

ASRS Database Report Set

Checklist Incidents

Report Set Description.....	A sampling of reports from all aviation arenas referencing checklist issues (design, procedures, distraction, etc.).
Update Number.....	33.0
Date of Update	March 31, 2018
Number of Records in Report Set.....	50
Number of New Records in Report Set	33
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

Ames Research Center
Moffett Field, CA 94035-1000



TH: 262-7

MEMORANDUM FOR: Recipients of Aviation Safety Reporting System Data

SUBJECT: Data Derived from ASRS Reports

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

ASRS reports are submitted voluntarily. 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.

Linda J. Connell

Linda J. Connell, 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: 1507869 *(1 of 50)*

Synopsis

ERJ-190 flight crew reported uncommanded trim movement in both the yaw and roll axis.

ACN: 1504429 *(2 of 50)*

Synopsis

CRJ-700 First Officer reported several messages and instrument indications associated with a malfunction of the Attitude and Heading Reference System.

ACN: 1501625 *(3 of 50)*

Synopsis

A321 flight crew reported encountering windshear on approach with no predictive windshear indication and then severe turbulence on the go-around with thunderstorms in the vicinity.

ACN: 1494383 *(4 of 50)*

Synopsis

EMB-175 Captain reported that they were unable to taxi due to loss of steering.

ACN: 1493949 *(5 of 50)*

Synopsis

EMB-145 Captain reported returning to the departure airport after a Flight Attendant was injured during a wake vortex encounter climbing through FL235 in trail of a B777.

ACN: 1481080 *(6 of 50)*

Synopsis

CRJ-900 Captain reported a yaw damper INOP status message received in cruise, followed by uncommanded rudder movements. Captain requested priority handling to a normal landing.

ACN: 1480536 *(7 of 50)*

Synopsis

MD-11 crew reported an anomaly with the overspeed warning alert twice during descent which also caused the profile decent system to miss a level off.

ACN: 1480449 *(8 of 50)*

Synopsis

Hawker 800 Captain reported encountering wake turbulence four miles in trail of a B737 on approach to LAX.

ACN: 1480312 *(9 of 50)*

Synopsis

CRJ-700 Captain reported returning to departure airport after experiencing an autopilot malfunction that drove the stabilizer trim to a nose-down position.

ACN: 1480145 *(10 of 50)*

Synopsis

CL60 Captain reported he noticed a deviation from assigned altitude when the autopilot disconnected, and observed that automation dependency was a factor in the excursion.

ACN: 1478908 *(11 of 50)*

Synopsis

B737 flight crew reported diverting to an alternate airport after experiencing a stabilizer trim runaway.

ACN: 1475720 *(12 of 50)*

Synopsis

CRJ-900 Captain reported that they disconnected the autopilot and yaw dampeners and flew the aircraft manually due to uncommanded rudder movements.

ACN: 1472244 *(13 of 50)*

Synopsis

B737 First Officer reported they experienced a sudden and aggressive yaw during the takeoff roll on ORD Runway 22L when an A321 crossed overhead landing on Runway 28C.

ACN: 1467455 *(14 of 50)*

Synopsis

MD11 flight crew experienced a loud squeal passing through 8,000 that continued to grow louder, making communication difficult. Crew elected to return to the departure airport after dumping fuel.

ACN: 1464333 *(15 of 50)*

Synopsis

ERJ-175 Captain reported encountering wake turbulence on approach to CLT in trail of a B757 that resulted in an uncontrollable roll with subsequent system anomalies related to the unusual attitude.

ACN: 1462578 *(16 of 50)*

Synopsis

CRJ200 flight crew reported the flight director made a sudden climbing right turn off the localizer course during approach causing their aircraft to encroach into the adjacent approach path. The second approach resulted in the same anomaly, but the crew intervened quickly.

ACN: 1459089 *(17 of 50)*

Synopsis

B757 flight crew reported an uncommanded roll occurred when the speed brakes were deployed and again when flaps were extended for landing.

ACN: 1456749 *(18 of 50)*

Synopsis

B737 flight crew reported an increase in airspeed and vertical speed that resulted in a max climb rate of 7,900 feet per minute and overshooting the assigned cruise altitude by approximately 1,000 feet.

ACN: 1451923 *(19 of 50)*

Synopsis

G200 flight crew experienced a rudder hard-over after a rudder trim adjustment during which the rudder trim knob detached from the post. The crew was able to center the rudder trim using a Leatherman multi-tool then pulled the circuit breaker to prevent further movement.

ACN: 1451124 *(20 of 50)*

Synopsis

B737-800 flight crew reported rejecting the takeoff at 140 knots after experiencing a sudden uncommanded yaw.

ACN: 1449862 *(21 of 50)*

Synopsis

B737 Captain reported multiple FMS malfunctions on the HHOOD3 Arrival and RNAV (RNP) Z Runway 10L to PDX. Captain reported a visual landing.

ACN: 1447795 *(22 of 50)*

Synopsis

G200 flight crew reported a malfunction with one autopilot shortly after level off from climb. Crew switched to other autopilot and continued to the destination.

ACN: 1446762 *(23 of 50)*

Synopsis

A319 flight crew reported an abrupt, uncommanded pitch up and climb when the FMS was set up for a Managed Descent using Autopilot Number Two. Normal operations were resumed with the use of Autopilot One.

ACN: 1445991 *(24 of 50)*

Synopsis

CRJ-200 Captain reported returning to departure airport after experiencing a stabilizer trim problem.

ACN: 1443987 *(25 of 50)*

Synopsis

EMB175 Captain reported an autopilot disengagement and abrupt pitch up at FL350. Later, maintenance inspection revealed a disagreement with the elevator servo.

ACN: 1443625 *(26 of 50)*

Synopsis

A300 flight crew reported a runway excursion when they attempted to do a 180 degree turn to position the aircraft for takeoff on a 150 foot wide runway.

ACN: 1439165 *(27 of 50)*

Synopsis

Boeing 757 flight crew reported an uncommanded roll during descent with the autopilot engaged. The Rudder Ratio light illuminated a few seconds later.

ACN: 1438649 *(28 of 50)*

Synopsis

Air carrier flight crew reported an interrupted glideslope signal at IND caused the aircraft to pitch up while on autopilot. The Captain took control from the First Officer and landed the aircraft.

ACN: 1437194 *(29 of 50)*

Synopsis

EMB145 flight crew reported an airspeed indication failure at FL370 in IMC with thunderstorms nearby. The flight diverted to the nearest suitable airport with airspeed returning to normal during the approach.

ACN: 1432329 *(30 of 50)*

Synopsis

A300 flight crew reported returning to departure airport after Number 2 engine abruptly rolled back to idle.

ACN: 1430484 *(31 of 50)*

Synopsis

A330 flight attendants reported an aircraft evacuation at the gate due to heavy smoke in the passenger cabin.

ACN: 1430330 *(32 of 50)*

Synopsis

A319 Flight Attendant reported a lack of communication from the cockpit during descent in severe turbulence.

ACN: 1427872 *(33 of 50)*

Synopsis

B737 flight crew reported diverting after encountering a severe mountain wave over the Southern Rockies.

ACN: 1427778 *(34 of 50)*

Synopsis

Air Carrier Captain reported that new checklist response procedures and policy are interfering with cockpit and radio communications.

ACN: 1426650 *(35 of 50)*

Synopsis

A CE-560XLS flight crew reported smoke and fumes on descent so the crew diverted to a nearby airport. Maintenance found a burned set of wires under the forward left galley carpeting and believe that to be the smoke's source. The First Officer commented about the aircraft emergency checklist complexity.

ACN: 1421407 *(36 of 50)*

Synopsis

B777 Captain reported a primary flaps failure and ran the appropriate checklist. They opted to deviate from the checklist and land with more flaps than the checklist dictated.

ACN: 1420193 *(37 of 50)*

Synopsis

A319 flight crew reported being rushed during takeoff resulting in the non-completion of the post engine start checklist.

ACN: 1417120 *(38 of 50)*

Synopsis

Dash 8 flight crew and Flight Attendant reported smoke and odor during descent that was hampered by communication issues, checklist confusion, and high workload.

ACN: 1410057 *(39 of 50)*

Synopsis

MD11 First Officer reported being dispatched with an MEL for number one fuel flow inoperative. Approaching Top of Descent the number three tank fuel quantity failed rendering many FMC calculations. QRH procedures were not accomplished due to the lack of any fuel numbers from the FMC. Numbers returned to normal during descent.

ACN: 1409441 *(40 of 50)*

Synopsis

MD11 flight crew reported a slat disagree indication, they followed the QRH and landed with a reduced flap configuration and high approach speed. Post flight analysis showed it was a sensor problem which the QRH did not address.

ACN: 1405499 *(41 of 50)*

Synopsis

B737NG flight crew reported experiencing Yaw Damper and Flap extension failures upon initial flap selection on approach. Crew reported confusion in attempting to decide which QRH procedure to use and offered recommended changes to the QRH.

ACN: 1403091 *(42 of 50)*

Synopsis

ERJ-175 Captain reported a Secondary Power Distribution (SPDA) Failure which resulted in a loss of pressurization, descent and diversion. The Captain reported the QRH could have been more specific with corrective actions.

ACN: 1402178 *(43 of 50)*

Synopsis

An A320 Captain reported a loss of the "yellow" hydraulic system followed by confusion with a new bulletin that had not been incorporated in the QRH procedure.

ACN: 1396622 *(44 of 50)*

Synopsis

B767 Captain reported after takeoff an EICAS alerted FWD EQUIP OVHT. The QRH was completed which extinguished the alert. A short time later the EICAS alerted again so the Captain diverted to a nearby airport rather than enter oceanic airspace at night.

ACN: 1394752 *(45 of 50)*

Synopsis

CRJ-200 First Officer reported failing to retract the landing gear on departure, interpreted the gear noise as a possible open panel, and diverted due to reduced performance and increased fuel burn. The extended gear was noted when performing the landing checklist.

ACN: 1394231 *(46 of 50)*

Synopsis

Air carrier Captain cited distractions that occurred on vectors to a visual approach to Runway 31 at LGA as contributing to a failure to run the before landing checklist and to arm the thrust reversers. Landing rollout was uneventful.

ACN: 1388034 *(47 of 50)*

Synopsis

A B737-800 Captain reported suspecting a tire failure during takeoff and was notified in flight about tire debris on the departure airport runway. During approach, an electronic QRH index search listed no "LANDING ON A FLAT TIRE" procedure but the procedure was contained in the document, simply mis-indexed.

ACN: 1386891 *(48 of 50)*

Synopsis

B737-700 flight crew reported taxiing without completing the Before Taxi checklist, due in part to distraction and confusion with the CPDLC Pre-Departure Clearance procedure.

ACN: 1376117 *(49 of 50)*

Synopsis

The flight crew of a Bombardier CRJ-200 reported when in climb with one pack deferred, when the other pack failed, they went to the QRH to troubleshoot and neglected to proceed per the QRC for emergency descent.

ACN: 1374157 *(50 of 50)*

Synopsis

EMB175 flight crew experienced a Bleed 1 overpressure shortly after takeoff with the First Officer flying. The Captain performed the QRH procedure which lead to idling the number 1 engine and a return to the departure airport. After landing the Chief Pilot suggested that

the Pack 1 switch may have been turned off instead of the Bleed 1 switch as the QRH calls for.

Report Narratives

Time / Day

Date : 201712
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US

Environment

Flight Conditions : VMC
Light : Dawn

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : EMB ERJ 190/195 ER/LR
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Landing
Flight Phase : Takeoff

Component : 1

Aircraft Component : Rudder Trim System
Aircraft Reference : X
Problem : Malfunctioning

Component : 2

Aircraft Component : Aileron Trim System
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 : First Officer
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1507869
Human Factors : Troubleshooting

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 : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1507885
Human Factors : Confusion

Events

Anomaly.Aircraft Equipment Problem : Critical
Detector.Person : Flight Crew
When Detected : In-flight

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

While rotating for takeoff I noticed the aircraft yawing around 20-30 degrees with no crosswind component. Upon completion of the after takeoff check list the captain and I discussed the odd flight characteristics on rotation. We noticed the yaw trim wasn't centered and corrected it.

After adjusting the yaw and roll trim were noticed both were moving past the commanded position. The captain ran the applicable QRH and we proceeded to [our destination]. The flight continued without incident until I disconnected the autopilot for landing.

I had a difficult time maintaining roll control due to a pronouncement right rolling tendency with roll and yaw trim centered. I was able to compensate for the abnormal rolling tendency and landed normally. We notified maintenance of the malfunctions and control issues.

Narrative: 2

It was the first flight of the day and second day of a three day. VFR morning and the First Officer the PF (Pilot Flying). He had limited time on the airplane but extremely sharp and in tune with the airplane. During a normal takeoff (no wind/x-wind), my First Officer rotated and I notice the nose starting to yaw to the right as if there was a large x-wind. No substantial wind was noted, I looked at all the engine indications and everything looked normal.

After clean up I informed him his inclinometer ball wasn't centered and what happened on takeoff? He was as shocked as I was and didn't know why the nose inadvertently drifted. Upon looking at the trim we noticed the yaw indicating half right and the roll 1/4 left.

Upon returning the aircraft to a coordinated state the trim indication showed uncommanded movement of both the yaw and roll trim. Upon leveling at cruise to ensure we were seeing the same we disconnected the autopilot and re-trimmed the aircraft and noticed upon selecting the yaw trim the indicators kept moving more than commanded. The trim would creep but did not meet the threshold for the automated "trim" aural warning. This function was tested and worked during my flow. I know the trim was

centered on the ground. Being that the trim was not a complete runaway and was controllable in the sense of repeated centering and constant monitoring, we continued to [our destination]. We reviewed the immediate action items and the QRH but nothing was cut and dry on having more than one trim runaway. The FO (First Officer) and I agreed that if this problem persisted that we would utilize the AP/DISC (Autopilot Disconnect) press and hold memory item and work out a solution from there. I tried to speak with [Maintenance Control] but another aircraft had an Emergency and I was unable to make contact. I advised dispatch via ACARS of our issue and was told to call tech ops on the ground.

On approach, the FO disconnected the AP and I quickly observed him placing large amounts of left aileron (8- 9 o'clock position) with current winds showing only a 2 knot crosswind. Upon landing and follow up with tech ops, the aircraft had a small history of recent flight control issues.

The FO taking over the aircraft was one of the crews who had previously written the aircraft up for similar issue in regards to the ailerons. Upon meeting up with crew who flew the aircraft and overnighted this aircraft, they too had a similar condition but didn't notice the trim.

I've never seen or heard of two trims moving uncommanded at the same time let alone in opposite directions. No QRH procedure exists nor can you account for everything that can and will go wrong.

If I had followed the QRH preemptively by isolating both yaw and trim computers I was unsure if it was safer to do so or if by doing so might inadvertently put me in a worse situation. Was it the Trim Panel, wiring issues, a rogue rudder PCU (Power Control Unit)? I didn't know, but we did our best to monitor, stabilize and create readiness for a plan B.

Synopsis

ERJ-190 flight crew reported uncommanded trim movement in both the yaw and roll axis.

Time / Day

Date : 201712

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 6000

Environment

Flight Conditions : VMC

Light : Dusk

Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : Regional Jet 700 ER/LR (CRJ700)

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Initial Approach

Airspace.Class B : ZZZ

Component : 1

Aircraft Component : Autoflight Yaw Damper

Aircraft Reference : X

Problem : Malfunctioning

Component : 2

Aircraft Component : Attitude Indicator(Gyro/Horizon/ADI)

Aircraft Reference : X

Problem : Malfunctioning

Component : 3

Aircraft Component : Indicating and Warning - Flight & Navigation Systems

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 : Pilot Not Flying

Function.Flight Crew : First Officer

ASRS Report Number.Accession Number : 1504429

Human Factors : Time Pressure
Human Factors : Troubleshooting

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Overcame Equipment Problem

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

We were operating from ZZZ-ZZZ1. Due to delays into ZZZ1 we pushed back out of the gate at XB:24 local from the original time of XA:07. We had light to moderate snow in ZZZ so after pushback we proceeded to the deice pad to get the aircraft free of contaminants before takeoff. We departed ZZZ at XB:59. The flight started mostly in IMC conditions but by the time we began our descent on the arrival we were in VMC. We were at 10,000 ft and approach was beginning to vector us for the LOC due to strong winds in ZZZ1. There were strong winds in ZZZ1 that evening but it was VMC with visibility of 10 SM. The CA was PF and I was PM. At 10,000 ft while heading to ZZZ1, we had the autopilot on and it was coupled to the CA's side. Suddenly the autopilot disconnected. We had no indications other than a Yaw Damper 1 status message. We reengaged the autopilot, Yaw damper 1, and continued with our descent to 6,000 ft. At approximately 6,000 ft, the captain's altitude indicator started showing an increasing roll to the left, the autopilot disconnected again, we got an EFIS COMP MON caution message and the captain's attitude indicator continued its roll to the left until it was completely inverted. Due to the increasing bank angle on the attitude indicator, the captain's screen decluttered and we had an almost continuous "BANK ANGLE" aural warning. While this was happening, my attitude indicator indicated a slight roll to the right and showed an amber ROLL and PIT flag on the lower portion of the attitude indicator. The captain's airspeed indications also did not match what was on the standby instruments nor did it match my instruments. At this point, the captain had taken manual control after the autopilot disengaged and we both tried to figure out the problem while using the outside horizon to determine our attitude since it was VMC and confirming it with our standby attitude indicator.

ATC had cleared us to 4,000 ft and right heading 060. On request from the CA, I reported to the controller that we had an instrumentation error. The controller asked if we needed any assistance and we decided to [advise ATC] since we weren't able to trust our speed, altitude, and attitude indications. The controller asked us if we still wanted to go to ZZZ1. Since we were very close to the airport, and in VMC conditions, the CA agreed to proceed to ZZZ1. I replied to the controller; "Affirmative" to confirm our intentions to land at ZZZ1. Meanwhile, the CA was flying using visual references. Keeping the aircraft level with the horizon. The captain and I continued scanning our instruments and noticed that my attitude indicator started to come back to wings level and that my airspeed, altitude, and attitude all matched the standby instruments. The captain decided that since my side matched the standby that I should take the controls and I did. I continued to fly manually while the captain talked on the radio and assisted me by bugging speeds and altitude. ATC stated that they planned to put us on a right downwind for the visual since the

meteorological conditions permitted it. Once aligned with the extended centerline, we had the runway in sight and got cleared for a visual. At this point, my instruments looked accurate but I was still double checking with the standby instruments and the captain kept double checking my airspeed and altitude to make sure we were stabilized on glide path. Aside from the malfunctioning instruments, we were flying the approach as normal. We landed the aircraft safely and proceeded to the gate as normal.

This incident happened very close to the ground, flying during evening hours, in congested airspace. This made the situation a bit more challenging. We were ready for the approach. We had loaded it into the FMS and had briefed it way before we initiated our final descend into ZZZ1. However, when faced with the instrumentation failure that we experience, I felt we did not have as much time as we would have liked to try to troubleshoot the problem. We were very close to landing and decided that since the meteorological conditions were favorable, we should just go ahead and land the aircraft. As a crew we would have liked more time to run our QRH procedures, as trained by the company, but at the time this did not seem suitable since we more than likely would have had to be vectored out somewhere away from all the traffic. With night time approaching, as well as weather from the west, we decided that time was critical and landing immediately was the better decision. The aircraft was never in an undesired state. We are both very familiar with this airspace and having the airport in sight when this happened helped us maintain our situational awareness up and maneuver the aircraft to a safe landing.

I believe that as a cockpit crew, the CA and I had great communication and good CRM. However, due to the time constraints, we were unable to brief the cabin crew like we wanted. Everything happened very quickly and we never thought it was going to end up badly so we never briefed them. In hindsight, we should have briefly told them what was happening and that we were landing immediately just in case something did happen upon touchdown and they could proceed in the way they were trained.

Also, from a human factors point of view, I believe the CRJ does a poor job in telling the pilot that the AHRS system has failed. We are used to receiving caution and warning messages on our EICAS but for this particular system failure all we got was a EFIS COMP MON message. I remember this from ground school but unfortunately, during day to day line flying, when we see an EFIS COMP MON message we normally just associate it with magnetic interference so we are a bit desensitized to it. When we got this message during this incident, we knew it was the AHRS acting up but it takes a lot of crosschecking between instruments to figure out which one is right and which is wrong. I believe that a more efficient system should be develop to let the pilot know exactly what's being affected so the pilot has to work less determining the problem and use his time to troubleshoot.

If I ever encounter an event like this again, I think trying to slow things down might help. I will use this as a learning experience and take away the things that worked and leave the ones that didn't so that I can be more prepared to deal with this in the future.

Synopsis

CRJ-700 First Officer reported several messages and instrument indications associated with a malfunction of the Attitude and Heading Reference System.

Time / Day

Date : 201712

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Environment

Flight Conditions : VMC

Weather Elements / Visibility : Turbulence

Weather Elements / Visibility : Windshear

Weather Elements / Visibility : Thunderstorm

Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : A321

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 : Vectors

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)

ASRS Report Number.Accession Number : 1501625

Human Factors : Human-Machine Interface

Human Factors : Situational Awareness

Human Factors : Workload

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

Experience.Flight Crew.Total : 5212
ASRS Report Number.Accession Number : 1501608

Events

Anomaly.Deviation - Speed : All Types
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Diverted
Result.Air Traffic Control : Provided Assistance
Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

On vectors for approach...Tower reported previous aircraft reported a plus 20 knot increase on final. Fully configured, inside of ZZZZ [Waypoint] approximately 1200 feet, encountered a plus 40 knot increase in airspeed with an ascent. I executed a go-around. No predicative wind shear indications. It seemed like immediately on the go-around we encountered severe turbulence. I directed the First Officer to tell ATC we needed an immediate right turn. Thunderstorms were painting about 10 miles north of the field at the time of the approach and I suspected that was the cause. ATC gave us a heading but I did not think it was enough. Keep in mind this was all happening very fast. I wanted a 180 degree turn away from the storms.... All this while in severe turbulence. The jet was shaking so violently I could not read the airspeed, altitude or heading. I could see the red and amber in the airspeed indicator and the blue on the HSI. Again, this was all occurring simultaneously; the autopilot kicked off. I had a handful of airplane and could not read the instruments. I tried to reengage the autopilot 2 or 3 times but it continued to kick off. The airspeed during all of this, as best I could tell, seemed to go from the red to the amber, over speed to low speed and back rapidly. Also had rapid, uncommanded, pitch and roll. I don't really know how long it lasted but I would guess 2 or 3 minutes.

After we were out of the turbulence and had the jet under control ATC vectored us back around for another approach. I asked if other airplanes got in after us. Not sure if I asked the First Officer or ATC. I was trying to clear my mind after what just happened but I don't think I was successful. I was thinking get this thing on the ground. Somewhere on final encountered the moderate to severe turbulence again and broke out to the right and started heading south again.

Made the decision to divert.... I had over 12,000 lbs. of fuel so was not concerned about that.... No time to consult with dispatch, but did call enroute. Landed uneventfully.

As we were being vectored for the approach the runway and airport was in the clear. I could see it all just fine. We were painting the storms north of the field but the other aircraft ahead of us were getting in. With the exception of the report of a 20 knot gain by the previous jet there were no indications of a real threat. It all happened suddenly and for the most part unexpectedly. I was aware of the potential for wind shear and was thinking

about the possibility. I called dispatch prior to leaving to ask about the weather and was told it should pass [destination] to the north. The alternate was a "just in case." I'm still not sure what we encountered. Was it a microburst? Blow off from the storms just north of the field? I don't know.

Narrative: 2

At approximately 600 feet AGL, the airspeed began to increase, consistent with a strong gust. As the airspeed continued to increase approximately 40 knots above planned VREF, the Captain initiated a go-around. Turbulence was encountered in the climb as we configured the aircraft, and gradually worsened as we climbed and proceeded over the field and northeast of the field. With the proximity of the storm cells north of the field, we requested a vector to the right away from the weather. At that time, the line was still north, extending northeast, so ATC gave us a 020 heading.

During this time, the turbulence had increased to severe, and it was difficult to see the instruments or manipulate the FCU, and the Captain attempted to utilize the autopilot but it kicked offline. We asked for and received a vector further right to 040, and when it was apparent this was not enough, we told ATC that a vector directly away from the line was required. ATC provided a 090 vector, and at this time, while at 5,000 feet we were in and out of the bottom of the clouds, still experiencing severe turbulence. ATC gave us a vector to 170 and the turbulence died down and the ride south of the field was smooth. Aircraft were still being vectored to final, and I considered that the airspeed increase may have been due to a gust front.

Synopsis

A321 flight crew reported encountering windshear on approach with no predictive windshear indication and then severe turbulence on the go-around with thunderstorms in the vicinity.

Time / Day

Date : 201711

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

Environment

Flight Conditions : Marginal

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Ramp : ZZZ

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 : Taxi

Component

Aircraft Component : Nosewheel Steering

Aircraft Reference : X

Problem : Failed

Problem : Improperly Operated

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)

ASRS Report Number.Accession Number : 1494383

Human Factors : Situational Awareness

Human Factors : Training / Qualification

Events

Anomaly.Aircraft Equipment Problem : Less Severe

Anomaly.Deviation - Procedural : Published Material / Policy

Detector.Person : Flight Crew

When Detected : Taxi

Result.General : Maintenance Action
Result.Aircraft : Aircraft Damaged

Assessments

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

Narrative: 1

Few minutes before the scheduled departure time we contacted the Ramp Control for pushback instructions and we were told to push back. The ground crew complied with the instructions and pushed the airplane back. The ground crew disconnected the aircraft. Engine 1 and the APU were running; Engine 2 was off. The hydraulic pump switches were all in the 12 o'clock position. After the ground equipment was removed and clear of the aircraft the Ramp Controller instructed us to taxi straight ahead and make a right turn to and to monitor the next controller. I applied power to Engine 1, quickly followed by pressing down on the tiller, but I immediately felt that I did not have steering control and as the airplane gained momentum it started to turn right due to pure asymmetrical thrust. This is the second time that I experienced a steering failure on initial taxi out. I noticed the STEER OFF message on the EICAS even though I was firmly attempting to engage the steering. I reduced thrust to idle and brought the airplane to a stop. I switched the electric hydraulic pumps 1 and 2 to ON (even though Engine 1 was running) and tried to engage the steering one more time. This time I got an advisory (blue) STEER FAIL message on the EICAS. I reconfigured the hydraulic pumps to their normal position (AUTO). I also recycled the parking brake, and tried to engage the steering again, unsuccessfully.

At this point the airplane was facing due west and blocking about half of the entrance of the [taxiway]. The Ramp Controller was also questioning our actions, which did not match his instructions. The First Officer explained that we had a steering failure and that we probably needed to go back to the gate. The First Officer and I discussed that it was going to be very challenging to taxi without steering. So I told the Ramp Controller that I was not sure if a return to gate was necessary and that I could just taxi the airplane back to get it out of the way and call maintenance. I then applied power to Engine 2 and carefully proceeded to make a right turn back into the ramp using differential braking. In doing so I felt unusual resistance and difficulty trying to make the airplane go straight. Ramp personnel and [Company] Line Maintenance in the area quickly approached the AC (without anybody calling them) and instructed us to stop immediately (we were already stopped). A [Company] Mechanic plugged his head set and told us that the nose wheel had flipped 180 degrees (we had a LG NO DISPATCH message on the EICAS). After several attempts the ground personnel and maintenance managed to turn the nose wheel to the right position and towed the airplane back to the gate. During this time I contacted the dispatcher and explained the situation. Once at the gate I logged the maintenance discrepancies, and contacted MX Control. We then swapped aircraft and completed the flight with no issues.

My perception of Steering Failures on initial taxi out:

As I mentioned, this is the second time that this happens to me. I always thought this issue was mainly caused by the ground personnel leaving the Steering Switch accidentally in the DISENG position. It is important to note that the first time I had this issue the

External Power Connection Access Panel was on MEL, and taped over, so the crew could not verify the position of the switch. During that occasion Maintenance personnel approached the aircraft on the ramp and had us go through a "button pushing" sequence to reset the system. I was under the impression that they also checked the exterior panel, but I never actually learned what they did and what the root of the problem was. Today, I assumed it was also the outside switch that had been left in the DISENG position.

Why I decided to steer the airplane using differential braking:

I had a STEER FAIL in flight while on approach to ZZZ on Oct 2017. After landing on Runway XX I steered the airplane onto a high-speed taxiway, stopped and asked for the QRH. The QRH states that the procedure for a steer failure is to steer the airplane using differential braking and rudder. Nothing more. So, I did just that and I was able to taxi the airplane all the way to the gate using this method. Also, during my upgrade PC I was given a steer failure during taxi out and was told to demonstrate taxiing with differential braking and rudder. Therefore, when the steer failed on taxi out on Nov 2017 I felt fully capable of safely steering the airplane back to the ramp area, and away from an active taxiway using differential braking.

What I have realized:

On Nov 2017 I was single engine. While common sense says that it is not a good idea to try to steer using differential braking while on single engine I have never been explicitly instructed not to do so, or that the airplane is not able to withstand it. Doing some reading on the subject I found that the Systems Manual has a note stating that "after a power up, the first steering engagement must be performed with the airplane stopped. If this condition is not met, the hard over test might not be successfully accomplished by the system and STEER FAIL message might be displayed."

I have developed the habit of sometimes letting the airplane advance before engaging the steering. I cannot remember when exactly I started doing this, but I believe I might have done it a few times during CA IOE. I don't remember explicitly being told not to do that. But with this new knowledge I suspect that my two steering failures on initial taxi out might have been caused by me not knowing how to use the system properly. The company should emphasize to new Captains during training the operation, limitations, and different modes of the E-JET steering system. I remember only briefly going over the system during initial training. During upgrade no particular emphasis was placed on this system. [The Company] cannot take it for granted that all First Officers have a solid understanding of a system that they don't have operational experience in. [The Company] should divulge information stating that the E-JET steering system must be engaged before the airplane moves, and that single engine "Free Wheel Steering" is not allowed.

Synopsis

EMB-175 Captain reported that they were unable to taxi due to loss of steering.

Time / Day

Date : 201711

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 23500

Environment

Weather Elements / Visibility : Thunderstorm

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.Center : 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

Flight Phase : Climb

Airspace.Class A : ZZZ

Aircraft : 2

Reference : Y

ATC / Advisory.Center : ZHU

Aircraft Operator : Air Carrier

Make Model Name : B777 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Mission : Passenger

Flight Phase : Climb

Airspace.Class A : ZZZ

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)

ASRS Report Number.Accession Number : 1493949

Human Factors : Workload

Analyst Callback : Completed

Events

Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Physical Injury / Incapacitation
Result.Flight Crew : Landed As Precaution
Result.Flight Crew : Regained Aircraft Control
Result.Flight Crew : Returned To Departure Airport
Result.Flight Crew : Diverted

Assessments

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

Narrative: 1

While on climb out we encountered severe turbulence, possibly wake turbulence from a B777 that was climbing out in front of us. We were passing through 23500 ft when suddenly the aircraft was thrown violently into a left roll, followed immediately by a sudden roll to the right and a jolt. The autopilot continued to function which helped keep the aircraft in a controllable flight. I had the FO call and check on the FA and she told us that she had fallen and hit her head. I made the decision to air return back to ZZZ. At this time the FO took control of the flying duties while I coordinated with ATC, the company and OPs. I also rechecked on the FA, and she stated that she was starting to feel dizzy and light headed. We [advised ATC] and were turned directly towards ZZZ. This all happened within 2-3 minutes of initial occurrence. We returned and landed with no further problems. We were met at the gate by paramedics and the Inflight Supervisor and our FA was escorted to the ambulance. It was decided that she was going to be transported to the hospital for further evaluation.

In a situation like this there can be numerous threats. 1st, aircraft upset by turbulence, 2nd, and injured crew member, 3rd communicating with ATC, OPs and then coming up with a quick plan to safely bring the aircraft and passengers back to the airport. As with almost any situation, looking back, there are things to be learned. As a pilot the "I can do it all" attitude has to be put aside and one must use all resources at hand. I learned, again, that crew resource management, i.e. the FOs quick and initial, "I can fly while you make a plan and communicate with everybody" (not quite the quote) helped make this situation more controllable. It would help, however, if there was one person who could be called after landing to coordinate. As it was I had to call dispatch, scheduling, ops, Maintenance, and none seemed to know that I was on the phone with the other.

Synopsis

EMB-145 Captain reported returning to the departure airport after a Flight Attendant was injured during a wake vortex encounter climbing through FL235 in trail of a B777.

Time / Day

Date : 201709

Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.ARTCC

State Reference : US

Altitude.MSL.Single Value : 25000

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Center : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : Regional Jet 900 (CRJ900)

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Cruise

Airspace.Class A : ZZZ

Component

Aircraft Component : Autoflight Yaw Damper

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 : Pilot Not Flying

Function.Flight Crew : Captain

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1481080

Analyst Callback : Attempted

Events

Anomaly.Aircraft Equipment Problem : Less Severe

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Landed in Emergency Condition

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

At FL250 received a Yaw Damper 2 (YD2) INOP status message. Shortly after, experienced sudden yawing motion. Suspecting the yaw damper, disconnected it, which also disconnected the autopilot. Yawing motion continued, both left and right and short, sudden motion, as well as long, sustained ones. Re-engaged YD2 and the autopilot, with the uncommanded motion diminished. Were then cleared to descend via the arrival when the yaw damper disconnected, resulting in a caution message and an autopilot disconnect. Ran the QRH. Decided to leave the yaw damper off. At the same time the yaw motions started again, the cause being uncommanded rudder movements observed on the flight controls synoptic page.

Advised ATC unable to continue the arrival due to no autopilot, and requested step-down instructions. Was unable to determine the cause of these rudder movements, and found no reference in the QRH. As the yawing was not diminishing (it was quite noticeable, requiring constant corrections by the flying First Officer), and the cause was unknown, we decided to land as soon as possible. [Requesting priority handling] with ATC. Advised the cabin of sterile procedures and completed all checklists, but decided to contact Dispatch once on the ground in order to have both pilots monitor the aircraft's behavior. Kept speed and configuration changes slow and gentle, and as the aircraft remained controllable, decided not to brace the cabin. Landing was normal. Once on the ground, while being externally inspected by the emergency trucks, briefed the flight attendants and the passengers. At the gate, contacted Dispatch and Maintenance.

Synopsis

CRJ-900 Captain reported a yaw damper INOP status message received in cruise, followed by uncommanded rudder movements. Captain requested priority handling to a normal landing.

Time / Day

Date : 201709
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US
Altitude.MSL.Single Value : 10600

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : MD-11
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Cargo / Freight
Flight Phase : Descent
Airspace.Class E : ZZZ

Component

Aircraft Component : Indicating and Warning - Flight & Navigation Systems
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 : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 12000
Experience.Flight Crew.Last 90 Days : 65
Experience.Flight Crew.Type : 3000
ASRS Report Number.Accession Number : 1480536

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)
Experience.Flight Crew.Total : 7500
Experience.Flight Crew.Last 90 Days : 150
Experience.Flight Crew.Type : 2000
ASRS Report Number.Accession Number : 1480539

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Speed : All Types
Detector.Person : Flight Crew
When Detected : In-flight

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

On the arrival today we had an anomaly that I have never seen before on the MD-11. We were in the descent with the speed brakes deployed and we were about 10 knots under the max foot and stable. Suddenly the yellow foot shot down 20-30 knots followed by the red foot. An overspeed warning alert sounded with a high speed protection annunciation. No weather, turbulence or pitch changes occurred to cause this. Within a few seconds the foot returned to normal about 10 knots above our descent speed and all was well. A few seconds later the yellow and red foot repeated the sudden downward movement and we received the same warnings again. A few seconds later the feet returned to normal and we resumed our descent.

At this point we were trying to diagnose the issues and figure out what was wrong and without knowledge to us the aircraft was no longer in prof and went to level change and we descended past our clearance limit of 11,000 to 10,600 before we reversed our descent to a climb back to 11,000. [ATC didn't say] anything and we remained at 11,000 feet until ZZZZZ and continued our clearance to 10,000 after we passed ZZZZZ. I'm not sure what caused the speed/foot/overspeed anomalies. I wrote it up in the logbook and briefed maintenance as a theoretical overspeed from the warnings, but I don't actually believe we had an overspeed, but I can't be sure with the quick changes that appeared and disappeared.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

MD-11 crew reported an anomaly with the overspeed warning alert twice during descent which also caused the profile decent system to miss a level off.

Time / Day

Date : 201709

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : LAX.Airport

State Reference : CA

Relative Position.Distance.Nautical Miles : 10

Altitude.MSL.Single Value : 3000

Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.Tower : LAX

Aircraft Operator : Air Taxi

Make Model Name : BAe 125 Series 800

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 135

Flight Plan : IFR

Mission : Passenger

Nav In Use.Localizer/Glideslope/ILS : Runway 25L

Flight Phase : Final Approach

Airspace.Class B : LAX

Aircraft : 2

Reference : Y

ATC / Advisory.Tower : LAX

Aircraft Operator : Air Carrier

Make Model Name : B737 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Final Approach

Airspace.Class B : LAX

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
Experience.Flight Crew.Total : 5600
Experience.Flight Crew.Last 90 Days : 200
Experience.Flight Crew.Type : 2000
ASRS Report Number.Accession Number : 1480449

Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments

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

Narrative: 1

We experienced moderate wake turbulence from a B737 4 miles in front of us. We were flying the ILS Runway 25L with the LOC and GS captured by the autopilot, 8 NM out, when suddenly the aircraft started to shake and the autopilot started compensating strong roll movements. Suspecting wake turbulence I decided to disconnect the autopilot, apply power, and climb to get out of the wake. Once out of the turbulence we reported the incident to LAX Tower and flew most of the approach one dot above the GS. The turbulence continued through the whole approach phase almost down to the runway. I can tell that because I tried to recapture the GS about 1 NM from the runway and I felt a light roll force as I tried to descend to the GS, so I decided to land beyond the 1500 aiming marks.

Synopsis

Hawker 800 Captain reported encountering wake turbulence four miles in trail of a B737 on approach to LAX.

Time / Day

Date : 201709
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 10000

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : Regional Jet 700 ER/LR (CRJ700)
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Flight Phase : Climb
Airspace.Class E : ZZZ

Component

Aircraft Component : Autopilot
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 : Pilot Not Flying
Function.Flight Crew : Check Pilot
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1480312

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Diverted

Result.Flight Crew : Returned To Departure Airport
Result.Flight Crew : Landed As Precaution

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

On climb out passing through approximately 7,000 FT, we received an "EFIS COMP MON" caution message immediately followed by an AP TRIM IS ND (Autopilot Trim is Nose Down) caution message. I instinctively looked at the elevator trim display and observed the trim running nose down.

I immediately pushed the stab trim disconnect and instructed the First Officer to do the same. I assumed control of the aircraft and told the First Officer to request a level off at 10,000 FT from ATC. As he was doing that I disconnected the Autopilot and found it to be excessively out of trim to the point that it was very difficult to control. I instructed him to run the Stab Trim Runaway checklist. Although we never heard the trim clacker, it seemed at the time the more prudent checklist to run.

I had the First Officer request a turn back towards [departure airport] as a precaution although we had not committed yet to a return. During this turn I lost some altitude due to the excessive nose down trim as the primary cause but was able to gain it back. Upon further reflection, I decided to run the AP TRIM IS ND checklist because I felt that the Autopilot was the more probable cause. I reengaged the trim and trimmed the aircraft for level flight. We did not experience any trim runaway.

After briefing the First Officer about the Autopilot possibly driving the trim nose down, I reengaged the Autopilot per the checklist. Immediately the trim started moving nose down so I once again disconnected the trim and the Autopilot. I reengaged the trim and left the Autopilot off. I determined the Autopilot had malfunctioned and since at this time we had full control of the aircraft, I elected to not [get priority handling]. I had the First Officer request a return to [departure airport] and instructed him to notify the flight attendants and to ACARS dispatch. We returned and landed uneventfully.

Synopsis

CRJ-700 Captain reported returning to departure airport after experiencing an autopilot malfunction that drove the stabilizer trim to a nose-down position.

Time / Day

Date : 201709

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : APA.Airport

State Reference : CO

Altitude.MSL.Single Value : 15000

Environment

Flight Conditions : VMC

Weather Elements / Visibility : Turbulence

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.TRACON : D01

Aircraft Operator : Corporate

Make Model Name : Challenger CL600

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Personal

Nav In Use : FMS Or FMC

Nav In Use : GPS

Flight Phase : Descent

Route In Use : Vectors

Route In Use.STAR : DUNNN2

Airspace.Class E : D01

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 : Flight Engineer

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Total : 31000

Experience.Flight Crew.Last 90 Days : 50

Experience.Flight Crew.Type : 30

ASRS Report Number.Accession Number : 1480145

Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Procedural : Clearance
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Became Reoriented
Result.Flight Crew : Returned To Clearance

Assessments

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

Narrative: 1

A bit of an odd report and I was a bit reluctant to file this, but I'm a bit old school and see a trend that I don't like. We were on the DUNNN2 RNAV Arrival into the Denver's Centennial (APA) airport and were provided with some shortcuts that actually simplified the procedure. The ATC Controller said to "descend and maintain 14,000 FT and be level in 5 minutes." The pilot flying started his clock and had the time/altitude restriction wired using the vertical speed mode of the autopilot. We entered some moderate turbulence at 14,300 FT during the descent and the autopilot disengaged but the pilot flying did not notice. I may not have noticed immediately because I was setting both heading bugs. Normal non-flying pilot duties.

If I didn't see the disconnect right away, I'm sure within three to five five seconds I observed the autopilot disconnect annunciator light. I verbalized that the autopilot kicked off and to get the nose down. I saw the slight nose up tendency which was probably due to the stab trim condition and perhaps the effect of the bumpy air. The pilot flying saw the altitude increase and instead of manually flying (like I would have thought a jet pilot would do) and pushing the nose over slightly, he was using/manipulating the autopilot vertical speed wheel to arrest the climb.

I was focused on his flight instruments and saw his right hand on the yoke (and trying to determine if we had a runaway trim or flight control malfunction) but didn't realize that his focus was on the darn now non-functioning (and slow to command even if it was working) vertical speed wheel. I said, "I have it" and made a quick recovery but we topped out at almost 15,000 FT with a then expeditious return to our assigned altitude of 14,000 FT.

I have stressed good hand flying skills to this aviator and have insisted that he practice honing those skills. He has good hand flying abilities but I'm sure that many aviators are reluctant to disengage and go down on the automation ladder when needed. I don't believe a loss of separation occurred because Denver TRACON gave us a turn just before this autopilot/pitch-up (that was why I was heads down setting both the independent HDG Bugs) occurrence happened.

I would not be writing this if it wasn't for the "be level in 5 minutes" clearance. Even with the altitude excursion we didn't miss the timing by much. Could I have done a better job? I'm sure, but I am fighting a culture of pilots that are too dependent on automation. If I [had] been the flying pilot, I have little doubt that ATC or anyone in the back of the airplane would have known of our issue. I would like to think that a near immediate transition to manual flight would have occurred, just like what you would see say on an ILS approach and disconnecting the autopilot on final. We don't disconnect and let the

airplane do what it wants, we fly the darn thing. On a side note, I gave the airplane back to him after leveling and stabilizing and he re-engaged the autopilot.

Synopsis

CL60 Captain reported he noticed a deviation from assigned altitude when the autopilot disconnected, and observed that automation dependency was a factor in the excursion.

Time / Day

Date : 201709

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 4000

Environment

Flight Conditions : VMC

Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

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

Flight Phase : Climb

Airspace.Class C : ZZZ

Component

Aircraft Component : Horizontal Stabilizer Trim

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 : Captain

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Type : 7437

ASRS Report Number.Accession Number : 1478908

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)

Experience.Flight Crew.Type : 7124
ASRS Report Number.Accession Number : 1478903

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Diverted
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Landed As Precaution
Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

Normal departure until cleaning up the flaps and slats. After everything was up, got master caution, flight controls, speed trim fail lights. At the same time the aircraft started slow trimming nose up. I was able to counter the movement with the trim switch on the yoke. Kept the speed at 250 and continued the departure so that we could run the non-normal checklist. After turning off the two guarded trim switches below and to the right of the throttles, the runaway condition stopped. Down to manual trim. We [advised ATC] and ATC leveled us off at FL240 and turned us back to [an alternate airport] per our request to divert there. Contacted the Company, briefed the Flight Attendants and passengers. Made a smooth, uneventful overweight landing.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

B737 flight crew reported diverting to an alternate airport after experiencing a stabilizer trim runaway.

Time / Day

Date : 201708

Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZZZ.ARTCC

State Reference : US

Altitude.MSL.Single Value : 22600

Environment

Flight Conditions : VMC

Light : Night

Aircraft

Reference : X

ATC / Advisory.Center : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : Regional Jet 900 (CRJ900)

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Cruise

Route In Use : Direct

Airspace.Class A : ZZZ

Component

Aircraft Component : Rudder Control System

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 : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1475720

Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Less Severe

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Landed As Precaution

Result.Flight Crew : Overcame Equipment Problem

Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Regained Aircraft Control
Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

While in cruise at FL260, with the autopilot engaged, we felt a sudden jolt and a very noticeable yaw back and forth. As the pilot flying I took a tighter hold of the control yoke and we both started looking at all the indicators to try to see what had been the cause, including checking if there was any nearby traffic above us that might have been the cause of a wake turbulence encounter.

There were no obvious abnormalities, no warning lights or indications.

We started to feel the additional yaw excursions. One of us selected the FLT CNTRL page on the EICAS, and we could then see fairly significant movement of the rudder (not extreme excursions, but more than would normally be seen in cruise).

I called for the QRH for un-commanded rudder movement. We ran through the steps, including disconnecting the autopilot and yaw dampers. As soon as the YDs (Yaw Dampers) were disconnected the un-commanded movements stopped.

As the conditions did NOT persist, we were not required to land at the nearest suitable airport. As the aircraft was controllable we decided it was acceptable to continue on. However, as we were worried that the problem could reoccur I determined the safest course of action was to inform ATC so that if we needed to divert everything would be in place for us.

We asked for and received a new clearance for lower and slower, and ATC also gave us direct to [the destination]. We were asked for and provided the usual information (souls on board, fuel, etc) as well as a basic description of the problem.

We also contacted Dispatch and Maintenance via ACARS, advising them of the problem, our current condition, and intention to land if nothing further happened, or divert if necessary.

Lastly, we advised the Flight Attendants what was happening, that we expected a normal landing and taxi-in, but to be prepared in case the situation worsened and called for a change in plans.

We continued the flight, with me flying manually. We asked for and received clearances to allow for relatively gentle descents and turns and a long final so as to keep stresses on the controls light.

I performed a normal visual, backed up with the ILS, to the longest runway, followed by a normal touchdown and roll-out.

Normal taxi-in and parking, after which I contacted [maintenance operations] via telephone to discuss what had happened and the write-up entry I was doing.

It appeared to me to be just an odd equipment abnormality. We did discuss the local weather (was it a wind shear issue, etc), but all the weather was far west of our position when it was happening, so that was ruled out as a factor. As I stated above, we thought about a wake turbulence issue, but there was no traffic anywhere near us. And as soon as the Yaw Dampeners were disconnected the problem seemed to stop.

I will also add that it required considerable right rudder trim to center the brick once I started manually flying. Somewhere in the 30-40% range of the indicated available travel. This might or might not be a symptom of the issue.

Synopsis

CRJ-900 Captain reported that they disconnected the autopilot and yaw dampeners and flew the aircraft manually due to uncommanded rudder movements.

Time / Day

Date : 201708

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ORD.Airport

State Reference : IL

Altitude.AGL.Single Value : 0

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.Tower : ORD

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

Flight Phase : Takeoff

Aircraft : 2

Reference : Y

ATC / Advisory.Tower : ORD

Aircraft Operator : Air Carrier

Make Model Name : A321

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Mission : Passenger

Flight Phase : Final Approach

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 : First Officer

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Type : 938

ASRS Report Number.Accession Number : 1472244

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 : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Type : 1618
ASRS Report Number.Accession Number : 1472253

Events

Anomaly.Conflict : Ground Conflict, Less Severe
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Became Reoriented

Assessments

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

Narrative: 1

We were departing Runway 22L in ORD. At the time ORD was landing Runway 28C. Just prior to our takeoff an A321 was landing Runway 28C which crosses over Runway 22L's takeoff roll path. At approximately 120-130 kts our aircraft suddenly and aggressively yawed right. This occurred prior to V1 but in the high speed regime. As pilot monitoring I double checked the engine and flight control indications. Everything was normal so I did not make a call out. The Captain (pilot flying) was able to return the aircraft to runway centerline and took off normally without any further issues.

The winds during takeoff were reported 300 degrees at 8 kts. I believe that we encountered jet blast or wake from the aircraft landing Runway 28C.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

B737 First Officer reported they experienced a sudden and aggressive yaw during the takeoff roll on ORD Runway 22L when an A321 crossed overhead landing on Runway 28C.

Time / Day

Date : 201707

Local Time Of Day : 0001-0600

Place

Locale Reference.Airport : ZZZZ.Airport

State Reference : FO

Relative Position.Distance.Nautical Miles : 25

Altitude.MSL.Single Value : 8000

Environment

Flight Conditions : Mixed

Light : Night

Aircraft

Reference : X

Aircraft Operator : Air Carrier

Make Model Name : MD-11

Crew Size.Number Of Crew : 3

Operating Under FAR Part : Part 121

Mission : Cargo / Freight

Route In Use.Other

Component

Aircraft Component : Cockpit Window

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 : First Officer

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Total : 12500

Experience.Flight Crew.Last 90 Days : 70

Experience.Flight Crew.Type : 5500

ASRS Report Number.Accession Number : 1467455

Human Factors : Communication Breakdown

Human Factors : Situational Awareness

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : 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 : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 18750
Experience.Flight Crew.Last 90 Days : 100
Experience.Flight Crew.Type : 8000
ASRS Report Number.Accession Number : 1467456
Human Factors : Situational Awareness

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 : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 15700
Experience.Flight Crew.Last 90 Days : 150
Experience.Flight Crew.Type : 4000
ASRS Report Number.Accession Number : 1467457

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Landed As Precaution
Result.Flight Crew : Returned To Departure Airport
Result.Air Traffic Control : Issued New Clearance
Result.Aircraft : Equipment Problem Dissipated

Assessments

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

Narrative: 1

Passing through approximately eight thousand feet, a vibrating low-volume howl began to emanate from the First Officers window. Within what seemed to be approximately a 3-4 second time lapse, this sound became completely unbearable. Communications with ATC as well as communications within the cockpit were extremely difficult, rendering the requirement for maximum volume selections and overhead cockpit speakers on and at maximum volume, to optimize our ability to discern ATC communications. Visual and physical inspections of the First Officer window revealed that the window was properly secured. The window also had an accompanied vibration. The Captain conducted excellent CRM utilization and leadership with all crew members. We determined that a continued

flight would not only be detrimental to safety, but would also, and in short order, render permanent hearing damage to us all. All crew members determined that an immediate level off during our climb was needed, followed by communications with ATC regarding our need to return to [departure airport], as well as the need for us to fuel dump to achieve a safe landing weight for the aircraft. During our eventual descent, we noticed that the extremely loud noise quickly dissipated close to the same altitude it began. All checklists were accomplished. Updated weather information and landing performance was gathered followed by appropriate briefings, to return to our departure airport. A successful landing was ensued with appropriate debriefs with local maintenance personnel whom later shared with us the degradation of the First Officer window seal.

Narrative: 2

After takeoff climbing through 8,000 feet the FOs window developed a very loud high pitch squeal and vibration in the window. I ask ATC to hold our altitude that we were working a problem. The higher the cabin altitude climbed the louder the noise, to the point where we were having difficulty communicating. After we assessed our situation I decided to return. Asked radar for a fuel dumping area and we were cleared to dump. We also contacted OPS and got a release for a return, which we received. We ran all of our checklists, terminated the dump and briefed the approach. Once we had everything squared away, we flew the ILS for an uneventful landing. MX found a broken window seal. Reasons to dump fuel and return:

- 1) Noise level becoming unbearable and inhibited communication between crew members and hearing ATC,
- 2) Concern for a window failure due to vibration,
- 3) A 9 hrs over water flight. I feel I must recognize the crew for remarkable performance and our use of CRM, made for a safe uneventful return.

Narrative: 3

An extremely loud noise and vibration suddenly originated from the FO window during climb at approximately FL80. The FO window was closed and locked with the locking lever in the locked position. ATC communications and crew cockpit communications became extremely difficult as we climbed out on the SID. Several clearances were repeated by ATC and aircrew due to extreme noise. Continued painful noise exposure was deemed intolerable and imprudent by the crew. Climb was stopped and fuel dumped for a normal landing at departure airport. The noise subsided during the descent to an uneventful landing.

Synopsis

MD11 flight crew experienced a loud squeal passing through 8,000 that continued to grow louder, making communication difficult. Crew elected to return to the departure airport after dumping fuel.

Time / Day

Date : 201707

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : CLT.Airport

State Reference : NC

Altitude.MSL.Single Value : 2500

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.TRACON : CLT

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 : Initial Approach

Airspace.Class B : CLT

Aircraft : 2

Reference : Y

ATC / Advisory.Tower : CLT

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

Flight Phase : Final Approach

Airspace.Class B : CLT

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)

Experience.Flight Crew.Type : 6000

ASRS Report Number.Accession Number : 1464333

Analyst Callback : Attempted

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Executed Go Around / Missed Approach
Result.Flight Crew : Regained Aircraft Control
Result.Flight Crew : Took Evasive Action
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

On approach into Charlotte Runway 23, we were at flaps 3 and approaching the FAF LECAR which is 2,500 MSL following a B757. Very suddenly the nose of the plane dropped followed by the right wing shooting straight up. I had my hands on the controls and I disconnected the autopilot and applied the maximum amount of aileron and full power. The airplane however kept rolling. We finally exited the wake at a nose low attitude. I broke off the approach and the FO requested a heading and altitude from CLT tower/approach. We climbed to 4,000 on a 120 heading and received delay vectors until we could sort out the extensive list of EICAS messages.

I tried to re-engage the automation but we lost our air data. A short time later the EICAS shortened down to AUTOTHROTTLES FAIL, WINDSHEAR FAIL, STALL PROTECTION FAIL, and ANGLE OF ATTACK LIMIT FAIL. At this point the autopilot worked again but not the auto throttles. We cleaned up the plane and accelerated to 210 KTS. I then called back to the flight attendants to check on the situation in the cabin. Everyone fortunately had their seat belts on and was fine. I made a cabin PA to the passengers, then the FO ran the associated QRH items associated with each of the EICAS messages. The FO entered the new V speeds, reloaded the approach, ran another descent checklist, then we requested vectors back to Runway 23. On the ground we received ADS 2 (Air Data System) FAIL, ADS 3 FAIL messages.

Synopsis

ERJ-175 Captain reported encountering wake turbulence on approach to CLT in trail of a B757 that resulted in an uncontrollable roll with subsequent system anomalies related to the unusual attitude.

Time / Day

Date : 201707

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : CLT.Airport

State Reference : NC

Environment

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.TRACON : CLT

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 36L

Flight Phase : Initial Approach

Airspace.Class B : CLT

Component

Aircraft Component : Approach Coupler

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 Flying

Function.Flight Crew : First Officer

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1462578

Human Factors : Confusion

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 : Captain

Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1462579
Analyst Callback : Attempted

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation - Procedural : Clearance
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Executed Go Around / Missed Approach
Result.Flight Crew : FLC Overrode Automation
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

I was pilot flying. We were on a published arrival into CLT. Once ATC gave us heading vectors to swing us around to the approach end of 36L, the captain and I both switched to the localizer freq 36L and went to green needles. As we neared the localizer course, ATC gave us a final vector to join the localizer for 36L. Just as we captured the localizer, my flight director made a sudden climbing right turn off the localizer course. I immediately disconnected the autopilot and turned back left to try to recapture the localizer. Although it was just a matter of only a couple of seconds, we got a traffic alert for inbound traffic on the localizer for 36C but no RA. The controller gave us a vector for 090 but since I had already turned back to westerly heading to try to rejoin, he gave us a heading of 270 and canceled the approach clearance.

At that time we reengaged the autopilot and it held the heading assignment. We quickly troubleshot the issue in attempting to figure out what caused the quick pitch and roll and could not find anything out of place. As the controller vectored us back around for another attempt to the ILS 36L, the captain and I did a positive transfer of controls and he became PF and I PM. ATC contacted us prior to the approach and issued a phone number to copy for a possible pilot deviation. As the controller issued us another vector to join the localizer, the captain armed the NAV button. As soon as he captured the localizer, the flight director again, pitched up and to the right as before. The captain caught it quick enough and disconnected the autopilot and stayed on course on the localizer manually. As we stabilized, I noticed on my FO side, my flight director was pitched up and stuck in an upright position and I did not have the glide slope green star and it stayed that way through the approach.

As we continued prior to 1000 feet, pitch/roll commands kept appearing in place of the LOC and GS on at least 2 occasions. We rearmed the approach at least 2 times before it stabilized. By the final approach course beyond 1000 feet we were stable on the captain's side and he hand flew the approach down to just above minimums doing a great job of flying after all we had just went through. During the approach, we also received CAS messages of inboard ground spoilers and spoileron faults as well as the cargo door light message was on. The captain contacted ATC as requested and briefed them on the

avionics failure we had and they stated they would be submitting a report. Maintenance was called to the plane upon landing and we deplaned after the aircraft was put out of service.

Narrative: 2

After receiving vectors from Charlotte approach control to intercept the 36L localizer, nav was armed, coupled to the FO's side. As soon as the course captured, the flight director made a sudden, sharp turn to the right. FO disconnected the auto pilot and attempted turn back to the approach course. Due to the speed and suddenness of the turn, we inadvertently encroached into the 36C approach course resulting in a TA. Charlotte approach issued an immediate vector to turn to a 090 heading, but we had turned to approximately 290 already. The controller then issued a 270 heading to clear us from both the 36C and 36L approach paths and to resequence us for an approach. The autopilot was reengaged and seemed to function normally. I opted to take the flying pilot duties to fly the approach. After receiving a vector to intercept the 36L localizer, I armed nav. As soon as the localizer captured the flight director again started to make a sharp right turn. I immediately disconnected the auto pilot and assumed manual control to remain on course. No further attempts were made to engage the autopilot for the remainder of the flight. As I was hand flying the approach, pitch and roll commands appeared on two occasions prior to 1000 feet. I reengaged approach each time and successfully landed the aircraft. Also, during the approach, we received intermittent inboard ground spoiler and spoileron messages and several cargo door CAS messages.

Charlotte approach had advised us prior to the second approach that a possible pilot deviation had occurred and provided a telephone number for the Charlotte TRACON for us to call. I called after we arrived at the gate and after a brief discussion, was told that they would be submitting a report on the incident. I advised dispatch and maintenance control of the situation and entered the discrepancies in the aircraft logbook.

Synopsis

CRJ200 flight crew reported the flight director made a sudden climbing right turn off the localizer course during approach causing their aircraft to encroach into the adjacent approach path. The second approach resulted in the same anomaly, but the crew intervened quickly.

Time / Day

Date : 201706

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 24000

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Center : ZZZ

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

Flight Phase : Descent

Airspace.Class A : ZZZ

Component : 1

Aircraft Component : Speedbrake/Spoiler

Aircraft Reference : X

Problem : Malfunctioning

Component : 2

Aircraft Component : Aeroplane Flight 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 : Captain

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Type : 1144

ASRS Report Number.Accession Number : 1459089

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)
Experience.Flight Crew.Type : 1537
ASRS Report Number.Accession Number : 1459087

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Overcame Equipment Problem

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

Passing approximately FL240 while descending into [destination] deployed speedbrakes to acquire the VNAV path. As soon as handle came out of detent aircraft rolled sharply left [and the] autopilot corrected with one unit of right aileron. AUTO SPEEDBRAKE EICAS message also displayed immediately. Stowed handle and aircraft rolled back to the right until the ailerons returned to neutral, then aircraft flew level. Redeployed speedbrakes with same response. Amount of speedbrakes handle made no difference in roll, stayed at one unit all the way to full speedbrakes. Disconnected autopilot when descending through FL190 and reattempted use of speedbrakes with the same results. Engaged center autopilot but had the same conditions so reengaged the left autopilot. Anytime the speedbrake handle was moved out of the down detent aircraft rolled left and autopilot added one unit right aileron to maintain wings level. Elected to keep speedbrake use to a minimum. Disconnected autopilot descending through 11000 feet as I wasn't comfortable with leaving it engaged with a possible flight control issue. Aircraft never rolled any of the times I hand-flew, seemed perfectly in trim.

Received a request from ATC to slow from 250 to 190 knots for slowing traffic. FO had already run through the Auto Speedbrake QRH procedure which admonished not to arm the speedbrakes for landing. I advised that we should be ready for possible roll issues as flaps were extended and called for flaps 1. No issues at the setting. I called for flaps 5 and started to get some left rolling without the speedbrakes being deployed. We had just checked on with Tower and notified them of our intentions. With flaps 30 roll was much more pronounced, requiring as much as 4 units of right aileron to maintain wings level. Winds were 250 deg at 10 knots so no crosswinds were involved. FO reminded me to use manual spoilers after touchdown. As soon as the aircraft touched down the need for right aileron disappeared. I selected reverse and the FO called "speedbrakes", which I then manually deployed. The rest of the landing rollout and runway exit were uneventful. ATC asked us if we needed any assistance, to which we replied no. Taxi to the gate was completed with no further issues. We elected to keep the spoilers deployed for maintenance while being aware of that in case an emergency egress situation should come up requiring their stowage.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

B757 flight crew reported an uncommanded roll occurred when the speed brakes were deployed and again when flaps were extended for landing.

Time / Day

Date : 201706
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZDV.ARTCC
State Reference : CO
Altitude.MSL.Single Value : 35600

Environment

Weather Elements / Visibility : Windshear
Light : Night

Aircraft

Reference : X
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 : Climb

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 : First Officer
Experience.Flight Crew.Last 90 Days : 313
ASRS Report Number.Accession Number : 1456749

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 : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days : 349
Experience.Flight Crew.Type : 17000
ASRS Report Number.Accession Number : 1456682

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : FLC Overrode Automation
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

Climbing through about FL355 for FL370 at approximately M.78 in VNAV, we noticed an uncommanded rise in airspeed along with the large increase in Vertical Speed. The airspeed trend arrow went up into the barber pole, (we never got the clacker) so the Captain reduced power, as the airspeed and Vertical Speed continued to increase very rapidly, the Captain continued to reduce power and increase the pitch in an attempt to prevent the aircraft from overspeeding.

The airspeed and Vertical Speed increased at such a rapid rate that we were unable to level off the FL370, with the airspeed continuing to increase. We did not have any indications of mountain wave or windshear leading up to this point. I believe we were able to get the aircraft to slow down and level off at approximate FL380, with idle thrust. I immediately notified ATC of the severe updraft we had experienced and our deviation in altitude. The windshear event appeared to be over and we returned back to FL370 promptly.

I called the Flight Attendants to check the status of the cabin, everyone was ok thankfully. We notified Dispatch of the severe updraft/windshear, and the Captain wrote the aircraft up when we got to ZZZ. Maintenance met the airplane in with a printed report of the flight data, showing a 7900 fpm climb during the peak of the windshear event. The rest of the flight was mostly light chop/turbulence. We didn't encounter any more mountain wave or windshear.

There isn't anything that we could have done to prevent this event. I believe we handled it as well as possible, given the extreme nature of the windshear/turbulence.

Narrative: 2

Leveling off to cruise at FL370 climbing out in mostly smooth conditions we encountered severe turbulence in the form of a significant updraft. Pitch and thrust were managed as to not exceed aircraft limitations while maintaining positive aircraft control.

Synopsis

B737 flight crew reported an increase in airspeed and vertical speed that resulted in a max climb rate of 7,900 feet per minute and overshooting the assigned cruise altitude by approximately 1,000 feet.

Time / Day

Date : 201705
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 15000

Environment

Flight Conditions : VMC
Light : Night

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Taxi
Make Model Name : Gulfstream G200 (IAI 1126 Galaxy)
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 135
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Flight Phase : Descent
Airspace.Class E : ZZZ

Component

Aircraft Component : Rudder Trim System
Aircraft Reference : X
Problem : Malfunctioning

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 : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1451923
Human Factors : Distraction
Human Factors : Troubleshooting
Human Factors : Workload
Analyst Callback : Attempted

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 : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1451924
Human Factors : Workload
Human Factors : Distraction
Human Factors : Troubleshooting
Analyst Callback : Attempted

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Overcame Equipment Problem
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Regained Aircraft Control
Result.Aircraft : Automation Overrode Flight Crew

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Company Policy
Primary Problem : Aircraft

Narrative: 1

Prior to takeoff, cockpit checks were completed and the rudder trim was actuated full deflection left and right per the checklist and no defects were discovered. After takeoff I adjusted the rudder trim slightly right. At this time the rudder trim selector knob pulled off of the rudder trim post. Assuming that the setscrew only backed out we placed the knob back on the post and continued the flight under normal operations. Once at an altitude of 10,000 feet, we briefed that we would not touch the rudder trim and leave it in the set position for the remainder of the flight.

Approach cleared us direct an arrival waypoint and to cross at 8,000 feet. In the descent though 15,000 feet, out of habit I attempted to apply the slightest amount of right rudder trim to true the aircraft. At this time the rudder trim abruptly applied full uncommanded deflection to the right. Which was indicated on the primary EICAS page of nine full units right trim. Causing a severe skid at an indicated airspeed around 300 kts. The autopilot was immediately disconnected in efforts to regain control of the aircraft. At this time I was applying left rudder as hard as possible and asked for the pilot not flying to add rudder input as well in attempt to remove the airplane from the skid. During the skid the cabin host was walking up the main entry door to open the curtain. At which time cabin host was promptly commanded to take a seat. The non-flying pilot attempted to re-center the rudder trim using the unsecured trim knob. However, due to the knob not being attached pilot not flying was unable to move the rudder trim.

At this time I notified ATC that we were having a problem with the rudder trim, we were off course and unable to make the crossing restriction. ATC cleared us direct to the airport and to maintain 6,000 feet. I called for the rudder trim circuit breakers to be pulled in an

effort to de-energize the trim motor. After the PNF was able to find an on board multi-tool that we keep in the cockpit, PNF was able to latch onto the trim post. When we realized this we pushed the CB's back in and attempted to re-center the rudder trim. The PNF discovered that the switch was not self-centering and that after moving the trim to the left PNF would have to move it back to the right to stop the movement of the motor. At which time I called for the CB's to be pulled again to ensure that the trim motor would not activate. During the skid fuel migrated to the left wing causing an imbalance between 300-400 lbs. After regaining control of the aircraft I asked ATC to provide either delaying vectors or a hold. ATC cleared us for a present position hold at 6,000 feet and the autopilot was re-engaged in the holding pattern.

I attempted to contact maintenance control by the use of the satellite phone to inquire if they would prefer for us to land at a nearby airport. However, due to the company's automated answering service we were unable to make contact with company. At this point I made the decision to continue to the original planned airport of arrival. After being cleared direct for the airport by ATC we were able rebalance the fuel and made a successful landing. After arrival a post flight inspection found no visible structural damage and no injuries were reported. After debriefing with the crew I made the decision that we were finished for the night as nerves were a bit shaken. Provide a discrete phone number for flights crews to be able to contact company without having to use the automated answering service.

Narrative: 2

Enroute the PF tried to adjust rudder trim for a more coordinated flight, the rudder trim knob became dislodged from the rudder trim post. After a short discussion between the PF, and myself we decided to not make any more rudder trim corrections for the remainder of the flight and determined that it was logical to continue the flight. While in descent into our filed destination, I advised the PF that I was going to be "offline" to obtain the current weather and notify the FBO of our arrival. While "offline" I felt a sudden and rapid yaw from the airplane. It was at this time that I knew there was a problem. The PF immediately disconnected the autopilot as PF gained control of the airplane. At this point, I had noticed that PF's hand was on or around the rudder trim tab. With my head down in the cockpit I knew that the Rudder Trim Tab Knob had become dislodged with the rudder trim post. I grabbed for the trim tab knob and tried to get it to sit back down on the post but because of the yawing and uncontrolled flight profile, I was unable to do so. During this time I was instructed by the PF to disconnect the Rudder Trim circuit breakers, which I did.

Returning to the task of correcting the rudder trim problem, I decided to abandon the knob and reach for a small Leatherman multi-tool that was in the cockpit when it was decided that the multi-tool was our best option for repair. The PF then instructed me to reconnect the circuit breakers to allow movement of the rudder trim motor, which I did. Using the multi-tool, I was able to turn the rudder trim post to the left to gain a more coordinated flight. While doing this, we both noticed that the rudder trim continued to travel in the opposite direction and the auto stop was not working, leaving me to try to find "center" and stop it there. After several attempts to gain positive control, we were successful. Once again, the PF instructed me to pull the rudder trim circuit breakers, which I did. We gained positive control of the aircraft and were able to re-engage the autopilot. It was at this time that I was able to come back "online" and able to hear all communications with ATC. I was given positive control of the aircraft by the PF as he contacted ATC and asked for a hold to try to contact Maintenance Control. We were unable to make contact, and decided that we would continue on to our original destination. We landed without incident and taxied to our FBO.

Synopsis

G200 flight crew experienced a rudder hard-over after a rudder trim adjustment during which the rudder trim knob detached from the post. The crew was able to center the rudder trim using a Leatherman multi-tool then pulled the circuit breaker to prevent further movement.

Time / Day

Date : 201705
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 0

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B737-800
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Flight Phase : Takeoff

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)
ASRS Report Number.Accession Number : 1451124

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)
ASRS Report Number.Accession Number : 1451425

Events

Anomaly.Ground Event / Encounter : Other / Unknown
Detector.Person : Flight Crew
When Detected.Other

Result.Flight Crew : Returned To Gate

Result.Flight Crew : Rejected Takeoff

Assessments

Contributing Factors / Situations : Aircraft

Contributing Factors / Situations : Weather

Primary Problem : Weather

Narrative: 1

Weight approximately 141.0, Flap 1, 22K Max [thrust set] (adjusted to max due to gusty winds and landing aircraft reporting a 20 knot gain at 300 feet).

During [takeoff] roll the aircraft experienced a sudden, significant and uncommanded yaw to the right. Initiated reject procedure at approximately 140 knots. Asked for Fire and Rescue to look over the aircraft. They noticed nothing unusual, brakes were not overheating, taxied to the gate.

Narrative: 2

Just above 140 knots we experienced a sudden lunge to the right. Captain elected to reject the takeoff. The abort was handled professionally with all SOPs adhered to. Emergency crews were called to look our airplane over and after the fire chief said the brakes of the airplane was 160 degrees we taxied back to the gate with the emergency crews following us.

I don't know why this event occurred but the winds were gusting with aircraft landing reporting 20 knot gain on approach.

Synopsis

B737-800 flight crew reported rejecting the takeoff at 140 knots after experiencing a sudden uncommanded yaw.

Time / Day

Date : 201705
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : PDX.Airport
State Reference : OR
Altitude.MSL.Single Value : 24000

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Center : ZSE
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
Nav In Use : FMS Or FMC
Nav In Use : GPS
Flight Phase : Descent
Route In Use.STAR : HHOOD3
Airspace.Class A : ZSE

Component

Aircraft Component : FMS/FMC
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 : Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days : 88
ASRS Report Number.Accession Number : 1449862

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew

When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

Our flight was normal until about 50 NM from the top of descent. My FO and I were setting up for the RNAV (RNP) Z RWY 10L when I noticed my inboard DU (Display Unit) and the upper DU blink. I then noticed a DSPLY SOURCE 1 annunciation in the bottom left corner of my outboard DU. I verbalized this to the FO and had him get out the QRH. He found the DSPLY SOURCE Checklist and proceeded to run it. About this time the annunciation went away. We reviewed the checklist and concurred that no further action was required. Because of the momentary failure we discussed the legality of executing a RNP approach and decided that we could do so. We briefed the arrival and the approach, and were just about to run the approach Descent Checklist when the DSPLY SOURCE 1 annunciation returned. Again we got out the QRH and started the checklist. The light again went out after about 60 seconds. As we were now past the TOD and had not received descent clearance we asked for a lower altitude and got the boards out. This was required to regain the path while honoring the 280 knot transition airspeed restriction that is published on the HHOOD3 RNAV arrival. About this point, the Flight Attendants called up wanting the seat belt sign on for light turbulence. We complied and were grateful for their call as cockpit workload had suddenly gotten very high and it might have been missed.

The FO and I again discussed the wisdom of doing the RNAV RNP as the DSPLY SOURCE 1 annunciation intermittently was illuminated for a total of 5 or 6 times. We consulted QRH. Under the section "Malfunction OR Required Equipment" we were confused by the use of the word "OR" in the title. We decided it should read "of". We were also confused by the terminology used in the body of the text where it reads "not authorized for single or dual failure of any equipment item". We discussed this point and decided it meant any required equipment item as listed but were not completely sure of this interpretation. Looking at another page did not help us decide if an intermittent DSPLY SOURCE 1 annotation would be disqualifying for an RNP approach so I made the command decision to apply a very strict reading of QRH. I directed the FO to set up and brief the Columbia Visual backed up ILS 10L. He set up and quickly briefed the approach. About this time the DSPLY SOURCE 1 annunciation came on for several minutes so we ran the QRH checklist in its entirety and then came back together and verified that we had covered all bases with respect to the failure.

To say that our RNAV descent was busy would be a massive understatement. The HHOOD3 has several required speed changes and multiple crossing restrictions. Dealing with an equipment malfunction, running a QRH, interpreting poorly written RNP guidance and briefing multiple approaches while trying to regain the path after a late descent clearance taxed us to the max. As far as I can tell, we flew the lateral, vertical and speed profile without error but this was very difficult to do considering the workload. I used the VSD mode on my Primary Flight Display and that was tremendously helpful in maintaining my overall situational awareness. (Very few of my FOs use this tool and they should as it gives instantaneous situational awareness of vertical path.) It helped greatly that I had a very capable FO on this leg. Using all of our CRM tools the two of us managed the threat and got everything done (including the much delayed approach descent checklist) by about FL200.

Past BLRUN on the HHOOD3 the DSPLY SOURCE 1 annunciation illuminated again and showed us something completely new. The FMC CDU scratchpad displayed DISCONTINUITY and I believe the aircraft went into CWS Pitch and Roll mode. I can't say that I saw CWS annunciated but as the autopilot did not disconnect and the flight path did not change it seems logical that we defaulted into CWS. I was very confused by this new failure mode and double clutched the waypoint under 1L. This made BLRUN the active waypoint. This was very wrong as we were well past BLRUN and descending to cross SSDEE. I selected SSDEE to the scratchpad and moved to 1L. I then confirmed it with the FO and executed it. By this point I had had enough. Cockpit workload was way too high, and our situational awareness had suddenly become way too low. Most concerning was that for an unknown reason the FMC had shown us a discontinuity and apparently resequenced itself to a waypoint we had already passed. I directed the FO to tell approach that we were unable the RNAV arrival and that we needed a vector. She gave us a 270 vector with no altitude assigned. We then asked her for an altitude assignment and she realized her mistake and cleared us to descend and maintain 5000 feet.

As the flying pilot, I selected LVL CHG and HDG SEL and complied with our clearances as we were given vectors to a short visual approach. We successfully managed this new challenge by using CRM to recognize and verbalize the threat of a high energy approach. Once we realized we were getting the slam dunk, we used timely speedbrakes, an early gear extension and flaps 30 outside the marker to get back on the vertical profile and meet the stabilized approach criteria. The rest of the flight was uneventful.

I believe that working together as a crew, we handled everything correctly and within required navigational standards. I am submitting this report mainly for tracking purposes. This is the second time I have had to deal with a degraded FMS on an RNAV arrival within the last 30 days. The first time, the FMC on the flying pilot's side failed, the autopilot disconnected, and went into CWS Pitch and Roll while descending into [a different airport]. That was also a very challenging scenario that I wish I had filed a report for but I did not. Regardless, even a momentary loss of flight path data on an RNAV arrival and has very significant implications for the safe conduct of the flight and it might be an excellent training scenario. It's even more critical if you are planning to use an RNP approach and then suddenly can't. My final concern is that as more and more airports are transitioning to RNP approaches (in particular in the Caribbean), even a minor FMC failure might mean that you can't land at your intended destination. I'm not sure that the company's current fuel policy addresses this issue and can envision a scenario where a crew finds itself challenged with few options and not much gas. Regardless, two failures that degrade my ability to fly an RNAV arrival and/or shoot an RNP Approach in less than 30 days has gotten my attention and I hope it gets yours.

Synopsis

B737 Captain reported multiple FMS malfunctions on the HHOOD3 Arrival and RNAV (RNP) Z Runway 10L to PDX. Captain reported a visual landing.

Time / Day

Date : 201705
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 3000

Environment

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

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Personal
Make Model Name : Gulfstream G200 (IAI 1126 Galaxy)
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Ferry
Nav In Use : FMS Or FMC
Flight Phase : Initial Climb
Airspace.Class E : ZZZ

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 : Personal
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 2200
Experience.Flight Crew.Last 90 Days : 20
Experience.Flight Crew.Type : 250
ASRS Report Number.Accession Number : 1447795
Human Factors : Troubleshooting

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Instrument
ASRS Report Number.Accession Number : 1447803
Human Factors : Troubleshooting

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 : Regained Aircraft Control

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

I was Pilot in Command and the Pilot Flying after a normal takeoff climbing out from ZZZ. Gear was up and we were turning to a heading of 320 with the auto-pilot (AP) engaged set to level at 3000 feet. Almost immediately after leveling at 3000 feet the plane pitched aggressively up and started climbing. I immediately disconnected the autopilot and pitched down and trimmed down but there was real resistance (felt like a runaway trim). I believe the highest we climbed was 4000-4500 feet. My copilot pushed down with me to adjust altitude and he requested a heading and block altitude from ATC while we evaluated the situation. We hand-flew the plane.

Having three options of landing overweight (we were above max landing weight), dump fuel or continue, as we were going to a Maintenance Facility we opted to continue to our destination and trouble shoot/monitor closely the situation.

I advised my copilot to couple the AP to his side and try to re-engage the AP. We had enough fuel to fly to our destination at an altitude below 28,000 feet but since the AP was operating normally on the right side we continued flight with it operating uneventfully in that position in RVSM (FL400-FL410).

We reacted immediately and advised ATC immediately after taking rapid corrective action. We train for this and will continue to do so. I am sorry if we caused aggravation and we appreciate the immediate assistance provided to us by ATC.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

G200 flight crew reported a malfunction with one autopilot shortly after level off from climb. Crew switched to other autopilot and continued to the destination.

Time / Day

Date : 201705
Local Time Of Day : 0001-0600

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 37000

Aircraft

Reference : X
ATC / Advisory.Center : 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 : Descent
Airspace.Class A : ZZZ

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 : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1446762

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)
ASRS Report Number.Accession Number : 1446759

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Overcame Equipment Problem

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

We were given a clearance to descend via the arrival into ZZZ and were at FL370. We also were instructed to maintain 270 kts until ZZZZZ intersection and then resume published speeds. 6,000 ft had been put into the altitude window for the bottom altitude of the profile descent and DES was indicated on the FMA for a managed descent. Aircraft was being operated with autopilot 2 engaged. FO was PF and is a new hire. We were both looking at the FO's MCDU as I was explaining how to put the 270 knot restriction on the DES page. We both felt the plane abruptly pitch up and begin a zoom climb and depart FL370. I looked at all the instruments to determine why the aircraft started the climb, initially believing that a protection had been activated or we had suffered an undue activation of alpha protection malfunction, but neither was the case. AP never disengaged on its own. AP was disconnected and aircraft was leveled at about 38,800 ft then a descent was begun. I advised ATC of the event. AP 2 was then reengaged. It appeared that the aircraft was starting to climb again so AP 2 was again disconnected. We engaged AP 1 and resumed normal operations on that autopilot.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

A319 flight crew reported an abrupt, uncommanded pitch up and climb when the FMS was set up for a Managed Descent using Autopilot Number Two. Normal operations were resumed with the use of Autopilot One.

Time / Day

Date : 201705
Local Time Of Day : 0001-0600

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 8500

Environment

Weather Elements / Visibility : Turbulence

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
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
Nav In Use : FMS Or FMC
Flight Phase : Climb
Airspace.Class E : ZZZ

Component

Aircraft Component : Horizontal Stabilizer Trim
Aircraft Reference : X
Problem : Failed

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)
ASRS Report Number.Accession Number : 1445991
Human Factors : Distraction
Human Factors : Workload

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Landed As Precaution

Result.Flight Crew : Returned To Departure Airport
Result.Flight Crew : Overcame Equipment Problem

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

Stab trim runaway at 8500 feet. First Officer (FO) was flying, autopilot on, aircraft configuration was clean and we were steady state at 240-250 knots.

I heard the "stab in motion" aural go off for what I perceived as too long for normal operations, especially with the aircraft configuration.

I assumed control of the aircraft and disconnected the stab trim. I perceived a nose down (yoke moving fwd) motion just prior to disconnecting the trim. I called for the memory items for stab trim runaway, and the QRH.

The FO accomplished the required checklists. I had the aircraft and the radios. We [advised ATC], requested an immediate return to [departure airport] and a descent.

I was fighting a nose down trim condition which seemed best at around 230 knots. We got vectored for an approach and requested a long final. Somewhere in there the FO got the landing data and we determined we had sufficient runway available (155%). As the flaps came out, the nose down trim feel abated for the most part. We were fast at 1000 feet but I was able to get to ref 20 flaps plus a few by 500 feet. Uneventful landing ensued. WX was low ceilings, 3NM vis in mod rain, wind 90 degrees left wind, wet runway.

We missed the thrust reversers. Probably did not run the landing checklist with all that was going on. When I pulled them on landing, I got the caution msgs, closed the reversers, armed the switches and then redeployed them without further incident. Still stopped with plenty of runway remaining.

Synopsis

CRJ-200 Captain reported returning to departure airport after experiencing a stabilizer trim problem.

Time / Day

Date : 201704

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 35000

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Center : ZZZ

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 : GPS

Nav In Use : FMS Or FMC

Flight Phase : Cruise

Airspace.Class A : ZZZ

Component

Aircraft Component : Autopilot

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 : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1443987

Events

Anomaly.Aircraft Equipment Problem : Critical

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Detector.Person : Flight Crew

When Detected : In-flight

Result.General : Physical Injury / Incapacitation
Result.Flight Crew : Overcame Equipment Problem

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

While in cruise at FL350 at Mach .75 and 54 minutes into the flight (in VMC conditions; in still air; with no turbulence being alerted to us, the flight crew by ATC or by PIREPS) the autopilot was engaged until the autopilot disengaged and the aircraft did an abrupt pitch up and stick shaker occurred. The aircraft climbed approximately 200 feet during this event. The aircraft was returned back to FL350 and autopilot was reengaged. No EICAS message occurred however we reviewed the pitch trim runaway checklist even though there was no EICAS message. From the time the autopilot disengaged to the stick shaker was less than 2 seconds. Recovery of the aircraft was immediate with myself (pilot flying) and the FO pushing on the yoke forward for this stall recovery incident. ATC was not notified of any flight deviation since the total incident lasted less than 20 seconds from the start to recovery back at FL350. ATC did not question our altitude change.

I contacted the FAs and no passengers were injured. FA #2 was injured to where she sustained a bloody lip and twisted foot. I asked if she was ok or needed immediate medical care. She indicated she was not in need of medical care thus we continued to ZZZ which was less than 1 hour away. Once the aircraft was in cruise back at FL350, as indicated above, I evaluated the aircraft stability, flight characteristics and safety of the passengers and since there were no issues, I did not declare an emergency. After the event the aircraft preformed as usual and autopilot was reengaged and speed brakes were used. After the event I monitored the pitch trim indicator on the EICAS and it reflected between 2.5 and 2.7 on the trim with the autopilot engaged.

After the event the maintenance personnel that inspected the aircraft indicated the initial cause was a disagreement with the elevator servo. In looking at the event a week later, it appears over time at cruise, the aircraft reconfiguring to a pitch up attitude due to an elevator/servo disagreement and the autopilot disengaged since it was not able to hold a level altitude with this configuration. Thus when the autopilot disengaged the aircraft was configured in a pitch up attitude and we pitched up to a stick shaker notification. The recovery of this event was an immediate response from myself and the FO. The recovery of the aircraft was what we were taught in recovery of a stall at high altitude.

This was my first sequence after recurrent to which a high altitude stall was demonstrated in the simulator. The only difference was in the simulator the airspeed was reduced and in this real life situation the aircraft did not lose airspeed but was placed in an immediate pitch up attitude.

Synopsis

EMB175 Captain reported an autopilot disengagement and abrupt pitch up at FL350. Later, maintenance inspection revealed a disagreement with the elevator servo.

Time / Day

Date : 201704

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 5

Light : Daylight

Ceiling.Single Value : 5000

Aircraft

Reference : X

ATC / Advisory.Ground : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : A300

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Cargo / Freight

Flight Phase : Taxi

Route In Use.Other

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)

Experience.Flight Crew.Total : 10000

Experience.Flight Crew.Last 90 Days : 60

Experience.Flight Crew.Type : 7000

ASRS Report Number.Accession Number : 1443625

Human Factors : Training / Qualification

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 : First Officer

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 11000
Experience.Flight Crew.Last 90 Days : 110
Experience.Flight Crew.Type : 700
ASRS Report Number.Accession Number : 1443638

Events

Anomaly.Ground Excursion : Runway
Detector.Person : Flight Crew
When Detected : Taxi
Result.General : Flight Cancelled / Delayed

Assessments

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

Narrative: 1

I was scheduled to operate [multiple flights]. Upon taxi out in ZZZ we were assigned by ATC to back taxi on [the] runway to perform 180 degree turn at the end for takeoff. This was due to taxiway closures and airport construction. My First Officer pointed out that they had just previously assigned the same clearance to an aircraft before us. Since taxiway A was part of the closures and since other aircraft were given the same clearance it led me to believe that I had no other option for departure. After we were clear of the ramp and positioned on the parallel taxiway I stopped the aircraft, set the parking break and we performed all briefings and pre-takeoff checks and checklists. I then handed my First Officer my iPad opened to the [procedures] and asked him to locate the description of the 180 degree maneuver so we could review it. I told him I had only done this maneuver once in my upgrade training in the SIM and I wanted to be sure that we would be doing it correctly. After review of the [procedure] we entered [the] runway at taxiway D and began to back taxi to the end of the runway. As I began the maneuver I solicited my First Officer's input since we had reviewed the procedure together. Both of us seemingly were in agreement throughout the maneuver. Just prior to beginning my hard over turn to the right my First Officer stated that he wouldn't go much further. I commented that I had not yet reached the runway edge but then began the right turn almost immediately thereafter. My First Officer was the first one to think that we were potentially off the runway. Since the aircraft seemed sluggish I boosted the power to see if it would continue its turn. It was at this point that it became obvious to me that he was correct. I then set the parking brake. We contacted the tower and notified them then contacted Operations. We started the APU then shutdown both engines. I contacted Operations to advise them of the situation. We remained with the aircraft until the decision was made to wait for recovery assistance. At that point we exited the aircraft and proceeded to the gateway. We submitted to the drug and alcohol test, contacted crew scheduling then went to the hotel until our scheduled jumpseat. In hindsight I should have queried ATC about any other options for departure that would not require the back taxi. As we waited at the end of the runway for assistance I noticed the segment of taxiway between [two parallel runways] appeared to be open and usable. This would have meant that we could have back taxied made the right onto the taxiway and used [the parallel runway] for departure. Additionally, I believe that seeing and performing the maneuver on Operating Experience would have been helpful and should be incorporated into our training in the future.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

A300 flight crew reported a runway excursion when they attempted to do a 180 degree turn to position the aircraft for takeoff on a 150 foot wide runway.

Time / Day

Date : 201704

Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.TRACON

State Reference : US

Altitude.MSL.Single Value : 12000

Environment

Flight Conditions : VMC

Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

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

Flight Phase : Final Approach

Airspace.Class B : ZZZ

Component

Aircraft Component : Rudder Control System

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 : Captain

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Total : 30500

Experience.Flight Crew.Last 90 Days : 240

Experience.Flight Crew.Type : 10686

ASRS Report Number.Accession Number : 1439165

Person : 2

Reference : 2

Location Of Person : Company

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Not Flying

Function.Flight Crew : First Officer

Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1439138

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Overcame Equipment Problem
Result.Flight Crew : Regained Aircraft Control
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

On descent on STAR into ZZZ, we were told to slow down to accommodate traffic ahead. As I was decelerating the aircraft through 270 to 250 (assigned) knots, the aircraft started a substantial roll. AUTOPILOT AND AUTOTHROTTLE WERE ON. I disengaged the autopilot to hand fly, and fully stowed the speed brakes. Despite speed brakes stowed, the aircraft rolling moment was quite different. Rudder ratio light came on a few seconds later. Ran the checklist, simultaneously we further reviewed the situation. Rudder and roll moment had a peculiar (bungee) feel to it. Configured early and landed uneventfully. Had CFR equipment inspect the aircraft on landing, condition and fluids issues of at all. None found visually by CFR CREWS. Jump seater was put to use and was great assistance.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

Boeing 757 flight crew reported an uncommanded roll during descent with the autopilot engaged. The Rudder Ratio light illuminated a few seconds later.

Time / Day

Date : 201704

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : IND.Airport

State Reference : IN

Environment

Flight Conditions : VMC

Light : Night

Aircraft : 1

Reference : X

ATC / Advisory.Tower : IND

Aircraft Operator : Air Carrier

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

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Final Approach

Route In Use : Visual Approach

Airspace.Class C : IND

Aircraft : 2

Reference : Y

ATC / Advisory.Tower : IND

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 : Taxi

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)

Experience.Flight Crew.Type : 8000

ASRS Report Number.Accession Number : 1438649

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 : Check Pilot
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Type : 6000
ASRS Report Number.Accession Number : 1439207

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 Flying
Experience.Flight Crew.Type : 300
ASRS Report Number.Accession Number : 1438651
Human Factors : Training / Qualification
Human Factors : Confusion
Human Factors : Situational Awareness

Events

Anomaly.Inflight Event / Encounter : Unstabilized Approach
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : FLC Override Automation

Assessments

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

Narrative: 1

We were in the process of flying an uneventful approach at the end of an uneventful flight. The approach was the visual approach to runway 32 in IND. We were following an aircraft and another aircraft was about to depart and we assume that one of these aircraft, perhaps both, interfered with the glideslope signal. As is usual, we were backing up the visual approach with the ILS and on autopilot as well.

When the interference occurred, it was sudden and surprising in intensity. I have seen this occur many times throughout the years, and without question this was the worst I've seen. As the glideslope deviated upward, the aircraft of course went with it and initiated a steep pitch attitude and almost full power. The first officer (FO) was caught unaware as this was new to him, and in the moment's indecision, I assumed the controls and stabilized the aircraft. I was able to return to a stable configured flight path at about 1,100-1,200 ft, and decided to maintain controls for the remainder of the approach, as I didn't feel it appropriate to transfer controls at that point of the approach. We then landed without further incident.

A check airman was on the jumpseat and was able to provide some added and informed

insight to a discussion we all had upon reaching the parking point. The FO seemed slightly shaken, and we veterans were surprised as well, at how quickly the aircraft reacted to a disrupted glideslope indication. The pitch and power inputs were drastic; personally, I'd like a download of the data to see just what it did. It was a vivid demonstration to the FO of what this particular situation can do to a pilot in that you can have a pristine day that suddenly goes wrong. Without intervention, I'm not sure what state the aircraft would have achieved with the oscillation that followed. The downward pitch and excessive power input would probably have resulted in a potential CFIT threat.

As well, indecision as to what action to take can create issues hazardous to a positive outcome of the flight. Absent a decision to correct the flight path or to call for a go-around, I needed to intervene, which provided a vivid and excellent teaching moment for the FO who now has seen an authentic representation of how quickly scenarios can change in this environment. We decided to report this since we do believe it was an upset. There may be an issue with the glideslope itself and may need to be addressed by the airport authority as this scenario is easily repeated. The only way to get experience is to get experience. The FO needed it, and now he has some more. Because I have some, we corrected it to an uneventful outcome.

Narrative: 2

While on final approach to IND RWY 32 at approximately the FAF, IND Tower cleared an aircraft onto RWY 32. The aircraft passed through and interrupted the RWY 32 Glide Slope transmission. The FO had the FMS coupled to the ILS 32. The disruption caused a GS indication that was nose high (estimated 10 degrees) which the autopilot (AP) tracked and the autothrottle advanced to takeoff thrust. FO's reaction to this inflight upset was delayed, (fixation/confusion on the abrupt pitch/thrust change), prompting the CA to announce, and take the flight controls. The CA immediately and smoothly returned the aircraft to the ILS glide path and because being in a critical phase of flight, landed the aircraft.

Several contributing factors.

- 1) FO was on a line check with a check airman jumpseat observing him. He was a little nervous.
- 2) Weather was clear with light to moderate winds. This crew was performing well and were literally minutes away from landing.
- 3) FO was a recent new hire. Because of that, I am assuming he had low time in CFR Part 121 operations.
- 4) FO described that he had never encountered this kind of GS anomaly before and was unfamiliar with ground GS aircraft disruptions.

Crew knowledge and experience are the only way to prevent this event.

Conclusion: Excellent rapid control by the CA. Excellent learning experience for the FO.

Narrative: 3

[Report narrative contained no additional information.]

Synopsis

Air carrier flight crew reported an interrupted glideslope signal at IND caused the aircraft to pitch up while on autopilot. The Captain took control from the First Officer and landed the aircraft.

Time / Day

Date : 201704

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 37000

Environment

Flight Conditions : IMC

Weather Elements / Visibility : Thunderstorm

Weather Elements / Visibility : Turbulence

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Center : 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 : GPS

Nav In Use : FMS Or FMC

Flight Phase : Cruise

Airspace.Class A : ZZZ

Component : 1

Aircraft Component : Air Data Computer

Aircraft Reference : X

Problem : Malfunctioning

Component : 2

Aircraft Component : Pitot-Static System

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 : Captain

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1437194

Human Factors : Time Pressure
Human Factors : Troubleshooting
Human Factors : Confusion
Human Factors : Distraction

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)
ASRS Report Number.Accession Number : 1437200
Human Factors : Time Pressure
Human Factors : Distraction
Human Factors : Workload

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation - Speed : All Types
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Landed As Precaution
Result.Flight Crew : Diverted
Result.Aircraft : Equipment Problem Dissipated

Assessments

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

Narrative: 1

When we leveled off at FL370 and noticed an amber IAS indication. When we checked the airspeed indicators we noticed that the FO's airspeed was indicating lower than mine and the standby airspeed indicator. As we accelerated there was no change in his airspeed indicator. Based on this I thought there was a blockage of pitot tube 2. The PM pulled out the QRH and it instructed us to do an ADC (Air Data Computer) reversion. This also required us to descend out of RVSM airspace. ATC assigned us FL270 and we began to descend. We descended with the autopilot on. As we descended we noticed the standby IAS and Captain side no longer matched up. Captain side IAS was descending and acting like an altimeter. This caused some uncertainty initially as we were not sure which one to believe. We were asked to increase our descent by ATC so I increased the VS to 2000 fpm. Shortly after this the airplane did an uncommanded pitch down and we disconnected the autopilot. It was at this point smoke or water vapor came pouring in through the window seals. I wasn't sure which it was at first, but it made me worried about our pressurization and we were still at FL300 and hand flying. I checked the cabin pressure on the EICAS and it seemed normal. About at this point we also experienced a failure of both ADCs as we got red Xs across our instruments. I also saw an IC-600 failure message on the EICAS and the

first officer reported seeing a PRESN auto fail message. We [advised ATC] and proceeded to ZZZ. We received radar vectors there. As we descended the systems came back online and by the time we were getting vectors to ILS all indications were normal again. At some point I turned the autopilot back on but it kicked off after we intercepted the localizer as the localizer was swaying back and forth. After that we landed uneventfully at ZZZ.

Bad weather, instrument failure, task saturation. The autopilot pitch down was caused by me leaving the autopilot on after I should have disconnected it. At the time I was busy and it did not occur to me that I should turn the autopilot off. At that time I was busy trying to decide which airspeed indication I could rely on and trying to figure out what was going on.

Narrative: 2

The flight started about 1.5 hours delayed due to a line of severe weather. Our filed route took us north with expected vectors around the west side of the most severe elements of the line. Previous aircraft had flown through our route without any issues. We reached our cruising altitude of 37,000 ft. and were leveled off for approximately 9 minutes before we received an amber IAS indication on the PFDs. Taking note of the three airspeeds revealed the FO side was in disagreement with the standby and captain's side PFD. I pulled the QRH. The guidance provided stated to compare data with the standby indicator and if required use cross-side data by pressing the appropriate reversionary button. We did this resulting in the FO side airspeed reading in agreement with the captain's side and standby instruments. Further guidance also instructed us to descend below RVSM so I as the PM called ATC and requested a non RVSM altitude for a minor issue with our airspeed indications. At that point the problem seemed solved and we intended to continue as planned.

It was during the descent, however, that the real alarming airspeed indications began to manifest. As we got lower, all three airspeed indications fell out of agreement and all trended lower with each bit of altitude lost. Obviously we were both extremely alarmed at this indication and I began thinking out loud about what would cause the result. My thought was that a partial pitot tube blockage which prevent air from entering the tube but not preventing it from escaping would possibly result in this reading. This thinking was based on static pressure continually increasing as we descended but ram air pressure remaining unchanged. This would result in an ever increasing static to ram air pressure ratio thus resulting in a lower airspeed indication. My mind immediately went to [a recent aircraft accident] which crashed due to pitot tube blockage and an improper pitch and power setting in response to inaccurate airspeed indications. The time spent during the descent while the airspeed was rolling back was incredibly stressful as it was IMC in the thin air of 35,000+ feet. I am certain both of our minds were trying to figure out as rapidly as possible what was happening in order to best figure out how to handle the problem. Any EICAS indications which may or may not have existed during that period went unnoticed as the evaluation of whether or not a stall at 30 something thousand feet was imminent took precedence over all other things. Once I was done verbalizing my theory on the pitot tube blockage and we both agreed it was a real possibility, our focus became pitch and power and working together to ensure the aircraft continued to fly safely in the descent.

Up until this point the captain had elected to continue to let the autopilot fly, perhaps due to the thin air, but we were both very aware of the probable need to disconnect it when our airspeed indication read very low. I don't think either of us knew for sure what the Autopilot was going to do at such low airspeeds which in hindsight should have been a trigger for the captain to hand fly the aircraft but there was a lot to think about at that

point. When the airspeed indication (not actual airspeed) read dangerously low the autopilot commanded a very rapid pitch down attitude. The captain immediately disconnected the autopilot and I jumped on the controls with him to pull the nose back up to a safe descent attitude while also trimming the nose up to relieve the pressure. I notified ATC of our situation. I asked if there was any known VMC in the area but none could be found. ATC offered ZZZ as the closest suitable airport and provided vectors to the field. At some point during our continued descent we lost all airspeed and altitude indications as both PFD's were covered in red Xs. A number of EICAS indications were presented which again took a back seat to flying the aircraft, getting setup to land at an airport now less than 30 miles away with a Metar of TSRA over ZZZ.

Honestly there was so much going on as the PM that the only EICAS message that was clearly noted in my head was PRESN auto FAIL. Perhaps this was because it seemed like a completely new problem in the storm of events. It was somewhere around this time, likely before I noticed PRESN auto FAIL, that our windows were completely fogged over and both the Captain and FO side windows were venting in visible water vapor. The windows were so obstructed that I initially thought we had severe clear ice buildup on our windows further adding to my workload as it produced even more stress to an already very stressful event. Concerns of seeing a runway with an obstructed windscreens became the next thought in my head so I moved on to trying to solve that problem. There were no indications of failed windshield heat, however, I checked the windshield heat buttons at least three times to make sure they were on and even cycled the captain's side as I have never seen so much condensation on a heated windscreen before. I eventually had a moment to grab the box of tissues we thankfully had on the flight deck and was relieved to find our visibility issues were solved after wiping down the front windscreens. While we didn't get into VMC conditions until around 2,000 feet on the approach, we did at some point during our descent into ZZZ get all of our indications back and in agreement with no reversions. To the best of my knowledge we were within 10 miles of the field and getting vectors for the ILS when our instrumentation resumed what at least appeared to be a normal operating condition. I would be dishonest if I said I wasn't very skeptical of all instrument indications at that point after all we had been through thus far. Because the indications were in agreement the Captain elected to reengage the autopilot again for our arrival into ZZZ. Keep in mind from the point of failure when the Captain took the controls from the autopilot until right now in the scenario, all that I have been doing from the right seat has been in conjunction with being equally focused on watching the captain's flying to back him up on his pitch and power. Nothing was more important in my mind than 1. Preventing a stall and 2. Ensuring we didn't descend the aircraft into the ground due to task saturation. Our descent into ZZZ was constant moderate precipitation and despite an ATIS indicating TSRA, Approach had two aircraft which had recently landed, thus encouraging us to continue into ZZZ. In one last reminder from the aircraft to never stop flying until you are safely on the ground, the autopilot started badly s-turning on the localizer and the autopilot disengaged itself. The captain of course took the controls again and hand flew the ILS to the runway to land without any further issues.

Some of the major threats included severe weather along the route of flight as well as a malfunctioning aircraft with incorrect indications provided by the instrumentation. The most significant factor was the uncommanded pitch down by the autopilot due to not hand flying sooner. That would stand out to me as our biggest error. We both were unsure of what was going to happen with the autopilot in charge so allowing the autopilot to take it for as long as we did was not necessarily wise. It did, however, free up both of our brains a bit more to decide what was happening and how to respond. The only positive I can take from this was we were at least watching the airplane like a hawk ready to take corrective action immediately if a proper pitch attitude wasn't maintained. As soon as it was apparent

the autopilot wasn't up to the task, we took over. We experienced a very nasty mix of major task saturation which couldn't be aided by an autopilot as well as honest to goodness fear. Stalling the airplane in IMC was hard to not think about, nor did I wish to try. Aviate-Navigate-Communicate was definitely our approach. It doesn't do any good to flip through a QRH while death spiraling toward the ground after a stall. That being said, at no time did I ever make a decision to not follow the QRH. I simply did not have enough free resources to get there before the messages eventually cleared and the PFD's appeared normal again. With so much going on, including the water vapor and suspected icing, working with ATC to get us to ZZZ, having to consider the weather and the TSRA in the ATIS, getting numbers for the runway, setting up frequencies, briefing approaches and running the arrival check and sending a diversion report to dispatch, I simply never had the time. Had this been a sim where the consideration of myself and other peoples lives were not on the line, I probably would have been better able to address the EICAS messages which may or may not have corrected our instrument indications. Unfortunately, this was the real world and we both did the best we could with everything which was thrown at us.

While I feel overall we did ok with the situation presented to us, there are always things you could do better. Certainly as previously mentioned, the autopilot should have been disconnected sooner in order to prevent the need to take sudden corrective action. I do wish I had been able to get to the QRH after the initial ADC (Air Data Computer) reversion. I really tried my best to clear my mind and focus on the tasks required. Unfortunately, I couldn't stop hyper focusing on the aircraft state and trusting the Captain to fly correctly. It wasn't because I didn't generally trust his skills, it was simply a scenario which is very rare (never happened in my experience) and had a severe enough outcome (high altitude stall) if improperly executed that I felt backing him up took priority. Especially since with all that had gone wrong, my trust of any indication outside of the standby indicator (even my trust here wasn't very strong) was gone, despite what they were or were not reading.

Synopsis

EMB145 flight crew reported an airspeed indication failure at FL370 in IMC with thunderstorms nearby. The flight diverted to the nearest suitable airport with airspeed returning to normal during the approach.

Time / Day

Date : 201703

Local Time Of Day : 0001-0600

Place

Locale Reference.ATC Facility : ZZZ.ARTCC

State Reference : US

Altitude.MSL.Single Value : 20000

Environment

Flight Conditions : VMC

Aircraft

Reference : X

ATC / Advisory.Center : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : A300

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Climb

Airspace.Class A : ZZZ

Component

Aircraft Component : Turbine Engine

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 : Captain

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1432329

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)

ASRS Report Number.Accession Number : 1432561

Events

Anomaly.Aircraft Equipment Problem : Critical
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Returned To Departure Airport
Result.Flight Crew : Landed As Precaution

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

At FL200 Number 2 engine rolled back suddenly. All fuel pumps had been on since preflight. A lot of yaw and bank. Disconnected auto flight and throttles. Started descent. Checked engine rotating and turned on continuous relight. Left ECAM disappeared or diminished. Was it at idle or sub idle? I don't know. Lights but no horn.

Checked that the engine responded to throttle movement then left it at idle and flew with auto throttles disconnected. Only used the engine for thrust reverse on landing and to taxi.

Did the long checklist. Contacted ATC. They asked if we wanted the trucks ready or rolled. While I was thinking they made the decision. I would have rolled the trucks also. I think they could have gotten in place sooner as I had a lot of localizer wobble and had to disengage the autopilot. I wonder if the trucks crossed the beam? I forgot to ask the fire chief.

Had to stay high longer due to TCAS alert. I slowed rate of descent to avoid RCAS. After the traffic passed I used boards to get down.

MEL for bad pack on the side of the good engine. Made airflow path in case we lost the engine with the good pack. I could have used APU for pressurization and I would have if we were really single engine.

I planned on using both engines in the event of a go around. And certainly would have used number two if anything happened to number one.

Didn't turn off stuff in the checklist since the engine was still running. I probably should have started the APU a little earlier (before we got to it in the checklist) although it was backup only.

Did a 20 flap landing at 151 knots. Very smooth just under max landing gross weight. Thrust reversers on both engines. Min auto brakes. Cleared runway. Stopped as requested then continued taxi to hangar gate and transloaded.

Great backup and initiative by the FO. For example, when we shut down, he told me the stairs were on the wrong side for the MEL slide inop. And I was busier than normal with manual throttles and he assumed some of my duties in addition to his own. Very nicely done on his part.

Talked to fire chief. They have three levels of alert. I think it would be good info to incorporate in training.

Cause: Engine failed or went to idle, so quickly that I thought it had failed.

Narrative: 2

[Report narrative contained no additional information].

Synopsis

A300 flight crew reported returning to departure airport after Number 2 engine abruptly rolled back to idle.

Time / Day

Date : 201606

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZZ.Airport

State Reference : FO

Altitude.AGL.Single Value : 0

Environment

Light : Daylight

Aircraft

Reference : X

Aircraft Operator : Air Carrier

Make Model Name : A330

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Parked

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : General Seating Area

Cabin Activity : Boarding

Reporter Organization : Air Carrier

Function.Flight Attendant : Flight Attendant In Charge

Qualification.Flight Attendant : Current

ASRS Report Number.Accession Number : 1430484

Human Factors : Physiological - Other

Human Factors : Time Pressure

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Attendant

Communication Breakdown.Party2 : Flight Crew

Person : 2

Reference : 2

Location Of Person.Aircraft : X

Location In Aircraft : General Seating Area

Cabin Activity : Boarding

Reporter Organization : Air Carrier

Function.Flight Attendant : Flight Attendant (On Duty)

Qualification.Flight Attendant : Current

ASRS Report Number.Accession Number : 1430498

Human Factors : Time Pressure

Human Factors : Communication Breakdown

Human Factors : Physiological - Other

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

Person : 3

Reference : 3
Location Of Person.Aircraft : X
Location In Aircraft : General Seating Area
Cabin Activity : Boarding
Reporter Organization : Air Carrier
Function.Flight Attendant : Flight Attendant (On Duty)
Qualification.Flight Attendant : Current
ASRS Report Number.Accession Number : 1430289
Human Factors : Time Pressure
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Attendant
Communication Breakdown.Party2 : Flight Crew

Person : 4

Reference : 4
Location Of Person.Aircraft : X
Location In Aircraft : General Seating Area
Cabin Activity : Boarding
Reporter Organization : Air Carrier
Function.Flight Attendant : Flight Attendant (On Duty)
Qualification.Flight Attendant : Current
ASRS Report Number.Accession Number : 1430399
Human Factors : Time Pressure
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Attendant
Communication Breakdown.Party2 : Flight Crew

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Flight Deck / Cabin / Aircraft Event : Illness
Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Attendant
Were Passengers Involved In Event : Y
When Detected : Aircraft In Service At Gate
Result.General : Evacuated
Result.General : Flight Cancelled / Delayed
Result.General : Physical Injury / Incapacitation
Result.General : Maintenance Action

Assessments

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

Narrative: 1

When we got to the gate the plane was late inbound. When we got on the plane the agent wanted to board right away. I checked with the Captain and he said we had mechanics on board. The mechanics said not to board. The agent boarded anyway. We had lots of issues with this plane. Inflight Entertainment (IFE) did not work a latch in the back was totally gone and some cockpit issues plus the APU did not work so it was very hot on the plane. We closed the 2L and armed our doors. Then the Captain said the mechanics needed to get back on so we disarmed all doors. We reopened the 2L door to let the mechanics back on for an issue in the cockpit. I was in the 1L lav when I smelled a burning electrical odor. Before I could open the door (about 2 seconds) the lav was full of smoke. I heard someone say smoke in the cockpit, smoke in the cockpit. When I looked to the right I could not see past row 2 because of the whitish yellowish smoke. The smoke was burning my eyes and throat. I turned to my left to tell the Captain (I could not get to the cockpit because 2 mechanics and an agent were in the door) when I heard evacuate over the P.A.

The Business class passengers were already up and moving to the 2L door. The D FA and I got our passengers out the 2L door and helped with the flow of passengers while yelling our commands. I was at the door with the E and we had the passengers going out side by side for faster flow. The F started to stop passengers and take their bags from them I said let them go it's faster. You need to go to your exit, she did not go. I saw a lot of passengers with their roll-boards. Then I heard over the PA, stop the evacuation. I turned and ran to the cockpit (the D is arriving at the same time). I tell the Captain that the passengers cannot breath and the smoke is thick. I get on the PA and say continue the evacuation. The Captain says someone has blown a slide and for me to go back and see where it is. I run to the back down the aircraft left aisle. About 30 passengers are left on the plane and they are trying to get their luggage out of the overhead bins even though we are yelling get out leave everything. I see the 3L door is open with no slide and a passenger and her 2 children are looking out the door (3L) and trying to decide if they should jump. I point and tell them to go to the boarding door and I put the strap across the door. I can see 3R is open with a slide inflated and the G is with passengers at that door. 4L and 4R have slides inflated and the C and B are with their respective door. I tell the FA's to check the cabin and lavs behind me and make sure everyone is off and for them to get off the plane. I tell the Captain that we have 3 slides inflated and all the passengers are off. The firemen board at this time and they want all crew off except the A and the cockpit. The FAs get off onto the jetway and the F tells them not to go to the gate area because the company will not pay you if you get off the plane. I tell them to go to the gate area now.

I ask if everyone is ok. The K says she needs oxygen and I put her on oxygen from the plane. I get her to the gate area and get her bags for her and then I go back and talk to the firemen. They send us all to the gate area and the paramedics check everyone out. One FA has high blood pressure and another has asthma problems. We are all coughing and have burning itchy eyes. I am on the phone with the company most of the time that we are in the gate area. About 4 hours I am told. I check on my crew and I am working to get us transportation to the hospital then to the hotel. The agent is a tremendous help with a bus, paramedics extra. I check on a few passengers that are in the gate area. We go to the hospital and we are there about 5 hours or so getting blood work. We have no chairs to sit on and end up on the floor. They take the K first because she has Lupus and then checkout the C with the high blood pressure and then the F then the rest of us. [The] agent puts drinks and food on her own credit card because we have not had anything since we left the hotel. We get back to the hotel. We get to our rooms and meet back in 45 minutes to eat and see if we have been released from duty yet.

The Captain tells us [someone] might want to talk to us and not to have any alcohol

because we are not released from duty yet. When I meet back in the restaurant a few of the FAs are having a drink. I said the Captain and I have told you not to drink. I was told they can do what they want after such a hard day. Long argument and they continued to drink. The Captain came in and told them the same thing and again they refused to listen. I am going to the front desk for phone calls because I do not have international calling and my battery is low. The F keeps taking the phone from me to talk to [the company]. I am having to argue with her to get my phone calls. She wanted to be in charge and that really made my job harder and I missed some important information. No one in the company seemed to know that I was A FA. I finally [had a meeting about the event] in the hotel. Just gave him the basics about what I saw. At midnight I went back to the restaurant and had a few bites of my cold food.

I tried to get the FAs to tell me what flight they wanted to take home. All I got was argument. I told them they could go when they felt comfortable to leave. I was trying to set up their flights home. The [investigators] wanted to talk to the ones that had deployed the slides so they had to stay. I chose the first flight the next day. Six of us went on the early flight. We were listed as non-revenue instead of deadheading so the agent would not give us a boarding card because we did not check in 24 hours ahead. More stress. Finally get our seats and get on the plane home.

The pressure to board has gotten ridiculous and unsafe. Getting the plane off the gate at all cost is not safe. Boarding and on time is more important than safety. We have to have the entire crew briefings back. Our CRM is so important. Most briefings from the cockpit (sometimes not the Captain) consist of air time and maybe a weather report. The biggest issue for this flight was pressure to board and get off the gate.

Narrative: 2

I was standing in the galley between 2L & 2R. Flight Attendant (FA) said, "Smoke!" Suddenly noticed smoke at the ceiling near 2R. I looked down the aisle and smoke filled the cabin in less than 3 seconds. FA "H" was standing near 2R. I said, "We have to call the Captain and evacuate!" I reached for the phone at 2R. I called the Captain and there was no answer. I pressed the PA button and announced, "Evacuate, Evacuate!" The smoke was still there and there was a smell of an electrical fire. We proceeded to evacuate. The Captain came on over the PA and said, "Stop the evacuation." I'm not sure at this point if I got back on the PA or just said out loud, "We need to keep evacuating!" The Captain did not see the smoke or smell the fumes so I just kept on evacuating. I think at some point I did hear the Captain come back on and say, "Evacuate!" We continued the evacuation until all the passengers were off.

This might be a lesson that if the mechanics are on and say, "We are not ready to board", perhaps the Operations Manager, should respect that and not board until they are ready. I remember she and I had a bit of a disagreement about the boarding. She pressured the front mechanic to board until he finally said yes. The mechanic in the back did not want to board. I clearly told her that and she said, "I will deal with that later." I'm not sure if that would have made a difference in the event but it did seem rushed to board them and then the passengers sat on the airplane another hour until we actually closed the door the first time.

Narrative: 3

[Report narrative contained no additional information.]

Narrative: 4

[Report narrative contained no additional information.]

Synopsis

A330 flight attendants reported an aircraft evacuation at the gate due to heavy smoke in the passenger cabin.

Time / Day

Date : 201701

Local Time Of Day : 0001-0600

Place

Locale Reference.ATC Facility : ZZZ.TRACON

State Reference : US

Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : A319

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Mission : Passenger

Flight Phase : Initial Approach

Airspace.Class B : ZZZ

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Cabin Jumpseat

Cabin Activity : Safety Related Duties

Reporter Organization : Air Carrier

Function.Flight Attendant : Flight Attendant (On Duty)

Qualification.Flight Attendant : Current

ASRS Report Number.Accession Number : 1430330

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Attendant

Communication Breakdown.Party2 : Flight Crew

Events

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

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Detector.Person : Flight Attendant

When Detected : In-flight

Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Weather

Primary Problem : Ambiguous

Narrative: 1

Our flight experienced what was believed to be moderate (at best) to severe turbulence upon approach into ZZZ airport this afternoon. The turbulence lasted between 15-20

minutes and the Captain did not give any advance notice to our cabin crew. Movement was impossible in the cabin, items were falling around in the bathrooms, and people were extremely scared. We experienced violent altitude changes, slamming of the aircraft side-to-side, rapid pitch and rolls, and sudden/aggressive drops. During said turbulence, the captain never made any PA to advise us of any significant turbulence nor made any attempt to notify the crew via the interphone system at any point. We were not advised of how long the turbulence was expected to last, and passengers were given no updates until I provided one in an effort to comfort terrified passengers.

The cockpit crew stated they were unaware of any weather/turbulence reports, which according to two other mainline pilots I spoke with following this incident stated that they would have easily and reasonably forecasted appreciable turbulence based on other immediately available weather factors in reference to ZZZ airport approach/arrival this afternoon, including reports of windshear.

Separately, it is my hope that our pilots made accurate, timely and appropriate notifications during this turbulence to ZZZ ATC to assist other approaching aircraft. It is our cabin crews' concern that the communication here was so poor, or complacency was at its highest, that it may have been overlooked.

Note: The captain mentioned significant pitching of the nose at times during the approach and 41-mph wind gusts, and agreed the ride conditions were poor. I would also add that in other instances we have diverted for much less.

At the conclusion of the flight, and after arriving at the gate, I spoke with the captain via the interphone to inquire about the turbulence and lack of communication and ultimately met with him and the entire crew to discuss it in the forward galley. What resulted was the cabin crew feeling dismissed as the captain said that any announcement wouldn't have changed any of the outcome. While that statement is true, it is an unconscionable approach to piloting and communicating amongst a team of crew members tasked with passenger comfort and safety. The importance of CRM - providing accurate, timely, and needed communication with passengers and crew - is seriously missing with this cockpit crew.

It should be noted that the B flight attendant has been flying for [many] years and commented on how poorly this was handled by the cockpit, and how it was the worst turbulence she has encountered in her career. The A flight attendant also [noticed] the bathroom vanity on the bathroom floor, which fell during the hard landing.

The captain was made aware that reports would be filed in response to the way this situation was handled. It should be noted that all times the cabin crew remained professional and fair at all times while communicating our concerns with the pilots on this flight segment.

Our company simply must instill in their pilots the fundamentals of CRM and the importance of communication with crews and passengers. This is a noticeable issue with our legacy pilots that we are now flying with more frequently. Due to constant cockpit crew changes, it is noticeable and frightening the diminishing art and importance of crew communication. Never in my years of flying have I witnessed such a decline in CRM. This must be addressed.

Synopsis

A319 Flight Attendant reported a lack of communication from the cockpit during descent in severe turbulence.

Time / Day

Date : 201702

Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZDV.ARTCC

State Reference : CO

Altitude.MSL.Single Value : 37000

Environment

Flight Conditions : VMC

Weather Elements / Visibility : Turbulence

Weather Elements / Visibility : Windshear

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Center : ZDV

Aircraft Operator : Air Carrier

Make Model Name : B737-800

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Cruise

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 : Captain

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Total : 21000

ASRS Report Number.Accession Number : 1427872

Analyst Callback : Completed

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)

ASRS Report Number.Accession Number : 1427876

Events

Anomaly.Flight Deck / Cabin / Aircraft Event : Illness
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Detector.Person : Flight Crew
Were Passengers Involved In Event : Y
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Regained Aircraft Control
Result.Flight Crew : Landed As Precaution
Result.Flight Crew : Diverted
Result.Air Traffic Control : Issued Advisory / Alert
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

Approximately 40 miles southwest of PUB at FL370 we encountered moderate mountain wave activity followed very shortly by severe turbulence. This encounter lasted for approximately 10 minutes with the severe turbulence lasting about 3 to 5 minutes. In my over 20,000 hours and 40 years of flying experience I have never encountered turbulence of this severity lasting for such an extended period of time. In cruise flight I attempted to use WSI but was unable to achieve a WIFI connection. Therefore I relied on my preflight data and our flight plan, which showed the worst ride conditions to be approximately the Grand Canyon area. During preflight a conversation with the inbound crew indicated this was the area they encountered the worst rides.

In the vicinity of Durango, CO, we began to hear aircraft reporting mountain wave activity and some moderate turbulence over the Rockies. I turned on the seat belt sign and instructed the F/A's via intercom to clean up the cabin and take their jump seats. We also started to pick up light mountain wave and light to moderate chop as we proceeded east. During this time we were watching a 125-knot tail wind slowly bleed off to a 54 knot quartering tailwind. The turbulence and chop seemed to increase but the mountain wave seemed to settle down a bit. The wind bleed off reminded me of an experience I had in the same vicinity when I had less than 100 hours on the 737. That time wind shift had led to an aircraft over speed. So this time we used the opportunity to talk about 737 throttle response and spool up time. To back up my earlier instructions and make an impression on the passengers to stay in their seats, I made a PA instruction the F/A's to take their jump seats. I followed this up with an intercom conversation with the F/A's checking to make sure they were seated, the cabin was secure, and telling them how long I thought these conditions might last. At some point during this time we inquired from ATC about the rides lower as the mountain wave continued. We were told that the rides were about the same at all altitudes. Having hit a fairly smooth area, we decided to stay at FL370. The mountain wave activity started to pick up in intensity. I attempted to contact ATC for clearance to a lower altitude, but the frequency was blocked with other aircraft enquiring about or reporting ride conditions. Finally with the airspeed bleeding off in mountain wave,

without clearance, I instructed the F/O to initiate a turn 30 degrees right to avoid lower TCAS traffic ahead of us and to begin a descent to FL350. The turn was never completed as we flew into the area of severe turbulence. Auto throttles and autopilot both disengaged as the aircraft became uncontrollable. I took control of the throttles as the F/O struggled to maintain a wings level attitude and some sort of reasonable descent. I was finally able to [advise ATC], state we were leaving altitude, for severe turbulence. ATC cleared us to descend to FL290.

At times during the event the aircraft was virtually uncontrollable with uncommanded bank angles reaching 30 degrees or greater, which the F/O stated he used full control deflection at times to return the wings to level attitude. Airspeed fluctuations of plus and minus 20 knots or greater were on going and at one time we experienced a brief stick shaker. The severe turbulence encounters continued frequently, becoming less frequent as we descended. The moderate to severe turbulence finally ended at about FL295 and was a much more comfortable moderate chop at FL290. ATC cleared us further down to FL270 where the ride was reasonably comfortable but still choppy. We spent 2 to 3 minutes reengaging the automation and getting settled back on course. We then assessed the aircraft condition from the flight deck finding it to appear normal. A call was made to the F/A's checking if they were okay, enquiring about the condition of the aircraft and the passengers. I instructed the F/A's to walk through the cabin and check on the aircraft and our passengers. They reported back that the aircraft was a mess, but appeared structurally sound. None of the passengers were reported as injured, however several had become sick and vomited and concern was expressed for two pregnant passengers.

We were over southeast Colorado and 800+ miles from our destination. I told the F/O I wanted to divert to ZZZ. He expressed valid concern about flying back into the vicinity of the turbulence. I felt we were below the worst of it and other aircraft were departing and landing at ZZZ. We informed ATC we wanted to divert to ZZZ. They cleared us direct. I called the F/A's on the interphone, once again and checked the condition of the passengers and aircraft. I informed them of our diversion; time to landing and my intention to have CFR meet the aircraft. I explained that I anticipated a normal landing, that we would stop the aircraft and have the rescue vehicles check it's condition prior to proceeding to the gate and that I would use the "remain seated" PA. I followed this briefing up with a similar briefing to the passengers. The QRH was consulted for severe turbulence encounters finding that the only checklist was applicable only during the actual event. The Electronic Engine Controls (EEC) had also disengaged and the QRH procedures only applied on the ground.

A normal landing was made. We cleared on the high speed taxiway and stopped the aircraft. The "remain seated" PA was made. The CFR checked the aircraft visually finding no abnormalities. We taxied to the gate escorted by the CFR. During taxi ATC passed us a phone number to call after arrival. EMT's, fire personnel and many company staff met us at the gate. During post flight we completed our checklists and pulled the Digital Flight Data Recorder and Cockpit Voice Recorder circuit breakers. I then went to the main cabin to check on the condition of the aircraft and passengers and meet the emergency personnel as they entered the aircraft. Log entries were made for a severe turbulence encounter, EEC trip off and pulling the breakers.

This event occurred in clear air with little real warning. Frequency congestion contributed to our inability to request a timely descent, but we probably would have encountered severe turbulence even if we had descended to FL350 earlier. A working WSI system available in the aircraft would have been beneficial but would not necessarily have prevented the encounter. Provide a working WSI platform with an own ship position

indicator such as on the Jeppesen FD-Pro airport page. An enhanced system to send via dispatch or automatically updates to aircraft enroute.

Callback: 1

After the event the reporter thought that the turbulence may have been beyond severe, but Maintenance found no discrepancies and released the aircraft for flight with a different crew.

Narrative: 2

We were filed at 370 and that is the altitude we flew the flight. The flight was mostly smooth until approximately 170 miles southwest of ZZZ. We encountered a couple pockets of light turbulence and the Captain asked ATC for ride reports ahead at lower altitudes. ATC advised us that there were reports at all altitudes of light, with some pockets of moderate chop, and some reports of light mountain wave. At that point the Captain asked the flight attendants to take their seats. At the onset of turbulence I immediately slowed the jet to .76 mach. The Captain and I agreed that the ride at 370 was just as good as a lower altitude. ATC informed us that east of ZZZ the rides improved to light chop. As we continued east the Captain and I were commenting about the wind changes. We had 100 knots on the tail, then 120 knots, it was up and down. There was nothing abnormal at this point in the flight. Just prior to the severe turbulence encounter, the windspeed began to decrease to 85 knots and was trending down. I also noticed that the direction of the wind was changing rapidly. The wind was shifting from westerly to southerly at approximately 60 knots when we encountered the severe turbulence. First, the autothrottles disconnected, followed by the autopilot disconnecting. I then took manual control of the jet. It became immediately apparent that the jet was becoming increasingly uncontrollable. At this point, I made a 30 degree turn to the right and began to descend. It was nearly impossible to do both keep the wings level and descend, so I was just trying to keep the jet from an upset position. The jet was violently rolling from left to right and I was using both aileron and rudder to keep the jet flying. I instructed the Captain to operate the thrust levers, as I needed both hands to try and control the jet. We continued to descend and from what I remember, gained full control of the jet around 30,000 feet. I estimate the event lasted approximately 5 minutes. Once out of the severe event, the Captain called the back to see if there were injuries, and at that point we knew the cabin crew was not injured. I slowed the jet down in the event we had any structural failure and we decided to divert to ZZZ to get the jet inspected and have the injured passengers receive medical attention. The Captain coordinated with the back and I flew the jet. We completed the severe turbulence checklist and we requested ARFF upon landing. We also informed the passengers that emergency vehicles would be present upon landing. I landed the jet, we taxied clear of runway and had the jet inspected for obvious damage. We asked to be followed to the gate as a precaution.

Synopsis

B737 flight crew reported diverting after encountering a severe mountain wave over the Southern Rockies.

Time / Day

Date : 201702

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 5000

Environment

Flight Conditions : VMC

Aircraft

Reference : X

ATC / Advisory.TRACON : 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

Nav In Use : FMS Or FMC

Flight Phase : Climb

Airspace.Class B : ZZZ

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)

Experience.Flight Crew.Total : 9774

Experience.Flight Crew.Last 90 Days : 240

ASRS Report Number.Accession Number : 1427778

Human Factors : Workload

Events

Anomaly.Deviation - Procedural : Published Material / Policy

Detector.Person : Flight Crew

When Detected : In-flight

Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Company Policy

Contributing Factors / Situations : Human Factors

Primary Problem : Company Policy

Narrative: 1

The new procedure of calling out everything that is pushed and display in the cockpit during a change, makes the cockpit too busy and talking in critical stages of flight, during climb out it caused three missed radio calls and subsequent instruction. This goes along with excessive information on arrival and departure briefings, some have gone on for 10 minutes, glossing over what is important and setting a scenario of it getting lost in the small info.

Synopsis

Air Carrier Captain reported that new checklist response procedures and policy are interfering with cockpit and radio communications.

Time / Day

Date : 201702

Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.ARTCC

State Reference : US

Altitude.MSL.Single Value : 12000

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

Aircraft Operator : Air Taxi

Make Model Name : Citation Excel (C560XL)

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 135

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Descent

Airspace.Class B : ZZZ

Component

Aircraft Component : Electrical Wiring & Connectors

Aircraft Reference : X

Problem : Failed

Problem : Malfunctioning

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 : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1426650

Human Factors : Workload

Human Factors : Distraction

Human Factors : Situational Awareness

Human Factors : Time Pressure

Human Factors : Troubleshooting

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 : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1426653
Human Factors : Workload
Human Factors : Time Pressure
Human Factors : Situational Awareness
Human Factors : Distraction
Human Factors : Troubleshooting

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Anomaly.Conflict : Airborne Conflict
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Diverted
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : FLC complied w / Automation / Advisory
Result.Air Traffic Control : Provided Assistance

Assessments

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

Narrative: 1

While acting as Pilot in Command on a flight we smelled an electrical burning smell followed by smoke in the cockpit. We were on the RNAV arrival around 12000 ft. We executed an emergency descent to ZZZ airport to land. I was the flying pilot in the left seat while First Officer handled the radios and checklist items. During the emergency descent we encountered a TCAS RA and complied with it by climbing and turning to our right towards the north to avoid the VFR aircraft which was not talking to approach. Approach did advise us of the aircraft since it was on radar. After complying with the RA we continued with the emergency descent and checklist items prior to landing. We commenced and complied with the Electrical Fire or Smoke checklist from the CE-560XLS checklist. Once the checklist directed us to place the cabin master and generators to the off position the smoke subsided but the electrical burning smell was still present. I decided to deploy the passenger oxygen masks manually due to the continuing burning electrical smell. We briefed the passengers of the situation and advised them of our plans to immediately land. We landed and cleared runway and performed an evacuation of the aircraft on the taxiway due to the existing electrical burning smell. The landing was normal and uneventful. We immediately disconnected the ship's battery after exiting the aircraft. Fire and airport ops met us at the aircraft. Fire performed a search on the aircraft and

advised us that there was no present danger. We had the aircraft [towed] to the ramp. The crew and passengers suffered no injuries or problems from the event.

Overall I feel as though the First Officer and I acted appropriately and worked well together as a crew under the circumstances we were dealing with. There are a lot of things going through your mind when you smell burning and see smoke in an airplane. Our goal was to get the plane on the ground as soon as possible. I would advise all crew members to pay close attention to the TCAS before initiating an emergency descent to avoid any conflicts with other aircraft like we had. I was focused on getting the airplane on the ground and [the First Officer] was focused on the checklist and radios. The TCAS system definitely helped to prevent a conflict with the VFR aircraft. Following the appropriate checklist lead to the turning off of several important switches which eventually put an end to the smoke. We both have learned positive things from this event and come out of this as better pilots in my mind.

Narrative: 2

The XLS electrical fire/smoke checklist is complicated. To be honest it is not a well-organized checklist, nor is it laid out in a way that guarantees that a crew can perform the checklist error free in a stressful emergency situation. Ideally the right seat pilot needs to be Pilot Flying (PF), so that the left seat pilot can read and execute the checklist items since most of the items are on the front left cockpit panel. I believe in this case it was good idea for PIC to remain PF in left seat, and perform the checklist items as I called them out with my confirmation for critical items. By remaining PM, it allowed me to be methodical with the checklist from the right seat and scrutinize each item in order to ensure that we did not turn off essential systems that we would want available if possible. (i.e. brakes, speed brakes, TR's). In this situation with time compression, had we run the electrical fire/smoke checklist to its completion including BATT EMER, we would have had a significantly degraded our chance of a successful landing, inability to clear the runway to evacuate, and potentially blown tires/overrun etc.

The TCAS RA portion of this event was not a good situation. Each time that I think about whether we could have delayed our descent to coordinate with ATC on traffic, I decide that no we could not. We had no idea that the airplane was not going to be overcome with smoke, or worse. I believe that an immediate descent and landing was indeed necessary, and we did so under emergency authority and without ATC direction away from traffic. I credit the PIC for his quick reaction to the RA in arresting our rapid descent and turning away from the traffic.

It may be worth noting that I had just returned from recurrent training on the tour immediately preceding this event. I had reviewed the electrical fire/smoke checklist during my personal study in recurrent. This may have helped in the decision to recognize that we needed to stop the checklist prior to "emergency braking", and avoid a more dangerous situation with an un-needed use of emergency braking.

I do not believe that I would have done anything differently if I had do perform this same event again. If anything, I would have tried to divide my attention as Pilot monitoring (PM) between the emergency checklist, and assisting the PF in avoiding traffic using TCAS before it became a critical issue during our emergency descent. I was contacted by company managers and a union representative after the fact and I was able to discuss the event to my satisfaction at the time.

I was assigned flight duty the next day on a different aircraft. I showed a few minutes early in order to visit the mechanics on our aircraft to see if they had found the source. I

was advised at that time by mechanics that they believed the source was a unprotected set of wires under the forward left galley carpeting. The wires had burned the plastic non-stick material under the carpet. I do not know what the final resolution was, as the aircraft was still in maintenance at the time of my filing this report.

Synopsis

A CE-560XLS flight crew reported smoke and fumes on descent so the crew diverted to a nearby airport. Maintenance found a burned set of wires under the forward left galley carpeting and believe that to be the smoke's source. The First Officer commented about the aircraft emergency checklist complexity.

Time / Day

Date : 201702

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Environment

Flight Conditions : VMC

Light : Night

Ceiling : CLR

Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : B777-200

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Cargo / Freight

Flight Phase : Initial Approach

Route In Use : Vectors

Airspace.Class B : 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 Not Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1421407

Human Factors : Situational Awareness

Human Factors : Time Pressure

Human Factors : Training / Qualification

Events

Anomaly.Aircraft Equipment Problem : Less Severe

Anomaly.Deviation - Procedural : Published Material / Policy

Detector.Person : Flight Crew

When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Overcame Equipment Problem

Assessments

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

Narrative: 1

Landing south in ZZZ, ATC near capacity, busy night. Given a number of speed assignments during our arrival, and we had slowed to 210 kts by 40 NM from field. On base leg to final, Runway XXL, we were assigned 160 kts. Our ZFW of 505,000 lbs required 30 flaps to go below 165 kts, so we asked to stay at 165 and were cleared for that, initially. On dogleg to final, still approximately 20 miles to touchdown, we were assigned 160 kts to 5 NM final. Lowered the gear and as we selected 30 flaps we got an EICAS alert "PRIMARY FLAPS FAIL". We ran the non-normal checklist and noted that the flaps were extending beyond 25 as we read the checklist. By the time we finished the checklist, we were configured with gear down and flaps 30, with field in sight and intercepting the glideslope. All indications for the approach were normal, autopilot was engaged and the aircraft was stabilized. As Pilot Monitoring, I made the decision to continue the approach as I considered it a safer course of action than discontinuing approach at that point, especially since we were on final. I elected also to leave the flaps at 30 instead of trying to raise them to 20 at that point, confident that the aircraft in that configuration had more than enough go-around performance. FO was pilot flying and continued the stabilized approach to an uneventful landing.

Submitting this report because after completing the "Primary Flaps Fail" checklist, I determined it safer to remain in current, stabilized configuration for landing than to try and raise the flaps via alternate means to the recommended configuration of flaps 20. Weather was clear and we were confident that the aircraft had more than sufficient go-around capability.

Our option was to discontinue the approach, request vectors and reset the flaps from 30 to 20. With the traffic load on approach, we determined it safer to continue to landing. I don't think this type of event can be prevented, as it was an aircraft system malfunction. If the weather was questionable, or if there was any question of go-around performance due to terrain we would have definitely discontinued the approach and reconfigured the aircraft.

Synopsis

B777 Captain reported a primary flaps failure and ran the appropriate checklist. They opted to deviate from the checklist and land with more flaps than the checklist dictated.

Time / Day

Date : 201701

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

Environment

Flight Conditions : VMC

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

Flight Phase : Taxi

Component

Aircraft Component : Air Conditioning and Pressurization Pack

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 : First Officer

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Type : 1399

ASRS Report Number.Accession Number : 1420193

Human Factors : Distraction

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 : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days : 240
Experience.Flight Crew.Type : 1176
ASRS Report Number.Accession Number : 1420201
Human Factors : Time Pressure
Human Factors : Distraction

Events

Anomaly.Flight Deck / Cabin / Aircraft Event : Other / Unknown
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem

Assessments

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

Narrative: 1

We departed the gate on time, and elected to not start the number 2 engine until we had a better idea of takeoff time. We briefed the expected taxi out and were given a taxi clearance slightly different than expected. Shortly after we began taxi, Captain (CA) ordered start of Number 2 engine. I initiated the engine start, and while the engine was starting, we were told to cross the runway and monitor tower. As we crossed the runway, I switched to tower frequency and immediately was told we were next for takeoff and shortly after cleared us to line up and wait with aircraft on 5 mile final. The CA stated that he was unsure of where the taxi line was in relation to "the block" as there was another aircraft in the block. I looked up to assist, got distracted from my duties, and did not complete the after engine start flow (APU bleed off, APU off, GEN 2 on, PACK 2 on, the before takeoff checklist was completed. At that point, we were advised there was an aircraft on 2.5 mile final. After takeoff, once established on the RNAV SID, I realized my error and advised the CA before turning on generator, pack, and shutting off APU.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

A319 flight crew reported being rushed during takeoff resulting in the non-completion of the post engine start checklist.

Time / Day

Date : 201701

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Environment

Flight Conditions : IMC

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : Dash 8 Series 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 : ZZZ

Component

Aircraft Component : Air Conditioning Compressor

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 : Captain

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1417120

Human Factors : Distraction

Human Factors : Situational Awareness

Human Factors : Time Pressure

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : Flight Crew

Communication Breakdown.Party2 : ATC

Analyst Callback : Completed

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)
ASRS Report Number.Accession Number : 1417121
Human Factors : Time Pressure
Human Factors : Situational Awareness
Human Factors : Communication Breakdown
Human Factors : Distraction
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Flight Crew

Person : 3

Reference : 3
Location Of Person.Aircraft : X
Location In Aircraft : General Seating Area
Cabin Activity : Safety Related Duties
Reporter Organization : Air Carrier
Function.Flight Attendant : Flight Attendant (On Duty)
Qualification.Flight Attendant : Current
ASRS Report Number.Accession Number : 1417488
Human Factors : Time Pressure

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.ATC Issue : All Types
Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Detector.Person : Flight Crew
Detector.Person : Flight Attendant
Were Passengers Involved In Event : Y
When Detected : In-flight
Result.General : Maintenance Action
Result.General : Evacuated
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Took Evasive Action
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

On descent I smelled an odor that appeared to be coming from the lavatory. It became stronger and stronger, and smelled like an electrical smoke. Very shortly after, I noticed it becoming hazy in the cockpit quite quickly. There were no caution lights, master warning, nor was the lavatory smoke detector going off. We donned the oxygen mask and smoke goggles, and at that time the flight attendant called us. I was informed there was smoke in

the cabin as well. I asked the flight attendant to try to locate a fire if able. The flight attendant was unable, I told him/her we had about 10 minutes until landing, bracing signals, and also that we were to evacuate the aircraft upon landing. We transferred controls to my side knowing that load shedding would shut down the FO's instruments. We ran the smoke in aircraft checklist, while doing that I [advised ATC] and asked [for] priority to land. The pilot not flying ran the checklist leaning towards electrical smoke because it had a electrical smell. The smoke didn't appear to be disappearing yet getting any worse. Due to the lack of time and low altitude, I was unable to inform dispatch or operations. Landing was imminent so we proceeded to land and evacuate on the runway. The evacuation went quickly and smoothly, and there were no injuries.

The checklist for smoke is quite the long checklist with many trees. Being so close to [destination airport] and at a low altitude, problem solving isn't timely. Having a quick checklist such as load shedding, dumping pressurization and land immediately would be fantastic to be used only when over an airport in which you can land at and at a low altitude.

Callback: 1

Reporter indicated the source of smoke and odor was a failed air cycle machine. He added that in hindsight it may have been more appropriate to have run the pneumatic smoke checklist. Reporter described the conditions after the load shed as no navigation in IMC with trouble communicating with the First Officer with oxygen masks on. Additionally, ATC communication was hampered by attempts from the Flight Attendant to call the cockpit. Also, ATC did not understand the situation and that changing runways increased the flight crew workload.

Narrative: 2

During descent to land an odor was detected in the cockpit which seemed to be electrical in nature. No warning or caution lights were observed. Very shortly faint smoke was detected in the cockpit at which point the captain and I switched flying duties so that I could run the emergency checklist. While the captain flew I ran the smoke in aircraft checklist while he took over communications with ATC. Based on the smell I followed the electrical side of the checklist. With the close proximity of the airport we prepared to land in accordance with ATC requests. After landing we evacuated the aircraft on the runway. The flight attendant and emergency responders were prompt and efficient in their actions. No passengers were injured in the evacuation.

Smoke in aircraft checklist needs to provide for unknown source of smoke. Choices are only given for electrical or pressurization.

Narrative: 3

Prior to final approach I smelled smoke coming from the cabin. I sniffed around for the source and came to no conclusion. Within 30 seconds I noticed that the cabin became hazy and still no smoke detectors going off. I called the captain and informed him and he said yes we were [running checklist] for smoke and said we have 7 minutes to land the aircraft and I planned on bracing and evacuating on the runway. He then asked me to try to find a source which I was never able to find. Upon landing we evacuated out of all emergency exit doors and organized passengers to the side of the runway. No injuries occurred and it was an efficient evacuation.

Synopsis

Dash 8 flight crew and Flight Attendant reported smoke and odor during descent that was hampered by communication issues, checklist confusion, and high workload.

Time / Day

Date : 201612

Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZOA.ARTCC

State Reference : CA

Altitude.MSL.Single Value : 36000

Environment

Flight Conditions : VMC

Aircraft

Reference : X

ATC / Advisory.Center : ZOA

Aircraft Operator : Air Carrier

Make Model Name : MD-11

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Cargo / Freight

Flight Phase : Cruise

Airspace.Class A : ZOA

Component

Aircraft Component : Fuel Quantity-Pressure Indication

Aircraft Reference : X

Problem : Failed

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : First Officer

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1410057

Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Less Severe

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Automation : Aircraft Other Automation

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Overcame Equipment Problem

Result.Aircraft : Equipment Problem Dissipated

Assessments

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

Narrative: 1

In cruise flight at FL360, shortly after completing the descent and approach brief, we received a "Fuel Quantity Fault" alert. This was quickly followed by the fuel system reverting to manual and the display of a "Select Fuel Manual" alert. The synoptic page indicated the number 3 main tank fuel quantity had failed and was replaced with an amber x. The reversion to manual fuel management brought on all tank pumps. We also noticed the loss of prof [descent profile] indications, as well as the loss of numerous values in the FMC and on the speed tape.

We ran the QRH for fuel quantity fault because it was the initial fault that began this series of events. The checklist directs the crew to calculate the fuel remaining in the affected tank by subtracting the fuel used from the departure fuel for the flight. With the dispatched MEL for #1 Fuel Flow, the fuel used on # 1 engine was blank and therefore there was no way to do this as directed. The only option to estimate the fuel in the tank was by referencing the other main tanks knowing the fuel should have been in balance prior to the fault. We were tank to engine on the fuel flow, so they should be relatively similar.

Since it was referenced in the QRH, we checked the UFOB on the init page and it was blank. This explained the loss of prof as the FMS had no UFOB value, hence no aircraft GW to calculate speeds and profiles. Even after calculating the estimated onboard fuel and trying to initialize the UFOB in the FMS, the FMS would not accept the value. This was because there was no fuel used indications for the FMS to use to update the Fuel on Board and Ground Weight as fuel was burned to provide accurate data for speed and decent calculations.

Unable to get any profile information from the FMS, we reverted to manual flying of the descent using 3 to 1 planning and using the VVI and remaining time to turn points to gauge our progress. Due to lack of approach speed info from the FMS, we used the QRH approach tables to calculate the approach speed. To confirm the value was accurate, we would be referencing the AOA as we carefully slowed to approach speed.

As we approached top of descent, center slowed us down to 250 knots. We began our descent as soon as cleared and were looking good on the STAR profile. However, center leveled us off for traffic at FL190 and kept us there for some time. By the time center gave us clearance to continue the descent, we could not make the subsequent restrictions. We informed center and they acknowledged, telling us to rejoin the profile as soon as possible from above. We rejoined the profile at about 6000 feet.

Descending through about 7000 feet, the #3 main tank indication returned to normal and we got the FMS information back. We found that our fuel estimate was very close and the approach speed was as well. We flew a visual approach and landed uneventfully.

The QRH procedure for Fuel Quantity Fault should be amended to include the scenario of having a fuel flow inoperative. It creates numerous issues for the descent and landing. We had enough time in cruise to evaluate the situation before beginning descent, but if someone had this problem on descent on a clear day with little fuel, a crew could be pressed by their fuel state before having enough time to diagnose something they've never encountered. A clear definition of this specific situation in the QRH could be critical.

The flight landed in VFR conditions at the diversion airport and taxied to the gate without further incident. The primary cause of this event was an aircraft component malfunction that resulted in an uncontrollable cabin altitude.

Synopsis

MD11 First Officer reported being dispatched with an MEL for number one fuel flow inoperative. Approaching Top of Descent the number three tank fuel quantity failed rendering many FMC calculations. QRH procedures were not accomplished due to the lack of any fuel numbers from the FMC. Numbers returned to normal during descent.

Time / Day

Date : 201612

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 3000

Environment

Flight Conditions : VMC

Weather Elements / Visibility : Turbulence

Weather Elements / Visibility : Windshear

Weather Elements / Visibility : Icing

Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : MD-11

Crew Size.Number Of Crew : 3

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Cargo / Freight

Nav In Use : FMS Or FMC

Flight Phase : Initial Approach

Route In Use : Vectors

Airspace.Class B : ZZZ

Component

Aircraft Component : Flap/Slat Control System

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 : First Officer

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1409441

Person : 2

Reference : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier
Function.Flight Crew : Check Pilot
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1409448

Person : 3

Reference : 3
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)
ASRS Report Number.Accession Number : 1409454

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : FLC complied w / Automation / Advisory

Assessments

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

Narrative: 1

I was the pilot flying and we were being vectored for a visual approach for Runway XYC. There were gusty winds (20G30) with wind shear advisories in effect. I began configuring the airplane at 3000 ft with localizer intercept. At flaps 15 degrees, both the Captain and I saw intermittent flashes of the master caution light but were not sure of the cause. Flaps were lowered to 22/EXT and we received a steady master caution light with a resultant SLAT DISAG yellow box. There was no concurrent airplane controllability issues with the SLAT DISAG light. We requested a go around. Tower gave us a vector to 180 degrees and a climb to 4000 ft. I was still pilot flying as the Captain assessed the situation, and pulled out the QRH. We followed the checklist as well as re-configured a second time to assess if this was a onetime event or if the SLAT DISAG light would return. It repeated the exact same sequence that it did when I was configuring on final to RWY XYC. Flaps 15, intermittent master caution light, followed by Flaps 22/EXT steady caution light and SLAT DISAG light. The checklist was a little confusing as it was driving us to a Flaps 22/EXT landing which didn't make sense to us since the SLAT DISAG illuminated at flaps 22, so the captain asked that I back her up by reading the checklist and confirming that was in fact what the checklist said. I transferred control of the airplane to her and also came to the same conclusion that she did. We had a check airman on board and he also backed us up on the checklist. We all agreed that a flaps 22/RET landing was the checklist that needed to be done instead since the SLAT DISAG light illuminated steady at flaps 22, so we complied with the QRH and did those procedures. We [advised] ATC, asked for RWY XYR as it is the longest runway, used the tables to determine Vref/Vapp. We were at 320000 LBS landing weight and the Takeoff and Landing Performance Assessment (TALPA) codes for RWY XYR were 5/5/5 (WET). We determined our landing rollout distance to be approximately 9500 or so. Vref was 188. Vapp 192. We discussed the sight picture of a

flaps 22 landing and the increased rate of descent that would be normal for that type of landing. We discussed a go around in the event of wind shear and a go around in the event of an unstable approach (two different procedures). The captain brought the jump seater up to the cockpit who was an off duty mechanic to see if he had anything to add. The Line Check Airman was also integral to our discussions and checklist application and was a huge asset to our cockpit teamwork. Landing was uneventful. We taxied clear of RWY XYR then hold short of RWY XYC. We were then cleared across XYC to the ramp. The fire trucks followed us to the gate.

Sensor failure of the SLATS.

Not really sure that this is an applicable section. Stuff breaks, wears out and gets dirty. That is life. However, the SLAT DISAG checklist should be cleaned up just a little, to perhaps include a potential sensor failure option.

Narrative: 2

[Report narrative contained no additional information.]

Narrative: 3

[Report narrative contained no additional information.]

Synopsis

MD11 flight crew reported a slat disagree indication, they followed the QRH and landed with a reduced flap configuration and high approach speed. Post flight analysis showed it was a sensor problem which the QRH did not address.

Time / Day

Date : 201611
Local Time Of Day : 0001-0600

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 8000

Environment

Flight Conditions : VMC
Light : Night

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
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
Nav In Use : FMS Or FMC
Flight Phase : Initial Approach
Route In Use : Vectors
Airspace.Class B : ZZZ

Component

Aircraft Component : Flap/Slat Control System
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 : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days : 75
Experience.Flight Crew.Type : 11000
ASRS Report Number.Accession Number : 1405499
Human Factors : Confusion
Human Factors : Troubleshooting

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)
Experience.Flight Crew.Last 90 Days : 175
Experience.Flight Crew.Type : 365
ASRS Report Number.Accession Number : 1405506
Human Factors : Troubleshooting
Human Factors : Confusion

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Overcame Equipment Problem

Assessments

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

Narrative: 1

The First Officer (FO) and I were on a visual approach on the last leg of a four-day trip, landing after midnight and over an hour late. While slowing and configuring for the approach as I moved the flaps to 5 the yaw damper kicked off and I noticed immediately that the flaps were not tracking. A visual check, gauge check, and leading edge lights check indicated no movement. At this time I took control of the aircraft to bring it back to 220 knots, level off and assess the problem. There were no additional indications of failure of any kind. It was unclear if the flap needle had moved at all. I then asked the FO to break out the QRH. We [advised ATC] and asked for delay vectors away from terrain which also required a climb to 8000 feet. Upon inspection of the QRH, it was unclear to both of us which checklist we should be following. The first checklist listed is the All Flaps Up Landing. This checklist, however, does not offer up a solution but points to another checklist, the Trailing Edge Flaps Up Checklist, and does not direct you to a page. Returning to the index page you have the Asymmetry which did not fit the situation and Trailing Edge Flap Disagree checklist that at the time, didn't seem right either. By this point we had already bored holes in the sky for ten minutes. I knew from training and experience that I should be looking to use the alternate flap switch. Looking to the Trailing Edge Flaps UP Landing Checklist I keyed in on the Alternate Flaps Master switch statement and put the checklist down. The Alternate Flaps switch worked, and as a team, with the FO flying, proceeded to move the flaps one setting at a time to make sure we had correct movement and no asymmetry. With successful movement to include lights and indicators and the fact that we were in VFR conditions I was satisfied with the result. I took back control of the aircraft from the FO and told ATC that we were ready to land. From that point we proceeded to continue to configure and land with a flaps 30 landing. At the time I believe both of us were satisfied with the result, but both of us were frustrated with the amount of time and effort it took to figure out the solution.

It was only after a discussion of the incident a few days later that I realized I had missed

some key steps in the checklist and that I actually hadn't continued or finished the checklist. In the VFR conditions we had this solution seemed appropriate, but if the weather had been different or if I had lost an engine on final approach I would have caused myself some additional problems due to the position of the flaps at 30 for landing.

My frustration with the QRH on this particular problem became clear to me which caused me to revert back on my knowledge of systems, but in my haste to solve the problem I also forgot some key concepts in using the checklist which I attribute to fatigue. The FO on this flight was relatively new and therefore didn't have a lot experience to call on for this particular event, but was having the same problem I was, matching our indications to the proper checklist. I believe it would be helpful to rewrite the flap checklists into one checklist that then direct to follow-on checklists as you proceed through it. Also using page numbers would be helpful as opposed to just telling you to reference a title. In this particular malfunction the factors to consider and obvious solutions should be printed right up front rather than further down in the checklist as they would be the same for all of the different types of flap malfunctions.

Narrative: 2

While I flew, the Captain ran the QRH and then briefed the landing as flaps 30 via the alternate extension. The Captain then took the flight controls while I operated the alternate flap switch and we proceeded to land. My unfamiliarity with the QRH caused the CA to run the procedure as we were beginning to get close to min fuel. This caused several flight control changes and added to the overall complexity of the situation as we changed the Pilot Monitoring and Pilot Flying roles a few times. The biggest mistake I made was not speaking up. I had pulled the computer out anticipating a change in the planned landing flaps. After being briefed on a flaps 30 landing I stowed it and focused on executing the briefed approach and never asked for clarification on the procedure followed in the QRH.

Synopsis

B737NG flight crew reported experiencing Yaw Damper and Flap extension failures upon initial flap selection on approach. Crew reported confusion in attempting to decide which QRH procedure to use and offered recommended changes to the QRH.

Time / Day

Date : 201611

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 30000

Aircraft

Reference : X

ATC / Advisory.Center : ZZZ

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 : Climb

Airspace.Class A : ZZZ

Component : 1

Aircraft Component : Electrical Distribution

Aircraft Reference : X

Problem : Failed

Component : 2

Aircraft Component : Fuel Distribution System

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 : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1403091

Events

Anomaly.Aircraft Equipment Problem : Critical

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

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew

When Detected : In-flight
Result.Flight Crew : Diverted

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Chart Or Publication
Primary Problem : Aircraft

Narrative: 1

As we were climbing through FL280 we received a FUEL FEED 1 FAULT message. Within 15 seconds we then received a SPDA FAIL MESSAGE. While looking in the QRH the SPDA FAIL message told us that we could expect both thrust reversers to be inoperative. What followed is where the QRH grossly failed us. As I began to look at the fuel synoptic page to see what was happening with the fuel system, and noticing that the Electric Fuel Pump A was in operation, the FO said that the cabin was climbing. I then realized that I too noticed the pressure change. I immediately went to the ECS synoptic page and saw that BOTH engine bleeds were closed! I looked at our altitude and saw that we were now climbing through FL300. I told the FO that we needed to descend immediately and I called ATC to tell them that we had lost pressurization and that we needed an immediate descent.

I then put my O2 mask on and the FO followed my lead. I then pressed the cabin EMER button and told the flight attendants that we were losing pressurization, we couldn't get it back and that we were making an emergency descent. I then pulled out the QRC and began to follow the EMERGENCY DESCENT checklist. During the checklist ATC gave us a descent to FL240 on our current heading and then FL190 with a turn off course to the right. When the checklist was complete I quickly sent a message to dispatch saying that we had a "SPDA FAIL lost press EMER descent." At this time the FO suggested a diversion. ATC was thinking the same thing and we made a turn direct to ZZZ. We then made preparations to land in ZZZ. Dispatch messaged us and also told us to divert to ZZZ, I replied that we were.

We continued the descent to 10,000 and lower as ATC cleared our traffic. We then came off O2 and I started the APU. I made an announcement to the passengers describing the situation and of our intentions. We then noticed that we would be landing overweight. We were at 76.6 and needed to get down to 74.9. Given that the aircraft was in a relatively normal state, other than the pressurization and the AC Fuel Pump being on, that we could take 15-20 minutes to burn off the fuel to make landing weight and to not add another issue to our situation. So we circled the ZZZ airspace at 6,000 at 200 KIAS with Flaps 2.

I finally had the time to consider using the APU as the bleed source! This is where the QRH failed me a second time - it would have been MUCH more helpful if the QRC told you to go to NAP-4 which could have then reminded me that I could use the APU bleed at 15,000 ft and below. I came to this conclusion on my own but we would have been in a much better situation if I had been reminded earlier. There was just too much going on and other linear thoughts taking my attention preventing me to think outside the box.

The first time the QRH failed us was with the SPDA FAIL procedure. The notation in the procedure is incomplete and, in our situation, completely wrong. The SPDA that we lost had the bleed valve control on it. Because the bleed valves failed closed we lost pressure at the leak rate. The SPDA procedure should have a decision tree to determine which systems had failed and what actions should be taken. Had I had time to think outside the box I would have gone to the BLEED FAIL checklist in the QRH which would have had me

turn on the APU and
used the APU bleed below 15,000 ft.

In conclusion, we executed the emergency descent procedure, notified all parties, used the O2 masks as trained, diverted and even kept the cabin altitude from reaching the mask deployment altitude.

Synopsis

ERJ-175 Captain reported a Secondary Power Distribution (SPDA) Failure which resulted in a loss of pressurization, descent and diversion. The Captain reported the QRH could have been more specific with corrective actions.

Time / Day

Date : 201611

Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.ARTCC

State Reference : US

Altitude.MSL.Single Value : 35000

Environment

Flight Conditions : VMC

Aircraft

Reference : X

ATC / Advisory.Center : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : A320

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Nav In Use : FMS Or FMC

Flight Phase : Cruise

Airspace.Class A : ZZZ

Component

Aircraft Component : Hydraulic Main System

Aircraft Reference : X

Problem : Failed

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)

Experience.Flight Crew.Last 90 Days : 128

Experience.Flight Crew.Type : 476

ASRS Report Number.Accession Number : 1402178

Human Factors : Situational Awareness

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : Maintenance

Events

Anomaly.Aircraft Equipment Problem : Less Severe

Anomaly.Deviation - Procedural : Published Material / Policy

Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem

Assessments

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

Narrative: 1

During cruise flight, we received a HYD Y RSVR LO LVL ECAM. As Pilot Flying, I kept aircraft controls and ATC communications and directed First Officer (FO) to accomplish the ECAM and then QRH procedure. Yellow hydraulic quantity was confirmed low and ECAM actions expeditiously accomplished. Resulting System Status after procedural completion was Y ENG 2 PUMP LO PRESS, Y SYS LO PR, and BRK Y ACCU PR MONITOR. Crew duties were assigned and FO was given aircraft control and ATC duties while utilizing our Dead Head (DH) FO in jump seat as backup eyes and ears while I initiated a Dispatch Call Me for coordination with dispatch and [maintenance]. Radio communications via ARINC were problematic (spotty reception, dropped calls, bad audio quality) during the entire coordination exercise. While radio patch was ongoing, we received another ECAM. This time it was HYD Y RSVR OVHT. We discussed, as a crew, whether the new flight manual bulletin applied as we were faced with ECAM screen showing Y HYD ENG PUMP LO PR followed by HYD RSVR OVHT (Special). We decided that bulletin did not apply as the LOW PRESS ECAM was a subsequent result of the initial RSVR LO action items and did not occur on opposite systems. We completed the appropriate HYD Y RSVR OVHT ECAM action items and QRH.

We finally received an acceptable radio patch and coordinated with [maintenance] and Dispatch regarding the applicability of the new bulletin procedure. Both dispatch and [maintenance] seemed unfamiliar with the new bulletin, but once they researched the reference provided, agreed that the new FM (special) procedure didn't apply. Power Transfer Unit (PTU), Engine Pump and Electric Pump were confirmed to be off by multiple means and determination was made that the continued overheat indication resulted from delayed heat transfer on the low yellow system reservoir occurring after the PTU was turned off per the initial ECAM procedure.

In concluding the coordination call, it was determined that [advising ATC of emergency condition] was not necessary. With information from both Dispatch and [maintenance], it was determined that the Dispatcher's calculated landing distance matched that calculated by our DH pilot (in jump seat) and the supplied weather and field conditions posed no significant issues. In conjunction with the remaining hydraulic system redundancies (and 3 member crew), it was determined safe to continue to [destination] for an uneventful, non-emergency, landing.

However, this entire exercise illuminated some Problems of Note:

1. The placement of Bulletin (special) outside the QRH made it difficult to find.
2. Lack of familiarity with / confusion with the new procedure at crew, [maintenance] and Dispatch levels led to a delay in determining procedural applicability.
3. Lack of adequate clarifying / descriptive notes in two procedures (QRH and FM Procedure (special)).

Recommendations:

1. Expeditiously place FM special procedure in the QRH where it should properly reside.

2. Add clarifying Notes.

i.e. A Note in HYD Y RSVR LO LVL QRH indicating that a Hydraulic Overheat may result after procedure completion and include a reference to the proper OVHT QRH.

i.e. A new Note, or a remark in Condition language of the special procedure, that clarifies/emphasizes/highlights the procedure is only to be run for a condition of Hydraulic Pressure loss followed by Overheat on OPPOSITE systems.

Synopsis

An A320 Captain reported a loss of the "yellow" hydraulic system followed by confusion with a new bulletin that had not been incorporated in the QRH procedure.

Time / Day

Date : 201610
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 3000

Environment

Flight Conditions : VMC
Light : Dusk

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B767 Undifferentiated or Other Model
Crew Size.Number Of Crew : 3
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Nav In Use : GPS
Flight Phase : Climb
Route In Use : Oceanic
Airspace.Class B : ZZZ

Component

Aircraft Component : Aircraft Cooling System
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 Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 7753
Experience.Flight Crew.Type : 4933
ASRS Report Number.Accession Number : 1396622
Human Factors : Communication Breakdown
Human Factors : Situational Awareness
Human Factors : Time Pressure
Human Factors : Workload
Human Factors : Distraction

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

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Procedural : Maintenance
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Diverted
Result.Flight Crew : FLC complied w / Automation / Advisory

Assessments

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

Narrative: 1

Climbing out we experienced a FWD EQUIP OVHT EICAS message. I instructed IRO to be ready with QRH after we finished after takeoff clean up duties. FO was PF and IRO and I worked the QRH to fix the issue, which resulted in us having to go to STBY position on equipment cooling. Then a few minutes later the EICAS message returned and we ran the QRH again (please leave the hard copy QRHs in the cockpits; far superior product to use when things are getting busy!). This resulted in us going to OVRD on the equipment cooling selector.

We continued our route of flight, and I began to think through the possible implications of operating in OVRD, using pressure differential to keep my displays and navigation and communication "alive", should we lose cabin pressure over a hostile environment, such as the oceanic airspace at night, with no airport within a couple of hours around our mid-point. My ETOPS flights are planned with a fuel contingency to ensure I can make it to a suitable ETOPS alternate in the event of both an engine failure and depressurization, so we are always prepared and equipped to handle that worst case scenario. But what if I have lost my cockpit displays - EFIS (Electronic Flight Instrument System)/CDU etc? I might not be able to communicate and navigate the plane to an airport for a safe landing. I also lost all SATCOM communication facilities during this event by the way. VHF ACARS datalink continued to work for my immediate purposes, but I would lose that over the ocean. I instructed Dispatch to contact me through ARINC for a phone patch with Maintenance Control to determine best course of action.

Maintenance Control did not seem to appreciate how easy it might be to end up with a loss of cabin pressure, saying I would need "multiple system failures" to end up depressurized. I pointed out that I only needed an uncontained engine failure to end up depressurized and how long would I have my suite of flight, navigation and communication instruments and tools at my disposal. Maintenance Control said I would have these for at least 90 minutes after loss of pressure, but the non-normals, FWD EQPT COOLING checklist, suggests that any avionics, and electronics, to include displays, not powered by the standby busses, ARE SUBJECT TO IMMINENT FAILURE - my capitalized emphasis. If that were indeed to happen, the aircraft and all aboard could quickly be in peril. Clearly we were not having a meeting of the minds. After further discussion, I indicated that in my

opinion we were not going to be able to safely continue the flight and that I intended to divert to a safe landing while still able, prior to oceanic airspace entry and the potential threats associated with it. Dispatch instructed me to take the aircraft to an enroute airport where maintenance could assist. (There is a history of equipment cooling problems with this particular aircraft by the way)

ATC facilitated our routing to an enroute alternate but we experienced extensive vectoring delays at low level going into the divert airport. The cloud base was lowering, and then at about 1.0 pressure diff, we experienced (and had expected at some point) a total loss of equipment cooling. I then elected to use my Captain's Emergency Authority to return the EQPT COOLING switch to the NORM position, which recovered some cooling. We were able to complete the ILS to a normal landing at the divert airport. The aircraft was worked on by maintenance and we took off for our filed destination, having waived the FAR 117 by the allowable 2 hours. No further issues were noted on the flight. Kudos to the divert airport's maintenance for their diligence in fixing the aircraft.

Synopsis

B767 Captain reported after takeoff an EICAS alerted FWD EQUIP OVHT. The QRH was completed which extinguished the alert. A short time later the EICAS alerted again so the Captain diverted to a nearby airport rather than enter oceanic airspace at night.

Time / Day

Date : 201610
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 600

Environment

Flight Conditions : IMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
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
Flight Phase : Initial Climb
Airspace.Class B : ZZZ

Component

Aircraft Component : Landing Gear
Aircraft Reference : X
Problem : Improperly Operated

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 : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1394752

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight

Result.Flight Crew : Diverted
Result.Flight Crew : Overcame Equipment Problem

Assessments

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

Narrative: 1

On departure CA called for AP at about 600-800 ft. I engaged the AP. As we accelerated through 200KIAS, we both noticed a loud noise that we could attribute to increased airspeed, as though the noise was coming from airflow over an open panel on the aircraft. I assumed, and the captain agreed it was likely the Headset and Nose Gear Door switch panel. We continued our climb out following the SID. CA had called for "flaps up, climb thrust, after takeoff checklist." I conducted my flow/procedure. After completing the procedure, I read through the checklist silently and then called "After Takeoff Checklist Complete." Around 4,000-8,000 MSL, or around 3-5 minutes after takeoff, the AP disconnected on its own. CA re-engaged the autopilot. Within a minute, the AP disconnected again. We tried to troubleshoot why it was disengaging, as we had no EICAS message or other indications as to why our autopilot wouldn't engage. We tried engaging the AP on my side, and we tried disconnecting the AP from my side (occasionally the disconnect button on the control wheel will get stuck). After a few attempts at re-engaging the autopilot and the autopilot disconnecting, CA chose to hand-fly the aircraft. In addition to this, we noticed that my (FO's side) FMS needles had disappeared from my PFD. I cycled my NAV selector to "green needles" and back to FMS and the FMS course re-appeared. A few moments later my FMS needles disappeared.

Passing through 10,000 feet I switched the "No Smoking" sign switch to signal to our Flight Attendants (FA) that we were through 10,000 feet. The switch did not chime. I tried the "Fasten Seatbelts" switch which also did not chime. I transferred the radios to the CA and called the flight attendants and advised that we were through 10,000 feet. It was at this point we began to notice we had extremely diminished climb performance and were not able to accelerate past 260-270KIAS. We advised ATC we needed to level off, and leveled off at 12,000 feet. We knew something was wrong, but we could not figure out what. CA asked me to begin reviewing all of the system status pages to see if there were any other indications to give us a clue as to why we did not have any climb performance. After reviewing the systems, we began communicating our issue with Dispatch. We advised Dispatch of our new altitude and that we were suffering performance loss. We also advised that the autopilot would not stay engaged. We began calculating our fuel burn as discovered we were burning about 400lbs of fuel every 5 minutes, or about 4,800 lbs. an hour. With about 5,000 lbs. of fuel and about 40 minutes of flight time remaining, we decided it was best to divert. At this point, we had resolved that a panel of some sort on the aircraft was hanging open and needed to focus on diverting as our fuel burn rate would not permit us to continue much longer. I called the FA and advised him of our problem and that we would be landing in about 15 minutes and this was a non-emergency situation. I then made a PA to the passengers in the cabin advising them that we believed we had a loose panel on the aircraft and that it was degrading our fuel burn and performance to the point that we would not be able to make it to ZZZ. CA continued to hand-fly while I prepared the performance numbers and FMS for the arrival.

Upon entering final, CA called for "Gear Down." At this point, I reached for the gear handle

and noticed that it was down. I verified the indications on the EICAS which confirmed down and three green. We immediately realized our mistake which was that I had never selected the gear up on departure. I am not sure what to attribute this mistake to other than complacency and distractions. On departure, I do recall reaching for the gear handle. I believe I became distracted by reaching for the "SPEED" mode button and "NAV" button. We became distracted by the noise generated by the gear and attributed it to an open panel instead. We further became distracted by an autopilot that wouldn't stay engaged and having to hand-fly the aircraft. It was a "tunnel-vision" situation where we became fixated on only one possible problem while dealing with other small, seemingly unassociated problems. We were becoming worried and baffled as to what was wrong with the aircraft. The max gear extended speed was exceeded by approximately 10-20KIAS. There was also a flap over-speed on final and the thrust reversers were not armed for landing (I don't recall completing the landing checklist). This can be attributed to our state of embarrassment and distraction by discovering our mistake on final.

While I did read the checklist and look through the flight deck to verify (I was more concerned with making sure the APU had shutdown, the bleeds were switched, the CARGO AIR switch was in the correct position, and the Thruster Reversers were disarmed), I failed to notice that the gear indicated Down and Three Green. To prevent this from happening again, I will need to pay particular attention to all of my checklist items. It is one thing to miss a flow, it is another to read and verify a checklist and still miss an item - that is what the checklist is for. Additionally, once an issue is discovered in-flight, you must also sit back and review even the most basic reasons why a problem is occurring. We failed to notice that our gear was down for the entire hour we were in flight. We were very focused on other possible issues, and failed to sit back and evaluate the big picture.

Synopsis

CRJ-200 First Officer reported failing to retract the landing gear on departure, interpreted the gear noise as a possible open panel, and diverted due to reduced performance and increased fuel burn. The extended gear was noted when performing the landing checklist.

Time / Day

Date : 201610

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : LGA.Airport

State Reference : NY

Altitude.AGL.Single Value : 0

Environment

Flight Conditions : VMC

Aircraft

Reference : X

ATC / Advisory.Tower : LGA

Aircraft Operator : Air Carrier

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

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Landing

Route In Use : Visual Approach

Component

Aircraft Component : Turbine Engine Thrust Reverser

Aircraft Reference : X

Problem : Improperly Operated

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)

ASRS Report Number.Accession Number : 1394231

Human Factors : Distraction

Human Factors : Situational Awareness

Human Factors : Workload

Events

Anomaly.Deviation - Procedural : Published Material / Policy

Detector.Person : Flight Crew

Were Passengers Involved In Event : N

When Detected : In-flight

Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Environment - Non Weather Related

Contributing Factors / Situations : Procedure

Contributing Factors / Situations : Human Factors

Primary Problem : Procedure

Narrative: 1

We were expecting the Expressway Visual into Runway 31 in LGA. We were coming in on the KORRY3 Arrival from the north and at the end of the arrival we were told we would be getting a right turn. It wasn't clear at the time, but they meant a right base to final for 31 and no longer a turn to eventually join the Expressway Visual to 31.

We were still fairly high and getting step downs and precise speeds on our vectors toward the final for 31. This is from the area where there was all the information published about the crane which was in my mind and further distracting as I wasn't fully aware of its current position due to my lack of flying into LGA recently.

I'm a fairly junior Captain and still on high minimums and this was my first leg with the First Officer flying. He was less than a year into the company and although having done a great job so far it was still on my mind to keep a good eye on his flying and situational awareness.

As we approached the final approach course we were given instructions to look for traffic that we were to follow. This traffic was on the expressway visual. We didn't initially see this traffic. On the second call out from ATC the traffic came into sight and we called it in sight and were cleared for the visual. We were still high and fast and tight on that traffic.

I immediately asked if the First Officer wanted the gear down and flaps 30 and he called for it and we continued to slow to final approach speed.

We received our handoff to LGA Tower right after this and upon initial contact we weren't given landing clearance so we continued. We were stable and on speed by 1,000 feet and on the 1,000 foot call I stated "no landing clearance". We were still tight on space with the prior aircraft at this point. Closing in on 500 feet we received the landing clearance from ATC and I restated clear to land to the First Officer and verified the landing nose light was on and that we were fully configured.

Upon touchdown the First Officer attempted to deploy the thrust reversers and stated they would not deploy. We were slowing down sufficiently and were able to get off prior to the intersection of Runway 4/22. When I took the controls I also attempted to deploy the reversers to see if I would have any success. I didn't have any so as I looked around to see what the issue was. It was clear to me that I never armed the reversers prior to landing which then also made me realize I never ran the before landing checklist.

Synopsis

Air carrier Captain cited distractions that occurred on vectors to a visual approach to Runway 31 at LGA as contributing to a failure to run the before landing checklist and to arm the thrust reversers. Landing rollout was uneventful.

Time / Day

Date : 201609
Local Time Of Day : 0001-0600

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 0

Environment

Flight Conditions : VMC
Light : Dawn

Aircraft

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

Component

Aircraft Component : Main Gear Tire
Aircraft Reference : X
Problem : Failed

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)
ASRS Report Number.Accession Number : 1388034
Human Factors : Distraction
Human Factors : Troubleshooting
Human Factors : Workload

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew
Were Passengers Involved In Event : Y
When Detected : In-flight

Result.Flight Crew : Became Reoriented
Result.Flight Crew : Landed in Emergency Condition

Assessments

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

Narrative: 1

Just before liftoff I felt a rumble and I wondered about the tires. At that [same] time I saw an intersecting runway go by so I attributed the rumble to an uneven intersection. Approaching our destination I received an ACARS message that tire debris was found on our departure runway. I [advised ATC], followed QRH procedure, briefed flight attendants, and briefed passengers. On landing there was a strong rumble as we decelerated and I then knew for sure we had a blown tire. After stopping fire rescue confirmed the blown tire and we were towed to the gate.

I would like to make special note that when I looked in the electronic QRH there is no mention of landing on a flat tire procedure. That same page in the paper QRH does list the procedure. This needs to be corrected quickly. This initially caused me to believe there was no procedure. Only as a last resort when I searched the electronic QRH for the key word "tire" did I find the procedure.

Synopsis

A B737-800 Captain reported suspecting a tire failure during takeoff and was notified in flight about tire debris on the departure airport runway. During approach, an electronic QRH index search listed no "LANDING ON A FLAT TIRE" procedure but the procedure was contained in the document, simply mis-indexed.

Time / Day

Date : 201609

Local Time Of Day : 0001-0600

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

Environment

Flight Conditions : Mixed

Weather Elements / Visibility : Thunderstorm

Aircraft

Reference : X

Make Model Name : B737-700

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Flight Phase : Taxi

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)

ASRS Report Number.Accession Number : 1386891

Human Factors : Confusion

Human Factors : Distraction

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)

ASRS Report Number.Accession Number : 1386868

Human Factors : Distraction

Human Factors : Confusion

Human Factors : Situational Awareness

Events

Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew
When Detected : Taxi
Result.Flight Crew : Became Reoriented

Assessments

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

Narrative: 1

Due to thunderstorms in the area, the pushback was delayed and performed without headsets. During pushback, Ground Control told us to contact Clearance Delivery for possible routing change. We completed the pushback/engine start and cleared off the Ground Crew. We contacted Clearance Delivery and they informed us of a new Controller Pilot Data Link Communications (CPDLC) clearance we needed to acknowledge. Due to weather on the departure corridor, we spent approximately five minutes and multiple different clearance changes before we received our final clearance and sorted out the CPDLC confusion. We then performed a waypoint by waypoint review of the clearance to ensure we had all proper points. We were satisfied we had the correct routing and called for taxi. During taxi out we realized we had not performed the Before Taxi flows or done the Before Taxi Checklist, flaps were not set. I stopped the aircraft; we performed the flows and checklist and confirmed the aircraft was properly configured. The rest of the flight was uneventful.

The complexity and confusion of the multiple clearance changes put us out of the normal flow of operation. We just need to be more vigilant to checklist discipline when our normal triggers are interrupted.

Narrative: 2

There was confusion with the Controller Pilot Data Link Communications (CPDLC) procedures on reroutes and accepting and rejecting clearances. We tried following the Company procedures, but even the Tower was agreeing the process was not working, so we had to get a verbal clearance. I think both groups need more time with the new process.

Synopsis

B737-700 flight crew reported taxiing without completing the Before Taxi checklist, due in part to distraction and confusion with the CPDLC Pre-Departure Clearance procedure.

Time / Day

Date : 201607

Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZZZ.ARTCC

State Reference : US

Altitude.MSL.Single Value : 20000

Aircraft

Reference : X

ATC / Advisory.Center : ZZZ

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 : FMS Or FMC

Flight Phase : Climb

Airspace.Class A : ZZZ

Maintenance Status.Maintenance Deferred : Y

Maintenance Status.Released For Service : Y

Component

Aircraft Component : Air Conditioning and Pressurization Pack

Manufacturer : Bombardier

Aircraft Reference : X

Problem : Failed

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)

ASRS Report Number.Accession Number : 1376117

Human Factors : Time Pressure

Human Factors : Workload

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)
ASRS Report Number.Accession Number : 1376120
Human Factors : Time Pressure
Human Factors : Workload

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : MEL
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Returned To Departure Airport
Result.Flight Crew : Diverted
Result.Air Traffic Control : Provided Assistance

Assessments

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

Narrative: 1

We had been sitting at ZZZ for quite a while waiting out an ATC delay. When we started boarding, I noticed that our left pack had turned off with no associated caution messages. I selected the L PACK switch to off and then back on and the pack turned back on. Shortly thereafter though, we heard a whirling sound and the pack temperature rose taking the pack offline with a little puff of smoke from our vents and a "hot" smell. Meanwhile we were issued a further delay of 2 1/2 hours so we deplaned and I contacted maintenance and dispatch to get the pack deferred and issue a new release. While we were in the process of the deferral, ATC called and said that we could go when we were ready so we boarded up again, got some additional fuel for the lower cruising altitude and then departed. Prior to the departure, the First Officer (FO) and I reviewed the MEL TR associated to the deferral and the special procedure for transferring bleeds from the APU to the engine. In the TR there is a requirement to reduce the thrust to 60% N1 prior to transferring bleeds so we made the decision to delay the bleed swap until we were clear of the terrain in the area. The only requirement of the TR is that it must be completed prior to 15,000 feet. Around 5-6,000 we transferred the bleeds per the TR with no issues. As we were passing through around 20,000 feet I went on to the PA to turn off the seat belt sign. As I was talking, I noticed that the airflow from my vent was gone. I looked at the Environmental Control System (ECS) page and noticed that the R PACK was off, but there were no caution messages as to why the pack went offline. We began a rapid descent and [advised] ATC. We were issued a clearance to 10,000. I transferred controls to the FO and made a PA announcement to the passengers. When I came back, I made the mistake of going to the QRH to try to figure out what was going on with the pack instead of referring to the QRC for emergency descent. After we reached 10,000 we turned around back to ZZZ and started the APU. Since there were no caution messages associated with the pack going offline, I made the decision to try the pack using the APU bleed air. It turned on and worked normally so we decided that since we had pressurization and air conditioning that we would hold for a while to burn off some fuel because we were significantly over max landing weight. After arriving at the gate and during the debrief we identified that we should have run the QRC which would have included dropping the passenger O2 masks.

The root cause was not adhering to the new SOP of using the QRC first. The confusion of

the pack going off with no apparent reason distracted my attention to the pack issue instead of the descent.

For me, I'm going to make it an important part of my future IOE trips to get into the QRC with students and run through some scenarios to become more familiar with the items on the list as well as trying to incorporate it into my daily thought process.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

The flight crew of a Bombardier CRJ-200 reported when in climb with one pack deferred, when the other pack failed, they went to the QRH to troubleshoot and neglected to proceed per the QRC for emergency descent.

Time / Day

Date : 201607

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 500

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

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 Climb

Airspace.Class B : ZZZ

Component

Aircraft Component : Pneumatic System

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 : Captain

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Type : 1500

ASRS Report Number.Accession Number : 1374157

Human Factors : Situational Awareness

Human Factors : Workload

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)
Experience.Flight Crew.Type : 350
ASRS Report Number.Accession Number : 1374160

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Returned To Departure Airport
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

After departure climbing through roughly 500 ft AGL we received a Bleed 1 overpress Caution EICAS message. The climbout was continued and the aircraft configuration cleaned up, then a positive transfer of radios was initiated to give the FO the controls and radios. As the PIC I ran the QRH for the Bleed 1 overpress EICAS message. At the time I felt that I followed the QRH procedures word for word which led for the throttle on engine number 1 be brought to idle and the single engine approach and landing procedures to be accomplished. We asked for vectors to be close to [the] airport. The first officer continued to fly and handle the radios while I conducted the single engine approach and landing checklist, followed by the overweight landing checklist and all other appropriate checklists. The flight attendants and passengers were briefed on the situation as well as all QRH items being accomplished before preceding for a safe landing.

After the successful landing, taxi in and deplaning I contacted the chief pilot on call to discuss the situation. While discussing the QRH there was doubt raised that I might have inadvertently "pushed out" the Pack 1 button instead of Bleed 1 as the QRH called for. I cannot put any assurance into the fact that I did or did not press the Pack 1 instead of Bleed 1. By the time this doubt was raised maintenance was already on board and the landing configuration of the overhead panel had been changed. The maintenance personnel onboard the aircraft ran a test on the MFD and found there was a fault detected in the bleed system of the number 1 engine.

I feel that in the QRH procedures that lead to degraded aircraft performance there should be a "confirm" item listed in the procedure when dealing with turning off critical items This QRH procedure does not call for any confirmation of any kind even when it asks to reduce the thrust to idle on an engine.

Narrative: 2

I was the Pilot Flying. During the crew briefing, the Captain stated "If we have a problem you fly, I fix". During initial climb at approximately 500 feet, master caution went off, and the Captain announced "BLEED 1 OVERPRESSURE". I acknowledged, he silenced the warning, and we continued. The Captain transferred the radios to me and began running the QRH. At his command, I requested with ATC to stop the climb at 10,000 feet and for vectors back. ATC instructed us to descend to 5,000 feet and provided vectors to the airport.

The QRH procedure did not succeed in clearing the caution message, and led to the Single Engine Approach and Landing procedure, at which point the Captain instructed me to inform ATC and request emergency services standing by, which I did. We accomplished the Single Engine Approach and Landing checklist, followed by the Overweight Landing checklist. Following that, the Captain transferred the controls to himself. We accomplished all applicable normal checklists, and executed an uneventful single engine approach and landing. We stopped on the runway, had emergency services inspect and clear the aircraft, and taxied to the gate under our own power without further incident. At the gate we were met by maintenance personnel, and after deplaning the passengers we turned over the aircraft to them.

The Captain then proceeded to call the Duty Chief Pilot, while I performed the postflight inspection that did not reveal any externally observable anomalies. When I came back to the aircraft, the Captain informed me that during his call with the Duty Chief Pilot, doubt had been raised as to whether the Pack 1 button had been pushed instead of Bleed 1 button during the execution of the QRH procedure for BLEED 1 OVERPRESS. I cannot ascertain which button was pushed, as I concentrated on flying the airplane and handling the radios.

The possibility exists that the Pack 1 button was pushed instead of Bleed 1, and if indeed true, this may have led to the caution message not clearing, and the subsequent single engine approach and landing. Therefore, I believe the QRH procedures need to be modified to add second crewmember verification to the actions that lead to significant consequences and degraded aircraft performance. This would be similar to existing crew verifications for critical control movements, such as fire handles and the thrust lever during engine shutdown procedures. For the example, in this QRH procedure the Bleed 1 button is not verified by the second crewmember, nor is the thrust lever movement to idle that leads to the single engine approach procedure.

Synopsis

EMB175 flight crew experienced a Bleed 1 overpressure shortly after takeoff with the First Officer flying. The Captain performed the QRH procedure which led to idling the number 1 engine and a return to the departure airport. After landing the Chief Pilot suggested that the Pack 1 switch may have been turned off instead of the Bleed 1 switch as the QRH calls for.