Aircraft Control

Assessments

Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

Severe turbulence encountered during arrival into ZZZ. At 36,000 FT and approximately .72M we encountered strong mountain wave type activity and a rapid uncontrolled descent. Autopilot came off and we were able to keep the wings somewhat level. Pilot flying was pulling back forcefully on the control wheel but we were still descending at 4000 ft/min. Pilot Monitoring deployed the speed brakes but speed kept increasing. Finally regained control after losing 4,000 feet of altitude.

Synopsis

CE680 Captain reported loss of aircraft control due to severe turbulence during cruise.

Time / Day

Date : 201901

Place

Locale Reference.ATC Facility : ZZZ.ARTCC

State Reference : US

Altitude.MSL.Single Value : 40000

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 : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Cruise

Component

Aircraft Component : Engine Control

Aircraft Reference : X

Problem : Improperly Operated

Person : 1

Reference : 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 : Instrument

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Total : 10536

Experience.Flight Crew.Last 90 Days : 212

Experience.Flight Crew.Type : 805

ASRS Report Number.Accession Number : 1610868

Human Factors : Workload

Human Factors : Time Pressure

Human Factors : Other / Unknown

Person : 2

Reference : 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.Total : 16784
Experience.Flight Crew.Last 90 Days : 129
Experience.Flight Crew.Type : 507
ASRS Report Number.Accession Number : 1610871
Human Factors : Time Pressure
Human Factors : Other / Unknown
Human Factors : Workload

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Flight Deck / Cabin / Aircraft Event : Other / Unknown
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Track / Heading : All Types
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem
Result.Flight Crew : Returned To Clearance

Assessments

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

Narrative: 1

The [Relief Officer] picked up the master flight plan clip board and accidentally dropped it from the glare shield area it landed on the right fuel cut off switch and moved it to cut off shutting down the engine. I then started a turn right about 45 degrees off the track and located the class 2 NAV/ETOPS guide and gave the airplane to the [Relief Officer] and instructed him to begin the Driftdown check list. I set a 15NM offset in the FMC and armed the LNAV...somewhere before 15NM off set the airspeed was slowing down so we began a descent we used the E/O (Engine Out) speed at first then set company speed in the FMC around 310 knots. We were now on the offset. We searched for a checklist and I found and accomplished the RT engine fail check list and restarted the engine as the engine stabilized we leveled off a FL 310. About this time we had woken up the resting [Relief Officer] and he was on the flight deck. Around this time we received a SELCAL from Center we let them know what happened as well as our position and altitude. Around this time I called Dispatch to give him the details and to confirm that we were stable and to verify if he felt it safe to continue to ZZZ. We and Dispatch agreed it safe to continue. We requested a clearance back on course and a climb with Center. They cleared us to go back on course and to climb to FL350 then once on track to climb back to FL 400. We did this and intercepted a few miles east of 180. We then proceeded to ZZZ without further incident. We called the Flight Attendants as there was load shedding that had occurred all came back on line after engine start.

Narrative: 2

I was on break in bunk room when the Captain called. He said "we have a problem and I need you back in the cockpit". When I got back to cockpit the Captain and [Relief Officer] were busy, so I tried to assess what was going on. I immediately looked at the EICAS and saw both engines were running. I glanced at the ND and saw we were several miles east of N49E180 and were offset right of course. It looked like offset was further than normal 1 mile, though I could not see exactly how far. I also observed we were level at 310. Still unclear of what the problem was, I then noticed the Captain was finishing an "eng fail" checklist. The Captain asked me to call dispatch on satcom. By the time I had plugged my headset into the observer's station he had already placed the call. While waiting for the call to connect, the [Relief Officer] informed me that he had accidentally dropped the clipboard which struck the right fuel control switch causing it to shutdown the engine. After conferring with dispatch regarding position and fuel state the decision was made that it was safe to continue to [destination]. Coordination with ATC allowed us to return to course and climb back to a higher altitude.

Synopsis

B787 flight crew reported accidental right engine shutdown in cruise with a successful restart and continuation to destination.

Time / Day

Date : 201901
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : SJC.Airport
State Reference : CA
Relative Position.Distance.Nautical Miles : 15
Altitude.MSL.Single Value : 3250

Environment

Flight Conditions : Mixed
Weather Elements / Visibility.Visibility : 3
Light : Daylight
Ceiling.Single Value : 2000

Aircraft

Reference : X
ATC / Advisory.TRACON : NCT
Aircraft Operator : Air Carrier
Make Model Name : B737-700
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : GPS
Nav In Use : FMS Or FMC
Flight Phase : Descent
Airspace.Class B : SFO

Person

Reference : 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 : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Last 90 Days : 466
Experience.Flight Crew.Type : 8500
ASRS Report Number.Accession Number : 1610835
Human Factors : Time Pressure

Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation - Altitude : Undershoot
Anomaly.Deviation - Altitude : Crossing Restriction Not Met

Anomaly.Deviation - Procedural : Clearance
Detector.Person : Flight Crew
When Detected : In-flight
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

On descent into SJC we were given a late clearance for the RNAV Z 12R. We were just a few miles from the first waypoint. After reprogramming the approach we found ourselves high. Then ATC asked us to slow as much as practical and shortly slow to approach speed way early. We were simply unable to meet all their requests and meet our altitude restriction. We should have said unable, but in the thick of things we just threw out all drag devices and did the best we could.

Synopsis

B737-700 Captain reported being high on a crossing restriction on the RNAV Z Runway 12R approach into SJC after receiving a late ATC clearance.

Time / Day

Date : 201901

Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZFW.ARTCC

State Reference : TX

Relative Position.Distance.Nautical Miles : 15

Altitude.MSL.Single Value : 5000

Environment

Flight Conditions : IMC

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Center : ZFW

Aircraft Operator : Personal

Make Model Name : Small Aircraft, Low Wing, 1 Eng, Fixed Gear

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Personal

Flight Phase : Initial Approach

Route In Use : Direct

Airspace.Class E : ZFW

Person : 1

Reference : 1

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 : Instrument

Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Total : 2053

Experience.Flight Crew.Last 90 Days : 51

Experience.Flight Crew.Type : 1050

ASRS Report Number.Accession Number : 1610788

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

Person : 2

Reference : 2

Function.Air Traffic Control : Enroute

ASRS Report Number.Accession Number : 1610815

Human Factors : Communication Breakdown

Human Factors : Confusion
Human Factors : Training / Qualification
Communication Breakdown.Party1 : ATC
Communication Breakdown.Party2 : Flight Crew

Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : Clearance
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
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 flying INK, IFR. Somewhere past Houston, I requested to amend my IFR plan to VFR on top. It was granted and I descended to 4,500. As I approached my destination I was talking to Midland approach. I was told the MVA was 5,000 and instructed to climb to 5,000. This climb put me in the clouds. I requested my approach into INK with Midland and was told Fort Worth would handle the approach. I needed to turn to the IAF soon. I was handed off to Fort Worth. I requested the GPS Runway 31 approach, direct to BORTY. I was told to go direct to BORTY. I was then instructed to report crossing BORTY. I was under 10 miles to BORTY. I was at 5,000. My chart says cross BORTY at 5,000. The Controller then ask if I was instrument rated and if my plane was instrument certified. I said yes. At some point the Controller informed me the MVA was 5,500. He never instructed me to climb to 5,500. I reported BORTY and inbound to FAF. Three miles from the FAF I was told I would need to climb to 5,500 and start the approach over. I was on final approach, in the clouds and busy. I was unable to do what he wanted me to do nor did I have time to talk about it.

We had a communication problem. I was IFR. I think the Controller thought I was VFR. One of us didn't understand about VFR on top being an IFR clearance. The only safety issue that existed since there were no other planes in the area was that I was on final approach and having to deal with ATC suggestions that didn't make any sense. In the future, I will confirm that when I convert from IFR to VFR on top and then back to IFR that we are all on the same page. Also, Midland approach should handle the approach into INK. Once they hand you off to Fort Worth, you are too close to INK to plan a proper approach.

Narrative: 2

Working the R-Side, [Aircraft X] was handed off from MAF Apch assigned AOA 50/OTP. Upon Check in the aircraft requested direct to BORTY for the RNAV 31 into KINK. While in a 5000 ft. MIA (Minimum IFR Altitude), I cleared [Aircraft X] as requested. With recently transferring from ZMP and having little knowledge of VFR On Top I asked another controller, for some assistance and understanding. The aircraft was approaching an MIA of 5500 ft. and my confusion was of if the aircraft needed to be established in the MIA in

order for clearance for the RNAV approach. [The other Controller] was unsure so [they] asked the OMIC for clarification. As the aircraft proceeded inbound I advised the aircraft to report the weather and NOTAMs at KINK, which with the confusion of the altitude I missed the read back of the NOTAMs. Upon approaching the 5500 MIA I was advised that the aircraft would have to establish with in the MIA prior to clearance. [Aircraft X] "roger"ed the transmission and proceeded in bound. I explained the altitude variation as I understood it and again told the aircraft he would have to establish in the MIA in order for clearance. At this point the pilot was he was at 5000 ft. within 5 nm of BORTY (IAF) and was proceeding inbound. After some back and forth the pilot stated he was going to continue to approach and see if he could break out of the clouds. Eventually the aircraft left the frequency and made safe landed WITHOUT clearance to KINK. Following landing he called and cancelled IFR through flight Service.

This exact issue of ATC not fully understanding if we have to follow the MIA as depicted on the radar map of the altitude listed on the approach plate was brought up by the safety counsel at ZMP less than 2 years ago and was a large discussion in which half of the room said MIA and the other half said Approach plate altitude is justified. The conclusion was that no one could agree and the topic was adjourned and was supposed to be followed up on.

Even after this incident the other day, there was much discussion in the control room on exactly what altitude you are to use when issuing an approach. I suggest that this be used as a training tool and be given hard proof on exactly which altitude must be followed as the lowest usable altitude when issuing approaches in to uncontrolled airports. Additionally, the lack of realizing that I had only received the Weather would have been realized had we been using Strips for arrivals in to uncontrolled airport vs 4th line or free text options.

Synopsis

GA pilot and Air Traffic Controller reported confusion in regard to instrument operations near BORTY waypoint.

Time / Day

Date : 201811

Local Time Of Day : 0001-0600

Place

Locale Reference.Airport : VNY.Airport

State Reference : CA

Altitude.AGL.Single Value : 500

Environment

Flight Conditions : VMC

Weather Elements / Visibility : Windshear

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Tower : VNY

Aircraft Operator : Corporate

Make Model Name : Medium Large Transport, Low Wing, 2 Turbojet Eng

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Nav In Use.Localizer/Glideslope/ILS : Runway 16R

Flight Phase : Final Approach

Airspace.Class C : VNY

Person

Reference : 1

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 : Air Transport Pilot (ATP)

Qualification.Flight Crew : Multiengine

ASRS Report Number.Accession Number : 1610699

Human Factors : Communication Breakdown

Human Factors : Situational Awareness

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

Events

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Deviation - Procedural : Clearance

Anomaly.Inflight Event / Encounter : Unstabilized Approach

Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Automation : Aircraft Terrain Warning
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Executed Go Around / Missed Approach
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

Cleared for ILS 16R approach into VNY. Noted 45 knot tailwind at 5,000 ft MSL. Noted again 35 knot tailwind at 3,500 ft MSL. Approach became unstable at 500 AGL due to windshear. Called for go-around. Local Controller issued a missed approach clearance. Maintain 2,000 ft for now. Right crosswind 270 degree turn to enter left base 34L. At 2,000 ft MSL, EGPWS (Enhanced Ground Proximity Warning System) issued a "caution terrain." Initiated a slow climb. EGPWS issued a terrain warning. Climbed to 2,980 ft MSL to provide additional terrain clearance. Landed without further event. The lesson I take away from this is as follows: I should have informed the Local Controller that it was necessary to climb above the initially assigned altitude to provide adequate terrain clearance.

Synopsis

Corporate jet Captain reported an unstabilized approach into VNY airport due to windshear resulting in a missed approach and Terrain Warning.

Time / Day

Date : 201901

Place

Altitude.MSL.Single Value : 3000

Environment

Flight Conditions : VMC

Aircraft

Reference : X

Aircraft Operator : Air Carrier

Make Model Name : B757 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Phase : Final Approach

Person

Reference : 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 : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Last 90 Days : 213.18

Experience.Flight Crew.Type : 7414.87

ASRS Report Number.Accession Number : 1610431

Human Factors : Situational Awareness

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : Flight Crew

Events

Anomaly.Flight Deck / Cabin / Aircraft Event : Other / Unknown

Anomaly.Conflict : Airborne Conflict

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : Clearance

Anomaly.Inflight Event / Encounter : Unstabilized Approach

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Took Evasive Action

Result.Flight Crew : Executed Go Around / Missed Approach

Result.Flight Crew : Became Reoriented

Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

Narrative: 1

Third leg of OE (Operations Experience). New hire First Officer. First experience with Boeing. He had difficulties in sim phase. I had been advised this could be a challenging OE. It was that. However, in this instance, my error contributed: I was fully engaged with trying to get my student to properly fly an FMS Bridge Visual to Rwy 28R [and] I failed to set TCAS to TA as recommended. Student was Pilot Flying. We experienced an RA at around 1,000 feet MSL (due to my TA error), commanding a climb. He failed to respond/respect the TCAS climb guidance (he froze), despite my directives that he do so. I took the aircraft, hand-flying, to respond to RA (shocked that he was not responding to the RA despite my directives that he do so). The RA response took us out of a position to make a safe landing, so I called for a go-around. He failed to properly respond to go-around commands/call-outs. I was solo; attempting to fly, manage Mode Control Panel, respond to Tower heading and altitude instructions, and cleaning up the aircraft. At one point in the sequence, at/above 2,500 feet MSL, we entered a shallow descent, I am guessing in the 300-foot range. I immediately corrected the deviation. Shortly after my correction, Tower called us regarding the descent. Once stable, there were no further issues.

Synopsis

B757 Captain reported a new First Officer had difficulty complying with procedures and clearances in reaction to an RA and subsequent go-around.

Time / Day

Date : 201901
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 6000

Environment

Flight Conditions : VMC
Weather Elements / Visibility : Windshear
Weather Elements / Visibility.Visibility : 10
Light : Night
Ceiling.Single Value : 7000

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Taxi
Make Model Name : HS 125 Series
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 135
Flight Plan : IFR
Mission : Passenger
Flight Phase : Climb
Route In Use : Vectors
Airspace.Class B : ZZZ

Component

Aircraft Component : Pitot-Static System
Aircraft Reference : X
Problem : Malfunctioning

Person

Reference : 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 : Flight Engineer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 20250
Experience.Flight Crew.Type : 550
ASRS Report Number.Accession Number : 1610344
Human Factors : Confusion

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation - Altitude : Undershoot
Anomaly.Deviation - Procedural : Clearance
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Returned To Departure Airport
Result.Air Traffic Control : Issued New Clearance
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

[After] boarding the passengers, we started our taxi. As we were cleared for takeoff on the rolling out, the airspeed was alive reaching 80 knots. V1 and VR all the instruments were working perfect. Leaving the ground and climbing at 400 feet, yaw damper was unable to engage. The ZZZ Tower transferred us to departure frequency by reaching 1,500 feet.

At 1,500 feet., the auto-pilot was unable to engage and received instruction from ATC to turn heading 210 degrees and climb to 6,000 feet.

At that moment, the airspeed indicator on the Captain side was gone and since the copilot side was showing the airspeed indication, the controls [were] transferred. As we reached 6,000 ft. and leveled, ATC called us asking if we were climbing and we responded negative we are level off at 6000 ft. ATC said negative you are at 2,500 feet. We noticed that the R/H side altimeter and Standby Altimeter were showing an altitude that we were not at. We request to return to ZZZ due to instrument failure; by then, ATC recleared us to descend to 4,000 feet. and heading 270, with the RH ADI showing a pitch of 15 nose down and climbing, so flight controls was transfer again to Captain. The altimeter at the Captain side was showing the more[or] less [than] the altitude from ATC. They gave us radar vectors for the ILS RWY XX and ZZZ circle to land to RWY XY. We told the ATC to give us vector to final Runway XX and that we were to land in that runway, due since we couldn't rely on the instruments, neither the ILS. When we landed there were fire-rescue trucks and an ambulance. ATC asked us if we needed any assistance and we said no, so we taxi.

Synopsis

HS125 Captain reported erroneous airspeed and altitude indications led to a return to the departure airport.

Time / Day

Date : 201901

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : PHL.Airport

State Reference : PA

Altitude.MSL.Single Value : 2000

Environment

Flight Conditions : VMC

Aircraft

Reference : X

ATC / Advisory.Tower : PHL

Aircraft Operator : Air Carrier

Make Model Name : B757-200

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Phase : Initial Approach

Airspace.Class B : PHL

Person : 1

Reference : 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 : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

ASRS Report Number.Accession Number : 1610230

Human Factors : Situational Awareness

Human Factors : Human-Machine Interface

Person : 2

Reference : 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 : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

ASRS Report Number.Accession Number : 1610229

Human Factors : Human-Machine Interface

Human Factors : Workload
Human Factors : Situational Awareness

Events

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

Assessments

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

Narrative: 1

We were on the PAATS3 STAR. It was not busy so ATC had us hold heading at ESSSO to avoid the rest of the arrival and shortcut to base leg Runway 9R. We had to expedite descent since we were not doing the full arrival. We used spoilers, flaps, and gear. ATC cleared us to 2,000 feet and cleared us for visual approach. The First Officer armed the approach and we noticed glideslope alive from above. It captured and we continued down. I failed to notice we hadn't crossed the FAF yet [and] were descending below FAF altitude. As I noticed we were low, ATC gave us a low altitude alert and the First Officer climbed back to FAF altitude (1,800 feet). The aircraft had captured a false Glideslope and we didn't catch it immediately. The airplane was stable at 1,000 feet and First Officer did a fine job with the rest of approach and landing.

We were rushed to descend and were worried about being high not low. I should have been cross checking our position reference to our altitude.

I will be cognizant of the possibility of false glideslope captures and be vigilant on monitoring altitude and position on approach.

Narrative: 2

We must have captured a false glideslope which overrode the 2,000 feet foot protection usually afforded by the altitude selector of the automation. We were very busy trying to go down and slow down at the same time while having the runway in sight at all times. This high work load initially made us miss that the plane was descending a bit too early. As soon as we recognized things were not what they should be, I disconnected the automation and hand flew the airplane back to the proper altitude.

Lesson learned is to wait with "approach mode armed" while on a vector until actually reestablished on a proper LNAV course, I should have just armed "LOC only" until we had crossed KELEE before selecting Approach mode.

Synopsis

B757 flight crew reported receiving a low altitude alert from ATC on approach to Runway 9R PHL after descending on a false glideslope.

Time / Day

Date : 201901

Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : LGA.Airport

State Reference : NY

Altitude.MSL.Single Value : 37000

Environment

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Center : ZDC

Aircraft Operator : Air Carrier

Make Model Name : B737-700

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Cruise

Route In Use.STAR : KORRY FOUR

Airspace.Class A : ZDC

Person

Reference : 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 : Instrument

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Last 90 Days : 301

Experience.Flight Crew.Type : 8500

ASRS Report Number.Accession Number : 1610050

Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Undershoot

Anomaly.Deviation - Altitude : Crossing Restriction Not Met

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : Clearance

Detector.Person : Air Traffic Control

When Detected : In-flight

Result.Flight Crew : Became Reoriented

Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

Narrative: 1

At FL370 on the KORRY 4 Arrival into LGA (shortly after passing PXT) we were given "cross RIDGY at FL270 and 300 knots." As pilot flying, I was in the middle of a manual fuel calculation to update the FMC required by an MEL. I stopped the fuel calculation, set the MCP to 270, and began to load the FMC. I entered the speed on the LEGS page at RIDGY, but the FMC would not accept it. I realized I needed to load the speed on the descent page first. I accomplished that then loaded the speed on the LEGS page. I confirmed with the pilot monitoring the RIDGY restrictions and we both agreed. We checked that the top of descent was a number of miles ahead. I returned to the manual fuel calculation for valid speeds during the approach.

Upon a frequency change the pilot monitoring reported "FL370 to cross RIDGY at FL270 and 300 knots." The Controller responded "How are you going to do that?" With panic (of course) we looked at the PFD; we still had 30 miles until the top of descent, but we were now just 1 mile prior to RIDGY. Then we both realized that the FMC still had RIDGY at FL270 or above. We apologized and began our descent and asked what the Controller needed us to do. He said to "just descend via the KORRY4." There appeared to be no traffic conflict. The remainder of the flight was uneventful.

Upon debriefing the event we realized that I focused on solving the problem of entering the speed. "FL270A" was already loaded on the LEGS page as normal part of the arrival. Once I solved the issue with loading the speed, my mind went to "problem solved" mode, and moved on to the fuel calculation issue. Neither the pilot monitoring nor I realized that we never changed the "at or above" restriction to an "at" restriction.

On the previous leg we had just discussed the importance of doing a manual calculation of descent angles to insure the result of the FMC was correct. Trust, but verify. But I didn't in this instance because I re-focused on the fuel calculation. Clearly this was a pure clerical oversight on my part. We were simply lucky that the issue didn't create a conflict. We also focused on the top of descent point, rather than the individual points on the arrival.

Checking the individual points versus just focusing on the top of descent would have revealed our error sooner. In the future I will focus on the detail of the FMC loading, complete solving one issue before moving on to the next (or previous), and always, always do a manual descent calculation.

Synopsis

B737-700 Captain reported failing to comply with a crossing restriction that has been modified by ATC on the KORRY 4 arrival into LGA.

Time / Day

Date : 201901

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : IAH.Airport

State Reference : TX

Environment

Flight Conditions : IMC

Weather Elements / Visibility : Cloudy

Light : Night

Aircraft

Reference : X

ATC / Advisory.TRACON : I90

Aircraft Operator : Air Carrier

Make Model Name : EMB ERJ 170/175 ER/LR

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Descent

Route In Use.STAR : GESNR ONE

Airspace.Class B : IAH

Person

Reference : 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 : 1609710

Human Factors : Situational Awareness

Events

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Deviation - Track / Heading : All Types

Anomaly.Deviation - Procedural : Clearance

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 New Clearance
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

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

Narrative: 1

[We were] approaching the ZEEKK2 RNAV arrival into IAH with the first fix starting at SWB VOR when ATC changed our arrival to GESNR1 arrival due to runway change. I, the Flying Pilot, watched the Non-flying Pilot put the new arrival into the FMS and proceeded to check the arrival. At this time, we were given a heading 10 to the right and slow to MACH .76 or less. Approximately 5 to 10 min later, we were given direct ZEEKK on the descent via GESNR1 arrival, published speeds at ZEEKK. We proceeded to comply with the clearance. As we crossed ZEEKK we were told we were off course from ZEEKK and below altitude. ATC proceeded to vector us on the arrival. We noticed that the FMS had stayed on the ZEEKK2 arrival other than the GESNR1 Arrival.

Should have crossed checked the FMS one more time again before crossing ZEEKK. Still puzzling why it changed back to the ZEEKK2 arrival.

Synopsis

EMB-175 First Officer reported a track deviation occurred on arrival into IAH when they got a last minute change in runway assignment but the new arrival was not correctly loaded in the FMS.

Time / Day

Date : 201901

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ISP.Airport

State Reference : NY

Environment

Flight Conditions : VMC

Weather Elements / Visibility : Turbulence

Aircraft

Reference : X

ATC / Advisory.Tower : ISP

Aircraft Operator : Air Carrier

Make Model Name : Large Transport

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Phase : Initial Approach

Airspace.Class C : ISP

Person

Reference : 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 : Air Transport Pilot (ATP)

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

ASRS Report Number.Accession Number : 1609577

Human Factors : Situational Awareness

Human Factors : Confusion

Events

Anomaly.Deviation - Altitude : Overshoot

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : Clearance

Anomaly.Inflight Event / Encounter : CFTT / CFIT

Anomaly.Inflight Event / Encounter : Unstabilized Approach

Detector.Automation : Aircraft Terrain Warning

Detector.Person : Flight Crew

Detector.Person : Air Traffic Control

When Detected : In-flight

Result.Flight Crew : Returned To Clearance

Result.Flight Crew : Executed Go Around / Missed Approach

Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

Visual approach to unfamiliar airport. Airport environment was in sight but not landing runway.

Chain of events started with my concern about the landing runway performance in the [aircraft]. I focused too much on the actual runway then misread/didn't see important information on ILS approach chart to [Runway] 24. Briefed highest obstacle south of CCC [VOR], but missed Tower next to centerline. Thought RIZER was at 1400 feet; it's 1271 feet. While on left base outside of RIZER, realized that we were 2 dots high. Descended to catch glideslope while still on left base. Tower called a low altitude warning. I looked at my chart to check altitude and received a GPWS obstacle warning. Instead of an immediate go-around, I looked out to see where Tower [was] relative to our position and extended centerline. Then GPWS "obstacle, pull up" prompted immediate go around while at 1000 feet.

Tower told us to go runway heading and 2000 feet while I was climbing through 2000 feet, cleaning up the aircraft and turning to runway heading. I pulled thrust to idle to prevent flap overspeed but still hit 2700 feet before descending back down to 2000 feet. First Officer notified Tower of altitude deviation. We were then vectored for another visual approach. Second approach and landing was in moderate turbulence, but completed.

All would have been avoided had I studied the approach chart more in depth, then briefed and executed an ILS instead of a visual. I haven't been to Islip in a long time and never in visual conditions. I was focused more on the [aircraft's] landing performance in gusty crosswinds. It was poor judgment after a long day. I know to immediately execute a go-around from a GPWS alert, but had a delayed reaction to it.

Synopsis

Air carrier Captain reported receiving a GPWS obstacle warning on approach to ISP airport.

Time / Day

Date : 201901

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 4000

Environment

Flight Conditions : IMC

Aircraft

Reference : X

ATC / Advisory.TRACON : 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 : Final Approach

Airspace.Class B : ZZZ

Person : 1

Reference : 1

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

Experience.Flight Crew.Last 90 Days : 50

Experience.Flight Crew.Type : 50

ASRS Report Number.Accession Number : 1609471

Human Factors : Human-Machine Interface

Human Factors : Time Pressure

Person : 2

Reference : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Captain

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)
Experience.Flight Crew.Total : 21346
Experience.Flight Crew.Last 90 Days : 166
Experience.Flight Crew.Type : 3253
ASRS Report Number.Accession Number : 1609515
Human Factors : Time Pressure

Person : 3

Reference : 3
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
Function.Flight Crew : Relief Pilot
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 6908
Experience.Flight Crew.Last 90 Days : 212
Experience.Flight Crew.Type : 1818
ASRS Report Number.Accession Number : 1609491
Human Factors : Time Pressure

Person : 4

Reference : 4
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
Function.Flight Crew : Relief Pilot
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 12305
Experience.Flight Crew.Last 90 Days : 196
Experience.Flight Crew.Type : 731
ASRS Report Number.Accession Number : 1609472
Human Factors : Time Pressure

Events

Anomaly.Flight Deck / Cabin / Aircraft Event : Other / Unknown
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Speed : All Types
Anomaly.Deviation - Track / Heading : All Types
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
Detector.Person : Air Traffic Control

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

Assessments

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

Narrative: 1

Our flight received a vector and a descent from Approach that resulted in overshooting the localizer, XXL at ZZZ. The aircraft was configured with flaps 20, airspeed set to 180 knots and we were between 4000-5000 about 15 miles out. I was uncertain what the aircraft would do in an overshoot situation and felt that we were still high energy. Not knowing the way the aircraft would react distracted me from the fact that speedbrakes were out and I was in FLCH. And we were descending to the cleared altitude, so I may have unintentionally guarded the throttles at idle. Other crew members alerted me to subsequent airspeed decay followed shortly by the stick shaker. I immediately selected close to max power briefly and the altitude quickly rose to between 500-1000 above cleared altitude. I disengaged the [autopilot] and recovered the aircraft to stable conditions and recaptured the localizer and glideslope. The remainder of the approach was hand flown. Landing flaps were selected, the landing checklist was completed and the aircraft was landed without further incident.

Narrative: 2

Everything was going great on the way home to ZZZ and the First Officer's performance was above average in most areas, despite his returning from an absence from airline flying. He had thoroughly briefed the arrival and landing to XXL in ZZZ. While being vectored to a position about 17 NM north of the airport he became uneasy and was concerned that we were getting in too close. We were descending to 5,000 feet in FLCH with a speed of 180 knots and configured at flaps 15. When the controller turned us to a heading of 100 degrees for a close base, he called for flaps 20 and pulled full speed brakes. We got a late turn to 170 degrees to join and we were in a hard turn to the right with LOC captured, autopilot on, when we got slow. One reason for the late turn was I didn't hear the assigned heading and needed it repeated.

I had observed him pull the throttles back earlier and I believe he unconsciously pulled them back and held them at idle against the servos. He seemed stressed about the turn and being high. In reality, we were about 15 miles out at 5,000. This resulted in a rapid airspeed decrease as we leveled. The bank angle was near 30 degrees with full speed brakes. I was surprised at how quickly we got into the airspeed red and the stick shaker activated. I yelled for pitch and thrust, get the nose down (push, roll, thrust, stabilize would have been better). He clicked off the autopilot and as the power came up he failed to control the aircraft's pitch and we quickly climbed to 6,000. He didn't seem to have situation awareness of airspeed and altitude as he attempted to recover. When the controller asked about our altitude I said we had an autopilot problem and were okay. She cleared us to 4,000 and we joined the glideslope and made a normal approach to the runway. He settled down and flew a nice approach to a great landing on XXL. The controller did not mention our altitude excursion again.

We did a thorough debrief and each pilot had input as to what they saw. The relief pilots were fully engaged and offered good support during the event.

Narrative: 3

This is the 3rd event in 3 weeks that I have had with a new pilot recently off [Operations Experience] or a pilot on [Operations Experience]. The common denominator is that all 3 incidents involved pilots coming out of training, 2 of which were on the Airbus. I am seriously questioning how 320/319 Airbus pilots are being transitioned to the 787. One was a Captain and the other two were First Officers. All were in the control seats. I have absolutely no knowledge of the Airbus, how to fly it, or differences but I see a pattern developing and it concerns me. These are experienced pilots in a new environment. I feel there is something missing in training that is not translating to the line. It would appear on the highest, most simplest terms to be related to an over reliance on automation and lack of attention/understanding of the FMA (Flight Mode Annunciator). Common errors I see in general terms on the line. This is me on my soap box, but I feel strongly that the current policy in place is NOT the safest. Pilots are setting the speed window on the Mode Control Panel below the current flap setting. The pilot flying and pilot monitoring then get distracted and forget to step the flaps down as speed bleeds off. I have seen this over and over again in the simulator and online.

We discussed not doing this on the outbound leg ZZZ to ZZZ1. On that particular flight, we were 10 knots below flap maneuvering speed as we transitioned to the approach configuration. The Check Airman was aware of the mistake and allowed the pilot flying on [Operations Experience] to correct it. It was a real-life learning example and a good lesson! We discussed why calling Flaps 1, and then setting a corresponding speed is a good idea. Setting the speed to the current flap setting and not below. I know SOP allows setting a speed below current flap configuration as long as the aircraft doesn't slow below flap speed, BUT I STRONGLY DISAGREE with this policy. I continue to see the pilot flying / pilot monitoring get distracted and allow the aircraft to get too slow. Setting a speed that is below flap maneuvering speed, getting distracted and then stalling the airplane is a big risk yet SOP continues to allow it. I understand there is a margin allowed below flap configuration speed but, unfortunately, today's event resulted in a stall. Reference Flight Manual Normal, Approach Flap, Extension...Do not slow the aircraft below the maneuvering speed for the current configuration until a greater flap extension has been selected. This verbiage would indicate that it is okay to set a lower speed on the MCP but the aircraft must not go below the current flap maneuvering speed. Makes sense but that is not what I see happening on the line.

Let me be clear, I believe all pilots on this crew are professional aviators. Mistakes happen and they were caught, albeit much later than I would have liked. The new to the aircraft pilot flying on [Operations Experience] was very well prepared and wanted to learn, asked good questions and was attentive to the answers given. He had a good attitude. On this particular flight, I was the [relief officer] in the corner seat so my view was limited to the speed brake, throttle and Captain's PFD. My recollection of the events might differ from the crew but to the best of my knowledge this is what I observed.

In today's incident, the pilot flying was concerned about time to touchdown and configuring. I believe this feeling of being rushed/pressed for time was created in the simulator environment where multiple approaches are flown back to back to back. This feeling of being rushed will subside as he gains more experience online. We were given a heading of 110 and a descent from 6000 to 5000 feet. The pilot flying used speedbrakes, FLCH and closed throttles to descend. We were then instructed to fly heading 170 and join the LOC. We were configured in flaps 15 and MCP speed set to 180. Autopilot on. The

aircraft was descending from 6000 to 5000. The PF was concerned about getting down with tunnel vision/focused on getting down without keeping situational awareness. We were 15 miles from touchdown and below glideslope and already 180 knots MCP. The pilot flying kept the throttles closed in the descent. Not sure why but the pilot flying kept closing the throttles in FLCH. I believe this was in an attempt to get the airplane to descend faster as the pilot flying felt rushed. Closing the throttles is not uncommon but holding them back can lead to mistakes. Based on the fact that holding the throttles closed was a common theme on both legs, I question if this was addressed in training/common practice. This is a textbook example of an Approach to Stall.

As the aircraft turned to intercept the LOC we were given a descent to 4000. Cleared the Approach Runway XXL. The pilot flying closed the throttle/held them back and pulled the speed brakes but was slow to push FLCH on the MCP. Not sure why but I suspect the pilot flying thought we were in FLCH but instead we were in ALT on the FMA. The airplane was already trending slow in the descent from [6000 to 5000] and with the speedbrake extended and throttles held closed the aircraft continued to lose speed. At some point, I called "speed" as the aircraft speed was dropping below 165-170 knots. I am not sure if the following happened after the stall or before. The pilot flying called for flaps 20 to put the flaps down to the match actual aircraft speed tape and we still had 180 knots in the MCP.

I called "Speed" again and then "Max Power" as the speed tape continued to fall below flaps 30 "target" and then into the yellow and then red stall band. The stick shaker went off. I estimate I called "Max Thrust" 2 seconds before the stick shaker. The pilot flying pushed the power up. Not sure if we hit "Max Thrust" but we started to climb and topped out at 6200 feet. The autopilot was disconnected as the throttles were advanced but the pilot flying did not stop the aircraft turning. Remember, we were in a turn to join the LOC. The pilot flying was overwhelmed [and] new to the 787 aircraft and I believe focused on speed. The scan was slow as the nose went high and altitude climbed. I don't remember any of the callouts being made with regards to upset/stall or go-around procedures. The aircraft was returned to a normal state at 6000 feet with flaps at 20 and 180 knots. ATC queried us numerous times and we elected to continue the approach. They cleared us down to 3000 feet cleared the approach ILS XXL. The remainder of the approach was uneventful and the pilot flying made a nice crosswind landing with autopilot off. In the turn to join the LOC we went from being west of the LOC to going through the LOC and ended up about 2 miles west of the LOC for XXL. The ATIS was calling for landings XXL and XXR.

In my opinion we should have gone around but the time to touchdown and configuration allowed for a safe approach. I did not call for a go-around as I was more concerned about the impending and then actual stall recovery. Frankly, I was a little shocked about the incident. In my last landings class 75 days ago we discussed the increased number of stall events at [company]. I was told approximately 296 in the last 1-1.5 years across all fleets. I was shocked and didn't believe the statistics, especially flying a 787. However, now I have seen it. I am still in shock and upset and frustrated. This was a good reminder of how mistakes can snowball into serious events. I consider this a serious event. I should have spoken up. I should not have let the pilot flying continue to close the throttles/hold the throttles closed.

There were some assumptions on my part. Experienced Check Airman that was allowing a pilot on [Operations Experience] to make mistakes so I didn't want to catch everything. I think this is important - allowing mistakes to happen just like on a real line flight. I wanted to give them time to catch mistakes and correct them and to learn. I let the situation go too far before I spoke up. In our defense, the speed decay seemed to be incredibly fast

and abrupt. The loss of speed caught me off guard. A pilot flying that has a lot of experience. A [relief officer] in the center seat with a great view of what is unfolding and can hear conversations. In the corner [relief officer] seat, the air vent makes it incredibly hard to hear. (I believe this is being addressed on future 787's with the air vent directly above a pilots head.)

I should have called "UPSET" instead of "Max Thrust" but I still struggle and revert to the old callouts "Max Power - Stow Speedbrakes." Calling "Upset" would have been the trigger for Autopilot Off (which the pilot flying did), Autothrottle Off (not sure if pilot flying did this), Push (the airplane needed more of this), Roll (which might have corrected continued roll through the LOC), then Power. I take full responsibility for not calling "Upset" and leading us down a tougher recovery. Fatigue played a part as we were at the end of a [long] flight, but had minimal impact on me personally. Although, I can see now that I was slow to react, speak up, and made the wrong call with regards to "Max Thrust" versus "Upset."

Narrative: 4

On vectors on downwind for the approach to ZZZ ILS XXL we were given a heading of 100 (base leg outside of ZZZZZ) and a descent from 6000 to 5000 feet. I think the controller realized she brought us in a little too close to the localizer on a 90 degree angle and then instructed us to fly heading 170 to join the LOC. We were configured in flaps 20 and MCP speed set to 180 with autopilot on. The pilot flying/First Officer was concerned about getting down and using speedbrakes. As the aircraft turned to intercept the LOC, we were given a descent to 4000 and cleared for the approach. While in the turn the pilot flying/First Officer I think decided it was time to start reducing from 180 knots and get in final landing configuration. In the turn to join the LOC it looked like we might go through the localizer and I was watching the localizer to make sure it captured. While using the speedbrakes, I think maybe the pilot flying/First Officer might have had his forearm in front of the throttles, and being task saturated did not realize he was preventing the throttles from advancing to maintain selected airspeed. The speed decay seemed to happen incredibly fast. When the stick shaker went off (there was no buffet), I took my eyes off the localizer and saw the speedbrakes were still deployed. There were calls for Max Thrust. I said "Speed, Speed, Stow Speed Brakes, Stow Speed Brakes." At the same time the Captain stowed the speedbrakes and took control and pushed the nose over while the First Officer pushed the throttles forward. With the huge increase in thrust the aircraft gained airspeed and altitude rapidly. The controller said she noticed we were climbing and is everything okay. The Captain said yes and we continued the approach. ATC cleared us down to 3000 feet and cleared us for the approach ILS XXL. The remainder of the approach was normal and the pilot flying/First Officer made a nice crosswind landing with autopilot off.

Synopsis

Boeing 787 flight crew reported pilot approach procedural errors coupled with late ATC final vector heading resulted in speed and altitude deviations.

Time / Day

Date : 201901

Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZOA.ARTCC

State Reference : CA

Altitude.MSL.Single Value : 36000

Aircraft : 1

Reference : X

ATC / Advisory.Center : ZOA

Aircraft Operator : Air Carrier

Make Model Name : B737-800

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Cruise

Airspace.Class A : ZOA

Aircraft : 2

Reference : Y

ATC / Advisory.Center : ZOA

Aircraft Operator : Air Carrier

Make Model Name : B747-400

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Cruise

Airspace.Class A : ZOA

Aircraft : 3

Reference : Z

ATC / Advisory.Center : ZOA

Aircraft Operator : Air Carrier

Make Model Name : B737-800

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Cruise

Airspace.Class A : ZOA

Person

Reference : 1

Location Of Person.Facility : ZOA.ARTCC

Reporter Organization : Government

Function.Air Traffic Control : Enroute
Qualification.Air Traffic Control : Fully Certified
ASRS Report Number.Accession Number : 1609411
Human Factors : Situational Awareness
Analyst Callback : Completed

Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation - Procedural : Clearance
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Air Traffic Control : Provided Assistance

Assessments

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

Narrative: 1

I was the controller of Ocean Sectors 4 and 7. I had the three aircraft, Aircraft X, Aircraft Y, [and] Aircraft Z at flight level 360, 350 and 340 respectively. Aircraft Y had requested a climb to FL370 due to continuous moderate turbulence at FL350. Due to his traffic of Aircraft X at FL360, I informed the Aircraft Y unable higher and possible higher after XA47Z. A few minutes later at XA32Z I received an APR (Aircraft Position Report) message informing me that Aircraft X was not at his assigned altitude of FL360 but at FL342. At this time I also received a CPDLC message informing me that Aircraft X was descending to FL300 due to a rough ride. Noticing this I called the CIC (Controller in Charge) over for assistance. As he was already through Aircraft Y's altitude, when I probed his descent, it was probing green. Thus I probed the block FL300B360 and it indicated a conflict with Aircraft Y at FL350 as well as Aircraft X at FL340. I did not get the time for the Aircraft X conflict start time as the initial probe for the descent starting from above his altitude showed green, this indicated to me that the probe for the block was a loss going to happen with 30 minutes but not happening at this time. Aircraft Y was in conflict at that time and a loss of separation had occurred with his descent. We sent out a message to Aircraft X to say reason for descent without clearance. At this time subsequent APR's showed Aircraft X to be off his route as well, VHF weather deviation to protect his probing profile. He then sent a message that he had declared PAN and descended to FL300 with a 15nm offset, on top of that planning to climb to return to FL360. As we had an ADS [Automatic Dependent Surveillance] hit confirming he was at FL300, we EALT [Emergency Altitude] FL300 to his profile. We sent CPDLC message to Aircraft X Negative, maintain FL300, of which he responded with Wilco. Due to the message queue expanding beyond 30 messages at this point, I asked to split sector 7, of which the incident was contained in, and remained to catch up with sector 4. No change, pilot initiated deviation of cleared altitude.

Synopsis

Oakland Oceanic Controller reported an airborne conflict when an aircraft descended to a non turbulent altitude through the protected airspace of another aircraft.

Time / Day

Date : 201901

Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : D10.TRACON

State Reference : TX

Altitude.MSL.Single Value : 10800

Environment

Flight Conditions : VMC

Light : Night

Aircraft

Reference : X

ATC / Advisory.TRACON : D10

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 : Descent

Airspace.Class B : D10

Component

Aircraft Component : Autopilot

Aircraft Reference : X

Problem : Malfunctioning

Person : 1

Reference : 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 : Air Transport Pilot (ATP)

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

ASRS Report Number.Accession Number : 1609307

Human Factors : Situational Awareness

Person : 2

Reference : 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 : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
ASRS Report Number.Accession Number : 1609609
Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : Clearance
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : FLC Overrode Automation

Assessments

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

Narrative: 1

The event occurred while we were flying the BOOVE 4 STAR into DFW. I was PM (Pilot Monitoring) during the event. While the aircraft was level at 11,000 MSL (with the auto-pilot engaged) turning the corner at DELMO approaching the end of the STAR with previously crossing traffic at 10,000 MSL we received an AP TRIM IS NU and an AP TRIM IS LWD simultaneously. Approximately one to two seconds after the message occurred we saw that the aircraft was no longer following the flight director and in a descent. The PF (Pilot Flying) immediately dis-engaged the auto-pilot and attempted to return to 11,000 MSL. When auto-pilot was disconnected at 10,800 MSL it abruptly pitched down further with a total altitude loss of 400 feet, bringing the altitude down to 10,600 MSL the PF further corrected and returned to 11,000 MSL. While we were correcting DFW regional approach control contacted us and cleared us down to 6,000 MSL and asked us why we had started descending. To which we replied that we had just had an auto-pilot issue. The cause of this event was a failure of automation and a mechanical failure of the auto-pilot. More attention to recurring maintenance issues to solve them indefinitely.

Narrative: 2

While level at 11,000 MSL on the BOOVE4 STAR into DFW and within 1 nm of the DELMO intersection, (auto-pilot engaged) the aircraft began turning at DELMO approaching the end of the STAR. We received two caution messages AP TRIM IS NU and AP TRIM IS LWD simultaneously. Seconds after receiving the messages we observed the aircraft pitch nose down and began a slight descent reaching 10,800 MSL although there was no input or change put into the flight director or command given to the aircraft. As PF, I immediately disengaged the auto-pilot and attempted to return to the 11,000 MSL altitude for the crossing at DELMO. As this occurred, ATC instructed to descend to 6,000 MSL and the aircraft began to turn via the STAR. Once the AP was disconnected the trim forces on the aircraft were strong and caused the aircraft to further pitch down which required an initial amount of physical strength to retard the initial descents. The aircraft reached 10,600

MSL. While hand flying and correcting the un-commanded action of the aircraft, ATC asked if/why we began our descent early. The PM responded that we were experiencing an auto pilot issue. The aircraft was hand flown and the correct flight path was established at a speed of 220 knots and descending to 6,000 MSL. Once certain the aircraft's flight path was established, the PF requested AP engaged and the remainder of the STAR and beginning of the approach was flown via the flight director and autopilot and observed to be normal. The AP was disengaged on the approach and landing were made in VMC conditions and hand flown. Failure of autopilot, automation, and mechanical failure of autopilot unable to fly the commanded inputs of the flight director due to a caution message AP TRIM IS NU and AP TRIM IS LWD. Resolving recurring maintenance issues concerning automation or MEL for automations issues.

Synopsis

CRJ-700 flight crew reported an autopilot issue resulted in an altitude deviation while on the BOOVE 4 STAR to DFW airport.

Time / Day

Date : 201901

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : TUS.Airport

State Reference : AZ

Altitude.MSL.Single Value : 10000

Environment

Flight Conditions : VMC

Aircraft

Reference : X

ATC / Advisory.TRACON : U90

Aircraft Operator : Air Carrier

Make Model Name : A319

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Phase : Descent

Airspace.Class C : TUS

Person

Reference : 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 : Air Transport Pilot (ATP)

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Total : 15959.47

Experience.Flight Crew.Last 90 Days : 146.88

Experience.Flight Crew.Type : 12630.13

ASRS Report Number.Accession Number : 1609207

Human Factors : Confusion

Human Factors : Situational Awareness

Events

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Deviation - Procedural : Clearance

Anomaly.Inflight Event / Encounter : CFTT / CFIT

Detector.Automation : Aircraft Terrain Warning

When Detected : In-flight

Result.Flight Crew : Took Evasive Action

Result.Flight Crew : Requested ATC Assistance / Clarification

Result.Flight Crew : FLC complied w / Automation / Advisory
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

Flying on the ZONNA1 arrival descending to 10,000 ft passing the JOKIM fix, we started to get controller vectors for the airport. Unfortunately, the Control's [procedure], or surveyor terrain in this area could be looked at some. On the chart, if you stay on the route you're ok, but the vector we got put us closer to the little peaks that were higher on the mountain. A 270 [heading] was bad enough to get this close, then the controller gave us a 265 heading the put us closer to another high little peak on the mountain. The copilot and I remarked how close to the ground coming up we were with no yellow or red terrain dots showing up on our screen. We looked for the radar altimeter to show 2500 feet, [but] that never happened. We questioned the altitude assignment of 10,000 feet, ATC said the minimum radar vector altitude was 9100 feet, we should be good, [and] then we got the GPWS terrain [warning]. I disconnected the autopilot and did a soft escape maneuver climb to 10,300 feet, told ATC we had to climb because of the GPWS warning but he did not know what we were talking about. He said [no] problem, descend to 7000 feet, we were clear of the mountain by then, [it was] very visible [since it was] a clear day with cloud cover above us. Continued vector to Runway 11L for landing.

Synopsis

A319 Captain reported receiving a GPWS terrain warning when vectored off the charted course approaching TUS.

Time / Day

Date : 201901

Place

Locale Reference.Airport : OAK.Airport

State Reference : CA

Altitude.MSL.Single Value : 8000

Aircraft

Reference : X

ATC / Advisory.TRACON : NCT

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 B : SFO

Person : 1

Reference : 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 : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Last 90 Days : 288

ASRS Report Number.Accession Number : 1609198

Human Factors : Communication Breakdown

Human Factors : Situational Awareness

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

Person : 2

Reference : 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 : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Last 90 Days : 373

Experience.Flight Crew.Type : 373

ASRS Report Number.Accession Number : 1609001

Human Factors : Situational Awareness

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

Events

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Altitude : Undershoot

Anomaly.Deviation - Altitude : Crossing Restriction Not Met

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : Clearance

Detector.Person : Air Traffic Control

When Detected : In-flight

Result.Flight Crew : Requested ATC Assistance / Clarification

Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Chart Or Publication

Contributing Factors / Situations : Human Factors

Primary Problem : Ambiguous

Narrative: 1

While on the BANND 2 Arrival into OAK, a descend via clearance was given to us. I set in the bottom altitude of 4000 FT and verified that VNAV PATH was displayed on the FMA. After receiving a frequency change to NorCal, our clearance was revised to "Descend via except maintain 7000 FT." Both the First Officer and I heard "Descend via except maintain 7000 FT", and is the clearance that was read back to the Controller. After crossing KEENR intersection at 8000 FT, the NorCal Controller informed us that we were to cross KEENR at 7000 FT. We were then informed, by the Controller, that the chart altitude was incorrect and that is why our descend via clearance was amended. There were no NOTAMs in our weather packet, nor were there any operational notes on the coversheet of the weather packet concerning the BANND 2 Arrival.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

B737-700 Captain reported a missed crossing restriction due to a communication breakdown or charting error.