Cockpit Resource Management (CRM) Issues

Report Set Description........................................Crew Resource Management (CRM) inflight situations (conflicts, NMACs, and emergencies).

Update Number.........................................................29.0

Date of Update........................................................January 31, 2018

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

Number of New Records in Report Set ..............31

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.
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, 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: 1499211 (1 of 50)

Synopsis
A320 flight crew reported that they started and continued takeoff roll without the use of flight directors and autothrust.

ACN: 1498775 (2 of 50)

Synopsis
A regional jet pilot reported experiencing multiple physical symptoms resulting in an inability to continue the flight. A diversion to a suitable airport to seek medical help was accomplished.

ACN: 1498435 (3 of 50)

Synopsis
MD-11 Captain reported executing a go-around following a wake turbulence encounter and a firm touchdown in gusty wind conditions.

ACN: 1493765 (4 of 50)

Synopsis
Air carrier First Officer reported a normal landing preceded by a brief stick shaker event due to landing with an unstable tailwind.

ACN: 1488023 (5 of 50)

Synopsis
Air carrier flight crew reported difficulty in interpreting displays of the FMS which resulted in an altitude deviation during the approach.

ACN: 1487596 (6 of 50)

Synopsis
B747 flight crew reported that the seatbelt/harness for the second observer seat did not release properly, and that Maintenance initially failed to accurately document the repair.

ACN: 1484960 (7 of 50)

Synopsis
CE560XL Captain reported executing a go-around when the approach became unstabilized following confusion in the cockpit as to the ATC clearance.

ACN: 1483495 (8 of 50)

Synopsis
Gulfstream Captain reported they passed the Runway 28L hold short line on Taxiway A1 at HWD.

<table>
<thead>
<tr>
<th>ACN: 1478509 (9 of 50)</th>
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**Synopsis**
CE-560 flight crew reported overshooting assigned altitude on descent due to inadvertent autopilot disconnect and distraction with iPads.

<table>
<thead>
<tr>
<th>ACN: 1477655 (10 of 50)</th>
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**Synopsis**
B737 flight crew reported unconsciously starting the APU while the unit was still being serviced by a Mechanic.

<table>
<thead>
<tr>
<th>ACN: 1477289 (11 of 50)</th>
</tr>
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**Synopsis**
Captain of a corporate turbojet reported issues with flying with contract pilots.

<table>
<thead>
<tr>
<th>ACN: 1476975 (12 of 50)</th>
</tr>
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</table>

**Synopsis**
BD700 flight crew reported taking off without being released by ATC at an airport with a closed Tower.

<table>
<thead>
<tr>
<th>ACN: 1476304 (13 of 50)</th>
</tr>
</thead>
</table>

**Synopsis**
A Flight Attendant reported an incident with a Captain acting strangely and making passengers uncomfortable.

<table>
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<tr>
<th>ACN: 1472242 (14 of 50)</th>
</tr>
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**Synopsis**
B737 flight crew reported a decreasing oil quantity indication on the Number 1 engine, followed by a subsequent loss of oil pressure. The engine was shut down and a successful diversion was accomplished.

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<tr>
<th>ACN: 1469490 (15 of 50)</th>
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**Synopsis**
Piaggio 180 Captain reported landing without a clearance after they were distracted by a wake turbulence encounter.
**Synopsis**  
Gulfstream IV First Officer reported they descended below the altitude they were cleared to on the LGMK VOR 6 Approach.

**ACN: 1468417 (17 of 50)**

**Synopsis**  
CRJ200 flight crew reported that during descent the autopilot was unable to capture the localizer.

**ACN: 1467476 (18 of 50)**

**Synopsis**  
ERJ175 flight crew reported receiving a stick shaker warning when intercepting the glideslope from above with the speed brakes deployed.

**ACN: 1467455 (19 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: 1467251 (20 of 50)**

**Synopsis**  
GIV flight crew reported turning earlier on departure due to the FMC not being programmed correctly.

**ACN: 1467196 (21 of 50)**

**Synopsis**  
General aviation flight instructor reported a NMAC after departure from a CTAF airport.

**ACN: 1465460 (22 of 50)**

**Synopsis**  
Air carrier flight crew reported almost colliding with another aircraft while taxiing.

**ACN: 1465019 (23 of 50)**

**Synopsis**  
EMB-175 Captain reported the FO mistakenly twisted the altitude selector knob instead of the speed selector knob causing the aircraft to drop below assigned altitude.

**ACN: 1462284 (24 of 50)**
### Synopsis
B737 First Officer reported that the one of the flight crew's oxygen masks became separated from its oxygen feeder hose, resulting in oxygen escaping from the disconnected hose resulted in complete loss of aircrew oxygen supply. The crew diverted to an alternate airport.

**ACN: 1459409** *(25 of 50)*

### Synopsis
An Air Carrier First Officer reported a breakdown in CRM between himself and the Captain and operations not in compliance with Company Policy after he had not included the Captain in the selection of a pre-flight secondary altitude request.

**ACN: 1458967** *(26 of 50)*

### Synopsis
Corporate Jet Captain reported he made an early turn on the ZZ000 1 departure from SAN and corrected back to course after query by SCT TRACON.

**ACN: 1458687** *(27 of 50)*

### Synopsis
SCT Departure Controller and flight crew reported an aircraft departed and turned left instead of right causing an airborne conflict.

**ACN: 1458655** *(28 of 50)*

### Synopsis
C182 instructor pilot and student reported taxiing onto the runway creating a conflict with a landing aircraft.

**ACN: 1456507** *(29 of 50)*

### Synopsis
A B737 Captain reported pilot preflight distractions, interruptions, and task loads resulting from the company's current Flight Attendant training policy to include the crew in more of the cabin activities, needs, and wants.

**ACN: 1454820** *(30 of 50)*

### Synopsis
CRJ-700 Captain reported returning to the departure airport after a compressor stall, but delaying the landing gear extension until 800 feet above the ground.

**ACN: 1454754** *(31 of 50)*
Synopsis
The flight crew of an air carrier aircraft reported they exhibited poor Crew Resource Management (CRM) while in a stressful situation during approach and landing.

ACN: 1448430 (32 of 50)

Synopsis
Learjet flight crew reported a heading deviation on the SKYLINE 6 Departure from OAK.

ACN: 1447468 (33 of 50)

Synopsis
A military helicopter pilot reported a flying low altitude VFR flight in the LAX basin which inadvertently entered BUR airspace.

ACN: 1444941 (34 of 50)

Synopsis
B737NG First Officer reported experiencing windshear shortly after gear retraction. An EGPWS wind shear warning and an airspeed loss both occur as the Captain recovered using maximum thrust.

ACN: 1444463 (35 of 50)

Synopsis
BE-350 Captain reported having CRM issues with a Captain-qualified First Officer.

ACN: 1444225 (36 of 50)

Synopsis
A319 First Officer reported the Captain inadvertently turned off Inertial Reference system #1 while deploying the sun visor.

ACN: 1442013 (37 of 50)

Synopsis
BE20 Captain reported a loss of pressurization at FL280, but the crew could not get oxygen from their masks.

ACN: 1440864 (38 of 50)

Synopsis
CL-601 First Officer reported a track deviation occurred departing VNY when the flying pilot tried to fly the departure from memory.

ACN: 1440119 (39 of 50)
Synopsis
C680 Captain reported that the pilot flying went into the FMS and selected Direct 8000 feet interrupting the scheduled RNAV descent.

ACN: 1439855  (40 of 50)

Synopsis
MD-11 flight crew reported that instructions were unclear for an MEL item for the pneumatic system.

ACN: 1431354  (41 of 50)

Synopsis
B777 First Officer reported an unstabilized approach with a Captain that continued to a landing even though he called for a go-around.

ACN: 1430484  (42 of 50)

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

ACN: 1430330  (43 of 50)

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

ACN: 1429627  (44 of 50)

Synopsis
EMB-175 Captain reported that they rejected takeoff due to a misconfigured flap position.

ACN: 1428180  (45 of 50)

Synopsis
CRJ-200 First Officer reported diverting for IDG and APU problems. They discovered that a month earlier another crew had a similar experience with the exact same outcome.

ACN: 1427831  (46 of 50)

Synopsis
EMB-175 First Officer reported they continued the flight to their destination regardless of the thunderstorms in the area.

ACN: 1427576  (47 of 50)
Synopsis
MD-11 flight crew reported an asymmetrical spoiler deployment during descent. The crew reported there was no data available for a no-spoiler landing.

ACN: 1427007 (48 of 50)

Synopsis
Air carrier Relief Pilot reported that after takeoff they were unable to maintain departure procedures due to the limited database in the aircraft.

ACN: 1423396 (49 of 50)

Synopsis
LR40 Captain reported "Rudder Boost INOP" light illuminated followed by pitch trim and IAS faults, as well as unreliable airspeed indications.

ACN: 1423070 (50 of 50)

Synopsis
MD-11 flight crew reported experiencing an APU fire warning on climbout.
Report Narratives
**ACN: 1499211** (1 of 50)

**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: VMC
- Light: Daylight

**Aircraft**
- Reference: X
- ATC / Advisory.Tower: ZZZ
- Aircraft Operator: Air Carrier
- Make Model Name: A320
- Crew Size.Number Of Crew: 2
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Mission: Passenger
- Flight Phase: Takeoff

**Component**
- Aircraft Component: FMS/FMC
- 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: Pilot Not Flying
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number.Accession Number: 1499211
- Human Factors: Situational Awareness
- Human Factors: Workload
- Human Factors: Communication Breakdown
- Communication Breakdown.Party1: Flight Crew

**Person: 2**
- Reference: 2
- Location Of Person.Aircraft: X
Captain and FO started and continued takeoff roll without the use of flight directors and auto thrust. FO noticed at approximately 80 KIAS that the FMA had no information in it. FO cross checked the Captain FMA and noted a lack of information as well. The speed bug was set to 100 Knots and approaching 100 KIAS FO stated V1 (where the speed bug was set). The improper V1 call was immediately recognized by the Captain. The proper V1 and Vr information was displayed, called out, and rotation and lift-off happened at the appropriate time. Once safely airborne FO and Captain reselected their respective FD button and guidance returned within 5 to 10 seconds. FO attempted to restore autothrust by selecting the appropriate button and pushing speed to enter the "managed" speed mode. FO and Captain recognized that the aircraft was not accelerating on the appropriate schedule and noted 100 KNOTS was still in the airspeed box with a "dot" next to the airspeed. The Captain then spun the airspeed to 250 and re-selected "managed" mode. At this point the aircraft was in the normal flight director and autothrust.

Captain and FO suspect that the flight directors and auto thrust kicked off at some point prior to 60 KIAS on the takeoff roll. While it is certainly possible that both flight directors and autothrust kicked off, it was not associated with any ECAM. It is possible that an ECAM message was inhibited based upon the critical phase of flight, it is much more likely that the flight directors were not selected on prior to take-off. Once the FO recognized that there was an issue with the FMA it took far too long to communicate the issue to the Captain, trap the error, and correct it. Depending on if/when the flight director turned off could point to poor flow/checklist adherence and poor automation management. The best way to avoid this situation in the future is to adhere to flows and checklists (depending on when the flight directors kicked off). Also, much better communication between FO and Captain. While the airworthiness and regime of flight were never in question FO CRM was poor at best. Adherence to briefed procedure to include anything non-standard seen by the FO should be plainly stated; the reason for this was a combination of poor SA regarding the level of automation being employed until approximately V1 and poor communication.
with the Captain while attempting to restore the appropriate level of automation for the regime of flight (take-off).

**Narrative: 2**

[Report narrative contained no additional information.]

**Synopsis**

A320 flight crew reported that they started and continued takeoff roll without the use of flight directors and autothrust.
ACN: 1498775 (2 of 50)

Time / Day
- Date: 201711
- Local Time Of Day: 1201-1800

Place
- Locale Reference: ATC Facility: ZZZ. ARTCC
- State Reference: US
- Altitude: MSL. Single Value: 38000

Environment
- Flight Conditions: IMC
- 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
- Flight Phase: Cruise
- Airspace: Class A: ZZZ

Person
- Reference: 1
- Location Of Person: Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function: Flight Crew: First Officer
- Function: Flight Crew: Pilot Not Flying
- Qualification: Flight Crew: Air Transport Pilot (ATP)
- Experience: Flight Crew: Type: 1300
- ASRS Report Number: Accession Number: 1498775
- Human Factors: Fatigue
- Human Factors: Physiological - Other

Events
- Anomaly: Flight Deck / Cabin / Aircraft Event: Illness
- Detector: Person: Flight Crew
- When Detected: In-flight
- Result: General: Physical Injury / Incapacitation
- Result: Flight Crew: Diverted

Assessments
- Contributing Factors / Situations: Human Factors
- Primary Problem: Human Factors
Narrative: 1

It was the final leg of the duty day and our flight had been delayed due to a late inbound aircraft. I felt slightly more fatigued than normal prior to the start of the flight. Before the inbound aircraft had arrived at the gate I had complained to the crew of some minor cold symptoms, but I thought I was still fit to fly. We decided to proceed with the flight as normal and we accepted the flight release.

After push back there was a lengthy delay in taxi time and it took a great deal of time to reach the runway departure point. Upon reaching the departure point I resolved that I was still feeling good and we proceeded to depart. Everything was normal up until about an hour or so into the flight at cruising altitude. We were cruising at 38,000 feet and getting close to about an hour and 20 minutes left on the flight time. I began to feel cold and grabbed my jacket to cover up and keep warm. As time progressed into the flight I started to break out into a cold sweat along with a warm body temperature. It was at this time I feared that my cold symptoms were worsening and my body temperature was beginning to elevate. To make matters worse I started to feel an elevated heart rate and shallow breathing. At this point I decided to inform the captain that I might be feeling symptoms of hypoxia. The captain immediately checked pressurization of the aircraft and we both crosschecked that the pressurization was normal in the cabin and there was no need to don the oxygen mask. However, as a precautionary measure we decided that I should wear the O2 mask and try breathing normally to see if the symptoms would improve. I tried to take normal breaths from the O2 mask, but my symptoms only worsened gradually. We also asked for a descent to a lower altitude to get to a lower cabin pressure to see if my breathing would improve. This also did not help me.

The captain inquired at this point that I might be getting sick. I agreed with the captain and said to him that if the symptoms worsened I might like to deviate from the planned course for a landing at the nearest airport. We decided to continue on course for what seemed like another 20 minutes until I decided that my symptoms were not getting any better and I was becoming increasingly ill. At this point I became concerned about my ability to safely perform my duties as pilot monitoring and as a side of caution for my fellow crew and passengers I asked that the captain would [advise ATC] and divert to the nearest suitable airport. We utilized CRM and the captain made a precautionary declaration to ATC that we needed to divert. We were cleared and began our course change. The captain contacted the company via ACARs and informed them of my condition. He also got in touch with STAT MD for the required medical information on my physical state and other information. I did my best to perform my job functions and provide the captain with the landing weather ATIS and runway numbers, but my symptoms were getting bad with what seemed like an increasing body temperature and possible fever. I informed the captain of my state of being and from there we requested emergency medical equipment on the ground. There was light snow in ZZZ but the weather conditions were good for a normal CAT I ILS and we were able to get down quickly. We arrived at the planned gate with the emergency equipment standing by. The captain opened his cockpit window and we were greeted by medical staff. They inquired my condition and concluded that I might be dehydrated and that they would perform further tests to see about my condition. At this point the flight was safely terminated and I was escorted into the terminal for a blood and temperature check. It was concluded by medical staff that I was running a high fever of 103 degrees with some dehydration along with it. After further medical care it was determined that I had a cold virus that caused me to have the fever. The fever is what gave me the symptoms of shallow breathing and rapid heart rate. In the interest of safety we did not take these symptoms lightly, and I believe we made the best decision to terminate the flight early. Cold and fatigue symptoms should not be taken lightly. If these
symptoms occur in the future I will call off the trip or ask for a fatigue call. Better communication with the crew and company on my condition prior to departure is also important.

**Synopsis**

A regional jet pilot reported experiencing multiple physical symptoms resulting in an inability to continue the flight. A diversion to a suitable airport to seek medical help was accomplished.
ACN: 1498435 (3 of 50)

Time / Day
Date: 201711
Local Time Of Day: 1801-2400

Place
Locale Reference: Airport: EWR.Airport
State Reference: NJ
Altitude.AGL.Single Value: 60

Environment
Flight Conditions: VMC
Weather Elements / Visibility: Visibility: 5
Light: Night
Ceiling.Single Value: 5000

Aircraft
Reference: X
ATC / Advisory: Tower: EWR
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: Final Approach
Airspace.Class B: NYC

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: 14300
Experience.Flight Crew.Last 90 Days: 15
Experience.Flight Crew.Type: 2300
ASRS Report Number: Accession Number: 1498435
Human Factors: Situational Awareness
Human Factors: Training / Qualification
Analyst Callback: Attempted

Person: 2
Reference: 2
Location Of Person: Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: First Officer
Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Executed Go Around / Missed Approach

Assessments

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

Narrative: 1

Routine flight to EWR. Captain (I, new to seat) as PF, cleared for ILS 22R. Tower reported gain/loss of 10 kts reported at 300 ft. Aircraft ahead of us reported no gain or loss. Winds 280-300/18 gusting to 28/30. I was on autoflight through 300, started to align at 150 ft, no real turbulence or shear through approach until about 60 feet where we got hit with some wake type turbulence. With the crosswind as it was I made mental note to prevent autothrottles from going to idle too soon, but probably missed that as we hit firmly on the right main (upwind). I applied right aileron into wind but did so in excess and aggravated the situation. The FO (PM) called for go around as he got the words out first. Procedurally called for go around thrust and flaps 28. I pegged the landing attitude to avoid derotation, not sure how high we may have bounced but kept the attitude until clearly we were climbing. Throttles were through the overboost bar, called for autoflight (now without autothrottles) cleaned up, restored the FADEC system to enable autothrottles, reloaded approach to try 22L again. Once all checklists were finished FO offered/insisted he do the next approach. He had 12 years experience in his seat, I had 9 flying legs in my seat. Made sense. We landed, debriefed. Maintenance checked for any engine exceedance and were none. The demonstrated crosswind capability of the MD-11 is 35 kts, the winds were within limits. I overcorrected with aileron aggravating the situation probably led to the firm landing. We had a CRM brief covering go around calls from either crew to immediately respond and it worked as briefed. I am a new captain on this aircraft but had prior experience as an FO, but just the same you need to gain experience. I should have disconnected the autopilot sooner than 300 ft to get a better feel for the aircraft on approach. The FO did an exemplary job. It's important to brief the go around procedure and the call outs along with it. We seldom perform them and many times an approach is just fine until the last few feet, remain vigilant.

Narrative: 2

I am submitting this report from the recommendation of the Union. Right out of the gate in ZZZ I could tell the CPT was unsure and uncomfortable. He told me he was a new CPT and only had a few legs after training followed by vacation, then this flight. His last TO & LNDG was some time in September. He was making mistakes [before departure] which clued me in that he might not know what he's doing, not just a little rusty. For instance; on taxi during the flight control check he didn't grab the tiller while checking the rudder. Lights still on passing 10K, and 18K. En route to EWR he briefed the arrival and approach
shortly after TOC. We still had an hour to TOD. Because of the winds up there (in EWR), he said something in his brief about what the book says about kicking the AP off and starting the crosswind alignment. Once we got in line up there, airplane after airplane was landing. On final there were ~ 45 KTS of Xwind. Landing winds were 300/18G27 on RWY 22. Tower reported +/- 10 KTS of AS by all AC type. Approach was uneventful until the CPT clicked off the AP. He immediately started over controlling the jet, but I didn't know how much at the time. I wasn't flying. I didn't know how much of the instability was caused by him and how much was caused by the winds. During the flare I thought we were going to hit the right wing on the runway. I didn't just call for a go around, I executed the go around and I was on the controls with him until we were safely climbing away from the ground. I didn't know it at the time, but I actually pushed the throttles through the overboost bar. That landing was the exact scenario that other MD11's have crashed out of. We leveled off and I could barely keep my composure on the radio. Once I reprogrammed the box, I told the CPT he was not flying the next approach and that I could tell he was uncomfortable and unsure of himself and I was going to fly the next approach. He agreed. I flew the approach to an uneventful landing. Once in parking in EWR I told the CPT that he just almost crashed us. He nodded his head. I also made some calls to the Union with the intent of taking myself off the flight but I couldn't contact anyone to give me advice. The CPT had mentioned something about wanting to redeem himself in my eyes on the way back to ZZZ. I didn't want to interrupt the system by taking myself off the flight so I told the CPT that I wouldn't take myself off the flight, but I am going to fly back, NOT him. He said "Thank you and OK". On the way back there were more mistakes. While taxing out in EWR on taxiway R, we were cleared for TO on 22R at W. He started to take the runway on Y. I Fixed that mistake. Somewhere around 20K ft while he was over there filling out an event report, I got his attention and pointed to the landing and taxi lights that were still on, (and the turnoff lights were off) and he shook his head, retracted the landing lights, turned off the landing lights, turned off the taxi lights, and turned on the turnoff lights, then went back to his event report. I didn't say anything and just reached up and turned off the turnoff lights while he wasn't looking. The flight data should be pulled and looked at closely on this flight. I'm trying to save someones life. Maybe even the CPTs himself. Something needs to be done. Even though I literally got scared to death, I'm glad I was the FO on this flight and not a new hire FO. I would be glad to come in and talk to someone about this if you need further information. Thanks.

Synopsis

MD-11 Captain reported executing a go-around following a wake turbulence encounter and a firm touchdown in gusty wind conditions.
**ACN: 1493765 (4 of 50)**

**Time / Day**

Date: 201711  
Local Time Of Day: 1801-2400

**Place**

Locale Reference, Airport: ZZZ.Airport  
State Reference: US  
Altitude, MSL, Single Value: 750

**Environment**

Flight Conditions: VMC  
Light: Night

**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: Final Approach  
Airspace, Class D: ZZZ

**Person**

Reference: 1  
Location Of Person, Aircraft: X  
Location In Aircraft: Flight Deck  
Reporter Organization: Air Carrier  
Function, Flight Crew: First Officer  
Function, Flight Crew: Pilot Not Flying  
Qualification, Flight Crew: Air Transport Pilot (ATP)  
ASRS Report Number, Accession Number: 1493765  
Human Factors: Communication Breakdown  
Human Factors: Situational Awareness  
Communication Breakdown, Party1: Flight Crew  
Communication Breakdown, Party2: Flight Crew

**Events**

Anomaly, Flight Deck / Cabin / Aircraft Event: Other / Unknown  
Anomaly, Deviation, Speed: All Types  
Anomaly, Deviation, Procedural: Published Material / Policy  
Anomaly, Inflight Event / Encounter: Weather / Turbulence  
Anomaly, Inflight Event / Encounter: Unstabilized Approach  
Detector, Automation: Aircraft Other Automation  
Detector, Person: Flight Crew  
When Detected: In-flight
Assessments

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

Narrative: 1

We were executing a visual approach. I was the Pilot Monitoring. Weather conditions were night VMC with a 30 knot tailwind at altitude. Prior to arrival, we received the ATIS and determined that the wind was 160 at 9 knots (a 9 knot tailwind component) on a dry runway. The landing performance data indicated a factored field length of 4,500 feet for Runway XX1, or 3,700 feet for Runway XX2. (The runway is 7,000 feet total length.) I suggested to the Captain (who was the Pilot Flying) that we should execute a visual approach to Runway XX2. The Captain declined my suggestion and elected to proceed with the straight-in landing on XX1, since the tailwind was within our SOP limitations. We were fully configured and stabilized on the approach before arriving at 1,000 feet HAT (Height Above Threshold). The speed bug was set to the proper Vref speed for our landing weight. I noted that the tailwind at 1,000 feet HAT was 22 knots, and requested a wind check from the Tower. The wind was still at 9 knots, within our SOP. Given the turbulence, I felt uncomfortable with the Captain's decision to land XX1. I commented that "the van is going to be here late anyways, so we're not really saving any time." The Captain elected to continue and land on XX1. I noted that the green line was bouncing around significantly, at times jumping 5 or 10 knots above the speed bug. The Captain maintained the aircraft's speed at the top of the bug. At an altitude that I do not recall (I believe it was between 500 feet and 1,000 feet HAT), the stick shaker activated momentarily. The aircraft's speed was stable and at the top of the bug, and the bug was set correctly. The windshear warning did not activate. As I wasn't touching the controls, I didn't feel the shaker; I only heard it. I said "Whoa, whoa!" but the shaker stopped before I could call for a go-around. The Captain said "We're fine, we're landing," and continued to a normal landing. On the ground we discussed the event and I suggested that we should have gone around.

Given that we were properly configured and on speed for our landing weight (in fact we were a few knots fast), I believe that the rapidly changing wind direction and speed is what caused the shaker to momentarily activate. The green line's erratic behavior, I am guessing, was influenced by these rapidly changing conditions. However, I also believe that if we had elected the more conservative option (executing a visual pattern to land on Runway XX2, rather than pushing the SOP tailwind limit in order to land straight in), we may not have experienced the shaker. I would say the contributing factors here were 1) the Captain's desire to minimize the time enroute, and 2) my failure to decisively call for a go-around. I have flown with this Captain at least 50 times, and he has nearly 20 years experience in the airplane. I therefore deferred to his judgement, both on the question of which runway to land on, and when he announced he was continuing to land after the shaker event, I did not call for a go-around.

In both new-hire and recurrent training, more emphasis should perhaps be placed on an important aspect of CRM, namely, that if either crewmember (especially First Officers paired with very senior Captains) feel uncomfortable about any aspect of the aircraft state, that they should and must voice that discomfort. I did so, but in a very mild and indirect way. Once that decision was made to land on the tailwind runway, though, I'm not sure
anything could have prevented that shaker from activating, aside from the crew flying the approach much faster than Vref, which would have introduced yet another threat.

**Synopsis**

Air carrier First Officer reported a normal landing preceded by a brief stick shaker event due to landing with an unstable tailwind.
ACN: 1488023 (5 of 50)

**Time / Day**
- Date: 201710
- Local Time Of Day: 0001-0600

**Place**
- Locale Reference.Airport: ORD.Airport
- State Reference: IL
- Altitude.MSL.Single Value: 3800

**Environment**
- Flight Conditions: IMC
- Weather Elements / Visibility: Rain

**Aircraft**
- Reference: X
- ATC / Advisory.TRACON: C90
- Aircraft Operator: Air Carrier
- Make Model Name: Large Transport, Low Wing, 2 Turbojet Eng
- Crew Size.Number Of Crew: 2
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Mission: Passenger
- Nav In Use: FMS Or FMC
- Nav In Use.Localizer/Glideslope/ILS: Runway 09R
- Flight Phase: Final Approach
- Airspace.Class B: ORD

**Component**
- Aircraft Component: DME
- 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 Flying
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- Experience.Flight Crew.Total: 8044
- Experience.Flight Crew.Type: 5672
- ASRS Report Number.Accession Number: 1488023
- Human Factors: Human-Machine Interface
- Human Factors: Troubleshooting
- Human Factors: Confusion

**Person: 2**
Narrative: 1

Approaching ORD from the West Southwest, we were told that the ATIS had just changed and to expect LOC 9R. 10C and 9L ILS were the arrival runways we were expecting. Weather about 800-4. We had briefed ILS 10C and retrieved landing data for the short runway, 9L, to get ahead in the event we were assigned 9L.

I installed ILS 9R in the FMS noting several LOC only approaches in the database but no LOC only for 9R. After installation, while receiving many vectored turns typical of ORD, I briefed the approach using the QRH as a guide. During the route review, we noticed a step down fix, inside the FAF, that was not loaded. I again checked for a LOC only approach in the FMS and after again finding none, I asked the Captain to program YONUT at or above 1700 in the box. We now had waypoints from DEVON, just outside the FAF, LANSE, through the missed approach procedure programmed with altitudes verified. The brief ended with a disagreement over minimum autopilot disengagement altitude, Derived Decision Altitude (DDA) vs. 50ft below DDA. An "old way" versus "the current way"? I don't know, so I referred to Fight Manual and we were both now on board with DDA as minimum disengagement altitude. Brief done.

Now on a long, but tight, right down wind at 8000 feet I consider asking the Captain to program some of the outer fixes on the LOC course because we're now outside of WASCO over 20 miles from the field. I decided to instead brief that the fixes were defined off of the ILS DME and we can use the DME for situational awareness on the step down fix locations once on final. THIS IS ONE THING THAT, had we programmed the fixes, WOULD HAVE ELLIMINATED OUR FUTURE ERROR.
Next, we are given 2 turns to final, "cross WASCO at or above 7000, cleared "the approach". Appropriately, the Captain read back includes the runway assignment and a request for confirmation. I set the intercept heading in heading mode and state that I’m arming NAV for the intercept due to common LOC instability at long range. We are at 8000, on LOC in NAV with the final extended from DEVON.

NOW THE ERROR... I look at the magenta ILS info lower left of PFD to find good ident, proper frequency and no DME. I think to myself "I thought the ILS DME is supposed to be there"........So....I scan the instruments and find this green number upper right of the ND (Navigational Display) that looks about right and comfortably decide that all is well........ Yeah, as I sit and write this, I can hardly believe it. But here's the kicker, I made no mention of my thoughts regarding the DME issue and began calling distances to the next waypoint/stepdown off of the ND distance to active waypoint which was either LANSE or YONUT (I don't recall which was displayed). It should have been LANCE with the course extended through DEVON. ([It occurs] that I am reading ILS DME). We are both totally focused on the approach and have both latched onto the distance we read most often. Range to next way point. NOT GOOD!

This continues with excellent CRM until, while level at 4000, we set 2300 for LANCE. We are now in LOC capture with FLT TRK/FPA selected. I state that we are passing 12.3DME (DEVON) as I pull to begin out of 4000, Devon appears at the top of the ND and we both realize we've done something wrong. We reset 4000 in the window, reverse to a climb from 3800 back to 4000, I look straight at the magenta ILS DME that is now working. We never heard a word from ATC.

We now have instant SA (situational awareness). We confirm that we had both failed independently in the same way. Reconfirm our SA and focus back on the now to complete the approach and landing without further abnormalities. We then debrief thoroughly at the gate. This is my/our error. I own that. But looking at the approach, ORD 9R DME should have been receivable from our base turn and it wasn't. That was step one in the confusion.

Narrative: 2

Last minute change to a short wet runway, LOC 9R [a] non-precision approach. Installed ILS 9R in the FMS noting several LOC only approaches in the database but no LOC only for 9R--Had to manually build LOC only off of the ILS and add waypoint inside FAF since this was not in the aircraft database. On approach had to pull landing performance info for wet short runway. Frequent Changes to Company SOP and infrequently used limits caused increased task saturation while verifying DDA (Derived Decision Altitude) vs DA and Autopilot disconnect limits inside of 20nm as a result of a late runway change to a Non Precision approach, pulling new landing data, noting that we were very at our bingo fuel for our alternate, etc.

Sometime around 8000 MSL, I considered programming additional waypoints outside of the outer FAF on the LOC course. I was busy getting updated ATIS and Landing data and crosschecked the step-down altitudes against the distance displayed on my upper right side of my ND (Navigational Display). As I was busy and all looked as expected, I actually thought to myself that I might be being a bit anal and adding additional cluster and distraction to an already highly rushed approach. I independently decided that DME would be sufficient to determine the step-down fixes. (This could have been that critical error that could have led to a significant event, had we simply programmed the additional waypoints, we wouldn't need to be writing our reports now.)
SOP prevailed throughout the approach, and I actually found myself feeling quite pleased with how well both pilots were performing in this highly rushed approach. As we got ALT CAP (Altitude Capture), we were setting next altitudes, call outs and checklists were getting done. Weather radar checked and I felt we were getting caught up to be ready for an uneventful landing in Chicago.

While level at 4000, we preset 2300 for LANCE. (We are now in LOC capture with FLT TRK/FPA selected as we observe 0.3 DME) a 3 degree descent is initiated and I scan the ND waypoints. NO! The FAF is way ahead of us, "Stop the descent and climb immediately to 4,000 FT!" I rescan and realize that we've been referencing the wrong digital display for our distance on the ND. As I am taking this in the actual ILS DME appears on our display. We were about 5 miles outside of the FAF.

I shudder to think what could have happened if we had continued our descent. We are fortunate that all of our errors occurred above the published MSA of 3,400 FT. For what it's worth, we never heard a word from ATC. We both reassess and verify our current location on the approach. Confident that we have accurate position info we decide to continue the approach. We then debrief thoroughly at the gate and again at our hotel.

**Synopsis**

Air carrier flight crew reported difficulty in interpreting displays of the FMS which resulted in an altitude deviation during the approach.
ACN: 1487596 (6 of 50)

Time / Day
Date: 201710
Local Time Of Day: 0601-1200

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

Aircraft
Reference: X
ATC / Advisory.Ramp: ZZZ
Aircraft Operator: Air Carrier
Make Model Name: B747-400
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Cargo / Freight
Nav In Use: FMS Or FMC
Flight Phase: Taxi
Maintenance Status.Maintenance Type: Unscheduled Maintenance
Maintenance Status.Maintenance Items Involved: Repair

Component
Aircraft Component: Flight Crew Harness
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: Relief Pilot
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1487596
Human Factors: Communication Breakdown
Communication Breakdown.Party1: Flight Crew
Communication Breakdown.Party2: Maintenance

Person: 2
Reference: 2
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: First Officer
ASRS Report Number.Accession Number: 1487854
**Person:** 3
**Reference:** 3
**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:** 1488432

**Events**

- **Anomaly.Aircraft Equipment Problem:** Less Severe
- **Anomaly.Deviation - Procedural:** Published Material / Policy
- **Anomaly.Deviation - Procedural:** Maintenance
- **Detector.Person:** Flight Crew
- **When Detected:** Taxi
- **Result.General:** Maintenance Action

**Assessments**

- **Contributing Factors / Situations:** Aircraft
- **Contributing Factors / Situations:** Human Factors
- **Contributing Factors / Situations:** Incorrect / Not Installed / Unavailable Part
- **Primary Problem:** Incorrect / Not Installed / Unavailable Part

**Narrative: 1**

Flight pushed out on time. Captain was PIC (Pilot In Command) in the left seat, First Officer as PM (Pilot Monitoring) in the right seat, [myself a relief Captain] in the middle observer seat and a [Relief] First Officer in the left observer seat.

While still hooked up to the tow tug, abeam [the] gate and with two engines started, [the Relief] First Officer encountered trouble with his 5 points quick release harness (hard to close and extremely difficult to release. It would not release via quick release tab and took extreme force tugging on the belt to release it). Relief First Officer communicated the issue and I confirmed the troublesome operation of his belt. Captain asked on headset for Maintenance to come back onboard via the E&E door. Maintenance confirmed the problem with the belt and left the aircraft to secure a borrowed belt. The cockpit crew coordinated with ATC to stay put until a decision was made to either continue, or return. The (Dispatch Deviations Guide) DDG was checked for possible relief, which the DDG did not offer (Most Observer Seat equipment can be deferred, but the seatbelts and O2 are not part of it. A note makes it the PIC decision based on safety and, as was decided by the Captain, the non-functioning seatbelt was unequivocally a required safety item). He called Maintenance Control Center (MCC); Both MCC and local Maintenance agreed a return to the gate was warranted.

It appears the installed belt was the wrong part and the tab was thicker than the other belts, was of a different geometry and with squared hole and tab in lieu of the required rounded tab and round hole. See attached picture of placards on correctly installed belt on trouble-free middle observer seat versus picture of placard on removed belt from left observer seat.

Maintenance provided [the] Captain with the signed-off logbook; The corrective action was clearly in contradiction with the observed performed Maintenance action as it stated "cleaned mechanism of debris ops check normal" when the belt portion was actually
replaced. [The] Captain declined the logbook based on the misleading corrective action. Maintenance brought back the logbook with the original incorrect corrective action lined through and the new corrective action properly annotated underneath (See attached copy of logbook page). Captain accepted the Logbook sign-off and the flight departed. [Flight Operations] called [the] Captain directly on his personal phone to inquire as to the reasons for the BTB (Block Turn Back).

Narrative: 2

[Report narrative contained no additional information.]

Narrative: 3

During pushback and start, [Relief] First Officer discovered that his seat belt (second observers seat) was not functioning properly - to the point of being unusable without extreme force and totally unsafe. [The] Captain elected to not start any more engines (we had numbers 1 and 4 started at this time). We consulted the DDG (Dispatch Deviations Guide) for relief (there was none), called (local) Maintenance to board the aircraft, called Maintenance Control for consultation, notified Ramp Control and sent a series of delay messages via ACARS to company to keep dispatch/operations informed. It was decided to return to the gate under tow. Upon closer inspection, it became evident that the seat belt appeared to be the wrong part (based on part numbers being different when compared with other cockpit seatbelts, as well as notable differences in the shape, size and thickness of the seat belt metal tab/bayonet, Local maintenance and Maintenance Control, after realizing there was no relief in the DDG, concurred and went to retrieve another seat belt off [another aircraft].

After being replaced with the loaner seat belt, the logbook was signed off and handed back to us. However, [the] Captain noticed that the sign off corrective action stated: "Cleaned mechanism of debris ops checks normal". He refused this sign-off as being inaccurate and misleading. Maintenance then changed the sign-off (corrective action) to "Replaced seat belt..." which [the] Captain accepted.

As things were being wrapped up and we prepared for a second push and start, Vice President of Flight Operations called [the] Captain on his phone to ask what the reason was for the block turn back.

We blocked out a second time and departed. Suggestions:
1. The process of issuing, verification and control of correct parts appears to be an on-going issue and should be addressed.

2. While I think we all agree that as humans, mistakes will be made (and admittedly, this was a relatively low-threat type of mistake and was caught and properly corrected) - I am much more concerned and troubled by the misleading sign-off. I believe it is merely a symptom of a larger issue. I do not believe that a line mechanic did this of his own volition. (To what end?) It is no secret around that a [local] Maintenance Supervisor has recently instructed his line mechanics to no longer discuss anything with the pilots that could remotely result in a disruption of the schedule (even potential safety related items or pertinent information). Common sense would likely indicate that this supervisor had pressure from higher up the food chain to keep the operation moving. Some relevant questions that I believe should be asked are: Did the supervisor at [this airport] (or possibly someone above him) dictate this logbook sign-off in order to cover up installation of a wrong part? Was it an attempt to avoid placing blame on the Maintenance department for the resulting BTB and delay? Was it done to shift blame and make it appear (to anyone
reading the logbook after the fact and without any real knowledge or context), that this was evidence of a frivolous Maintenance write-up by the pilots - who coincidentally, happen to be defendants in an ongoing federal lawsuit by the company against the pilots union for an alleged work slowdown? Some combination?

3. In the end - It is imperative that flight crews not lose trust in the maintenance staff. It creates a caustic environment for all involved, and in aviation, the stakes are too high. Directives to not openly and properly communicate issues with flight crew and misleading "corrective" sign-offs are detrimental and are a breach of safe protocols. Large amounts of time, effort (and money) have been invested over the years to teach us all the importance of CRM and that includes being able to get and share straight, honest and accurate information from the maintenance department. A true culture of safety starts at the top and filters its way down through the ranks. Any pressures (actual or implied) by management to push staff - whether maintenance or pilots or others- to maintain schedule over safety or other legitimate issues or to shift blame degrades this and is antithetical to what is written in the company manuals regarding safety and ethics.

**Synopsis**

B747 flight crew reported that the seatbelt/harness for the second observer seat did not release properly, and that Maintenance initially failed to accurately document the repair.
**Time / Day**
- Date: 201709
- Local Time Of Day: 1201-1800

**Place**
- Locale Reference: Airport: BJC.Airport
- State Reference: CO
- Altitude MSL: Single Value: 7000

**Environment**
- Flight Conditions: IMC
- Weather Elements / Visibility: Turbulence
- Light: Daylight

**Aircraft**
- Reference: X
- ATC / Advisory: TRACON: D01
- 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: Localizer/Glideslope/ILS: Runway 30R
- Flight Phase: Initial Approach
- Airspace: Class B: DEN

**Person**
- Reference: 1
- Location Of Person: Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Taxi
- Function: Flight Crew: Pilot Flying
- Function: Flight Crew: Captain
- Qualification: Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number: Accession Number: 1484960
- Human Factors: Distraction
- Human Factors: Situational Awareness

**Events**
- Anomaly: Flight Deck / Cabin / Aircraft Event: Other / Unknown
- Anomaly: Deviation - Altitude: Excursion From Assigned Altitude
- Anomaly: Deviation - Track / Heading: All Types
- Anomaly: Deviation - Procedural: Published Material / Policy
- Anomaly: Deviation - Procedural: Clearance
- Anomaly: Inflight Event / Encounter: Unstabilized Approach
- Detector: Person: Flight Crew
- Detector: Person: Air Traffic Control
- When Detected: In-flight
Assessments

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

Narrative: 1

This situation occurred while in IMC conditions, and being vectored onto an ILS approach into BJC. We had just checked on with DEN approach and were issued a descent. As I was descending, the PM began turning anti-ice on, and became distracted discussing anti-ice and why they felt it was necessary to have it on at a higher temperature (OAT was 11°C and anti-ice was not required). This unnecessary explanation caused the flight crew to miss part of a radio call from ATC. I was able to catch part of our call sign, and the fact that a heading was being assigned, but I didn't catch the actual heading. After getting back the PMs attention to the radio calls, I informed them that the last radio call was for us, and to query the heading assigned. PM replied to ATC with "please repeat."

ATC did not reply to PM's request, and instead told us we were "5 miles from ALIKE, maintain 7000 until established, cleared for the ILS 30R approach." Since we did not have a proper heading yet, but were cleared for the approach, I rolled the heading bug to an intercept heading that I thought would capture the localizer and selected APPROACH mode, in an effort to move us into the proper direction. At this time, PM replied to ATC's radio call with, "Maintain 5000 until established," and rolled the ASEL to 5000, as we were still descending to 7000. ATC replied, "negative - maintain 7000" - PM repeated to "maintain 7000" I then realized the PM was lagging behind the procedure we were flying, so I rolled the ASEL back to 7000 as the PM read back the instructions to maintain 7000. It was at this point I should have disconnected autopilot and hand-flown the ILS approach we were cleared for, and as I heard it, instead of attempting to correct the PM's actions. After the PM finished their radio call, I immediately made the radio call to clarify the heading ATC originally assigned us, as the PM still had not retrieved that information.

ATC replied with the heading, and then indicated we had flown through the localizer, so he assigned a new heading, and asked us to slow our airspeed. Shortly after that, ATC canceled the approach clearance, and gave us a left turn to heading 200, and climb & maintain 8000. At this point we were no longer in a position to make a stabilized approach. I disconnected the autopilot and we complied with this new instruction. We were given new vectors back onto the approach and landed safely, with happy passengers who, fortunately, had no idea any of this had occurred.

There was a breakdown in communication between flight crew due to an unnecessary discussion about anti-ice usage at a time where a sterile cockpit is required. This breakdown of communication and loss of proper monitoring with ATC caused the need to be re-vectored back to the ILS. The missed vector could have been considered a Pilot Deviation by ATC though nothing was said to us about it. The approach became unstable due to a breakdown in Crew CRM, which led to missed calls and misunderstandings with ATC. I should have become aware that PM was becoming overwhelmed with the approach, and taken over flying the aircraft earlier in the approach, so PM's inputs would not have affected the path of the aircraft. In a post-flight debrief we discussed our communication breakdown & determined a better job could have been done in not discussing issues not immediately pertinent to the phase of flight. This is especially important during the high
workload we were experiencing at the time (IMC, vectors to an approach, descending, slowing & configuring). As the PIC I should have been more forceful with ending the anti-ice discussion so the PM could focus on the tasks at hand. I should have more quickly initiated the radio call to ATC to confirm the missed vector and assigned altitude when it was clear the PM was not situationally aware of what needed to be done. I will be sure to take all these lessons learned and apply them to my future flights.

Synopsis

CE560XL Captain reported executing a go-around when the approach became unstabilized following confusion in the cockpit as to the ATC clearance.
**ACN: 1483495 (8 of 50)**

**Time / Day**
- Date: 201709
- Local Time Of Day: 0601-1200

**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.Ground: HWD
- Aircraft Operator: Air Taxi
- Make Model Name: Gulfstream Jet Undifferentiated or Other Model
- Crew Size.Number Of Crew: 2
- Operating Under FAR Part: Part 135
- Flight Plan: IFR
- Mission: Passenger
- Flight Phase: Taxi

**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: Multiengine
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- Experience.Flight Crew>Total: 15154
- Experience.Flight Crew>Last 90 Days: 60
- Experience.Flight Crew>Type: 2325
- ASRS Report Number.Accession Number: 1483495
- Human Factors: Distraction

**Events**
- Anomaly.Deviation - Procedural: Clearance
- Anomaly.Ground Incursion: Runway
- Detector.Person: Flight Crew
- When Detected: Taxi
- Result.Flight Crew: Became Reoriented

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

**Narrative: 1**

While taxiing to RWY 28L on taxiway A1 at HWD, I passed the hold short line before I realized it. There were several contributing factors:

1. The hold short line markings were not very well marked (faded).
2. The hold short line markings were located in an unusual (non-standard) location relative to the run up area. They are located before the run up area, instead of between the run up area and the runway threshold which is normal, so during taxi, we were expecting and looking for them further ahead beyond the hold short area.
3. Taxiing uphill on that taxiway with the sun shining in our eyes made it difficult for the crew to see any markings, and especially the hold short line until we were right on top of it (First Officer saw it just as we crossed it, I did not see it at all as I was looking up at the time).
4. An outside distraction occurred at the moment we were about to cross the hold short line: I was looking up at two light single engine aircraft maneuvering close together on what seemed to me to be an unusually low and tight base to final turn right in front of us. Because I was looking up at them for a few seconds, I did not see the hold short line as I crossed it, though my First Officer noticed it just as we were about to cross it. He failed to call it out. We are conducting additional CRM and SOP training to address that failure.

Because of the unusual location of the hold short markings for Runway 28L on taxiway A1, I think that the airport should put up a vividly marked sign at the entrance to taxiway A1 that warns of the unusual location of the hold short line. Maybe a white sign with a red border or similar.

**Synopsis**

Gulfstream Captain reported they passed the Runway 28L hold short line on Taxiway A1 at HWD.
ACN: 1478509 (9 of 50)

Time / Day
Date: 201709
Local Time Of Day: 0601-1200

Place
Locale Reference.ATC Facility: ZZZ.ARTCC
State Reference: US
Altitude.MSL.Single Value: 12000

Environment
Flight Conditions: VMC
Light: Daylight

Aircraft
Reference: X
Make Model Name: Citation V/Ultra/Encore (C560)
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 91
Flight Plan: IFR
Mission: Ferry
Flight Phase: Descent

Person: 1
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Function.Flight Crew: Pilot Not Flying
Function.Flight Crew: Captain
ASRS Report Number.Accession Number: 1478509
Human Factors: Situational Awareness
Human Factors: Distraction

Person: 2
Reference: 2
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1478510
Human Factors: Workload
Human Factors: Situational Awareness
Human Factors: Communication Breakdown
Human Factors: Distraction
Communication Breakdown.Party1: Flight Crew
Communication Breakdown.Party2: Flight Crew

Events
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Procedural : Clearance
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Air Traffic Control
Were Passengers Involved In Event : N
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued Advisory / Alert
Result.Air Traffic Control : Issued New Clearance

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

Narrative: 1
We were descending from 16000 to 12000 with the autopilot on. I called 1000 to go at 13000 ft. Pilot Flying responded 13000 for 12000. About that time ATC called and asked if we had destination weather and what runway and approach we wanted. I responded and then opened my iPad to confirm the airport and approach. As I was looking at the IPad, ATC called and asked what altitude had we been cleared to. I responded 12000 and saw that we were descending through 10500. Pilot Flying (PF) then stopped the descent and started to correct back to 12000. ATC then instructed us to continue the descent to 9000. I asked PF how and why he had not leveled off at 12000. He told me that the autopilot had inadvertently disconnected without him knowing it, and that he had been looking at his iPad and not monitoring the airplane. I need to monitor the PF and airplane better during critical phases of flight. Just because he responded to the altitude callout does not mean that he or the autopilot is going to do it.

Narrative: 2
This was clearly a CRM failure. While it was a beautiful day with unlimited visibility, the Pilot Flying (PF) should never have looked down at his iPad to assist the PM with any other issue. The primary responsibility of the PF is to fly the aircraft safely with precision. In this case, both pilots had their heads down and neither pilot noticed the assigned altitude had not been captured. This is a basic failure of a structured CRM environment which we must adhere to in the interest of safety and professionalism. In this case both pilots were experienced captains with thousands of flight hours; however, professional CRM practice fell short on this occasion.

Synopsis
CE-560 flight crew reported overshooting assigned altitude on descent due to inadvertent autopilot disconnect and distraction with iPads.
Time / Day
Date: 201708
Local Time Of Day: 0601-1200

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

Aircraft
Reference: X
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: Parked

Component
Aircraft Component: APU
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: 9599
Experience.Flight Crew.Type: 4691
ASRS Report Number.Accession Number: 1477655
Human Factors: Situational Awareness
Human Factors: Communication Breakdown
Communication Breakdown.Party1: Flight Crew
Communication Breakdown.Party2: Ground Personnel

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.Type: 960
Events

- Anomaly.Aircraft Equipment Problem: Less Severe
- Anomaly.Deviation - Procedural: Published Material / Policy
- Anomaly.Ground Event / Encounter: Other / Unknown
- Detector.Person: Flight Crew
- When Detected: Aircraft In Service At Gate
- Result.Flight Crew: Became Reoriented

Assessments

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

Narrative: 1

Approximately 12 minutes prior to push, the APU was started. After APU start, the blue "APU Maintenance" light illuminated. Per CRM, I advocated to the Captain that, per the FM (Flight Manual), we could legally operate and write it up at our destination. The FM allows continued operation with this light on. The Captain, however, desired to have Maintenance address the problem. Maintenance was then called and the Mechanic arrived at the cockpit in a very timely manner and investigated via the FMC. The FMC Maintenance page read "APU oil low." The Captain and the Mechanic then agreed to close the main cabin door while the Mechanic added the oil, and then communicate through the cockpit window. While the Mechanic was adding oil to the APU, a ramp person yelled up to the captain through the cockpit window, "It's going to be okay." The Captain interpreted this to mean that it was now okay to start the APU. Unknown to me, the Captain then started the APU. After realizing the error, the Captain immediately shut down the APU. A few minutes later, the mechanic was finished servicing the APU and walked up the cockpit window. The Captain was highly apologetic to the mechanic. Fortunately, neither the mechanic nor anyone else was hurt. The flight then proceeded normally.

This was a miscommunication problem. While it's true that the ramp agent was merely trying to be helpful, nonetheless, a communication error occurred somewhere between the Mechanic, the Ramp Agent, and the Captain. I believe the primary factors involved were expectation bias and time pressure. The Captain had an expectation bias and heard what he wanted to hear since we were at/near pushback time. Better monitor and cross check between us could have prevented this mishap.

Narrative: 2

About 15 minutes prior to scheduled pushback, saw the APU required maintenance. Maintenance determined oil was needed. At push time, I asked mx on the radio if it was OK to close the door and start the APU without anyone coming back to the flight deck. They said it was OK to use the APU (I saw the oil had been serviced) and it did not require a new Maintenance Release, but I didn't ensure the aircraft was clear. I attempted to start the APU and then immediately shut it down when I realized I didn't know if there was still a technician outside the rear of the aircraft by the APU.
Synopsis
B737 flight crew reported unconsciously starting the APU while the unit was still being serviced by a Mechanic.
**ACN: 1477289 (11 of 50)**

**Time / Day**

Date: 201708  
Local Time Of Day: 1801-2400

**Place**

Locale Reference.ATC Facility: ZZZ.ARTCC  
State Reference: US  
Altitude.MSL.Single Value: 45000

**Environment**

Flight Conditions: VMC

**Aircraft**

Reference: X  
ATC / Advisory.Center: ZZZ  
Aircraft Operator: Corporate  
Make Model Name: Gulfstream IV / G350 / G450  
Crew Size. Number Of Crew: 2  
Operating Under FAR Part: Part 91  
Flight Plan: IFR  
Mission: Passenger  
Flight Phase: Cruise  
Route In Use: Oceanic  
Airspace.Class A: ZZZ

**Person**

Reference: 1  
Location Of Person.Aircraft: X  
Location In Aircraft: Flight Deck  
Reporter Organization: Corporate  
Function.Flight Crew: Captain  
Function.Flight Crew: Pilot Flying  
Qualification.Flight Crew: Multiengine  
Qualification.Flight Crew: Air Transport Pilot (ATP)  
Qualification.Flight Crew: Flight Instructor  
Qualification.Flight Crew: Instrument  
Qualification.Flight Crew: Flight Engineer  
Experience.Flight Crew.Total: 22000  
Experience.Flight Crew.Last 90 Days: 60  
Experience.Flight Crew.Type: 60  
ASRS Report Number.Accession Number: 1477289  
Human Factors: Communication Breakdown  
Communication Breakdown.Party1: Flight Crew  
Communication Breakdown.Party2: Flight Crew

**Events**

Anomaly.Flight Deck / Cabin / Aircraft Event: Other / Unknown  
Anomaly.Deviation - Track / Heading: All Types  
Anomaly.Deviation - Procedural: Published Material / Policy
Assessments
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Staffing
Primary Problem : Human Factors

Narrative: 1
We received a SELCAL towards the end of our flight, requesting a position report. I'm not sure which way point after the fact as I now decided to fill out this report. No conflicts reported.

We were maybe 5 or 10 minutes past the reporting point and within the 2 minutes of the previous report.

We made the report immediately upon responding to the ARINC request.

It is worth looking at the circumstances. I was using a contract pilot, NFP (Non Flying Pilot). There is a pilot shortage so this person was not my first choice. He has a history of sometimes, not always, difficult CRM, which is manifested by being defensive and sometimes not following SOP.

Problems began when he, rather than establishing enroute HF communications, made a report of a coast out position that was not requested, nor did he request a SELCAL check. This was a bit odd. When I asked him what he meant, he was defensive saying "this was his standard procedure". We eventually got the SELCAL check.

He shortly after that entered the wrong altitude (no big deal) in the altitude prompter as 16000, when the controller had said 15000. I asked him to confirm the altitude with the controller, he did so but with some attitude. My request was kind and appropriate.

He was somewhat silent after these two events.

I later asked him to put on the COWL heat and he said, "you do it".

I, without confrontation as the FP (Flying Pilot), put on the COWL heat.

He later said "I'm not your monkey" and that he didn't like when I asked him to do things that he thought I should do myself. Our SOP is to not have the FP pushing buttons when the NFP is free to do it.

There was some tension for the remainder of the flight, which was already late, and this added to the exhaustion of both of us.

This is why I think we flew past the waypoint, he the NFP missed it, and I did too.

He is very competent in many ways, and that is why I continue to use him, (although his personality is challenging). Choosing contract pilots in this environment is kind of "name your poison". The best pilots are hired, the ones that are available, always have issues.
My challenge is to work with the issues and prevent any confrontations in the cockpit. This was accomplished, but I have to walk gently with some personalities.

I have a heightened awareness when working with a different pilot, and I have to re-TRIPLE my efforts.

He called me three days later to apologize, which is what he always does.

One would ask, why do I use him? He an otherwise nice person to be with on the road and he is very his honest about this "issue" he is working on. We both try to work with it. He is mostly competent, which is better that some of the other choices I've had to work with.

He is not the first or even second person I call, but he was the ONLY one available. It is getting harder all the time to fill our temporary needs.

On balance, the flight was conducted safely but I am reminded to pay extra attention to all of the details.

**Synopsis**

Captain of a corporate turbojet reported issues with flying with contract pilots.
ACN: 1476975  (12 of 50)

Time / Day
Date : 201708
Local Time Of Day : 0601-1200

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

Environment
Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 15
Light : Dawn
Ceiling.Single Value : 10000

Aircraft
Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Corporate
Make Model Name : Global Express (BD700)
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Passenger
Flight Phase : Takeoff
Route In Use : Oceanic
Airspace.Class D : ZZZ

Person : 1
Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Corporate
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 13725
Experience.Flight Crew.Last 90 Days : 120
Experience.Flight Crew.Type : 3200
ASRS Report Number.Accession Number : 1476975
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Person : 2
Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Narrative: 1

We boarded our passengers and contacted departure for our clearance as the local control tower was not yet open. We received our clearance and "Hold For Release" instructions after several failed attempts due to bad radio reception.

We then taxied the aircraft out to the departure end of runway while listening to local traffic advisory frequency. At the departure end we attempted to contact departure several times to obtain our departure clearance and were unable again due to bad reception.

It was then that I told my co-pilot that we would and "pick-it-up" on the go. This was a bad decision on my part as well as not communicating what that meant to my very new co-pilot.

We departed VFR and my co-pilot checked in. I heard the confusion while flying yet was busy to avoid [an adjacent airport] as well as keeping eyes on sight of a departing or arriving aircraft and I was maneuvering to avoid any conflict. However the communication was confusion when the controller asked if we were VFR and my copilot was responding "no we have an IFR". I was telling my co-pilot "No, we were Hold For Release" which just added more confusion as he did not understand. This was when I transmitted "yes, we are VFR". I was to find out later that there may have been a conflict with traffic on final with an aircraft on long final. I was aware of the long final aircraft and made an immediate right turn on departure.

Overall I should had made every effort to call TRACON on the ground first to receive my clearance as well as used better CRM to communicate with my co-pilot.
In retrospect as well and in regards to this entire trip and having only 7 days home since its inception. I think there were chain of events relating to Human Performance affecting my bad decision making. I was generally feeling homesick and anxious to get home. I should have recognized this as a senior Pilot early on.

**Narrative: 2**

[Narrative contained no additional information.]

**Synopsis**

BD700 flight crew reported taking off without being released by ATC at an airport with a closed Tower.
Narrative: 1

After boarding, we sat on the airplane for over 1 hour without pushing. Communication from Captain was very unusual and concerning. He gave one announcement saying we had minimal fuel and we might not make it to [our destination] and might divert. He further said we can't hold with the fuel onboard during his normal welcome onboard announcement. He made another announcement after sitting without any information that the temperature was too hot to take off and we would be pushing and just burning extra fuel to make sure we were within weight limits and then hope we make it to [the
destination].

This got a lot of passengers scared, nervous and simply wanting off the airplane. He brought lack of confidence in the safety of this flight. During the course of the next hour, we tried to get information from him and we couldn't. He did not want to speak with us and was very short when we told him people wanted to get off the plane. Cabin temperature was communicated to him that it was too hot and people were not comfortable.

After nearly 1h30m, he said the jet way would be coming back and he never told us the working crew. We had to call him and ask if we should disarm the door as we heard the jet way coming. Upon gate agent opening the door, he refused to open the door. Finally after several minutes of waiting, he had the FO open and told them to deplane. Then he locked the door again during the whole deplaning without communication. Service director came to the plane and tried to establish communication with the Captain, and was met with resistance as well and just had a bad attitude towards all working employees.

He dismissed any and all attempts to establish communication with the inflight crew. He left the airplane and didn't come back till after it was time to re-board but never told us what was going on. I tried to let him know that I was going to be 20 minutes away from crew legalities and he dismissed it and said he had legalities too and never wanted to know the time.

During the flight he called in the middle of our service and demanded we take out the passenger meals in order to cook his food. We told him we were in the service and it was going to take a few minutes to accommodate his meals in the oven since the passengers' food was cooked. He began to threaten myself over this, by stating his contract says he can eat whenever he says he wants it and we should stop all passenger food service to accommodate his meal heating.

He said he would divert the airplane over this. That is concerning as he never communicated any special requests during his briefing or at any stage. His behavior was unprofessional and disrespectful. I did not personally feel safe at this stage. Crew Resource management was not followed and it was a disservice to our passengers. He also made ATC radio calls over the PA during the flight and dismissed us when we called to let him know. He terminated the airplane's power still with passengers onboard as well.

**Synopsis**

A Flight Attendant reported an incident with a Captain acting strangely and making passengers uncomfortable.
ACN: 1472242 (14 of 50)

Time / Day
Date: 201708
Local Time Of Day: 1801-2400

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

Environment
Flight Conditions: VMC
Light: Night

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

Component
Aircraft Component: Oil Pressure Indication
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: 2877
ASRS Report Number.Accession Number: 1472242
Human Factors: Workload
Human Factors: Time Pressure
Human Factors: Troubleshooting

Person: 2
Reference: 2
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Climbing northbound out through FL240 we noticed Engine 1 Oil Qty slowly declining. Upon level off at FL360 the Qty was indicating 0%. No checklist/procedure for Low Oil Qty in B737 Quick Reference Handbook (QRH), but we continued to monitor all engine parameters specifically the Engine 1 Pressure and Temperature. We had just finished an ACARS message to [maintenance control] informing them of this indication when we notice the Oil Pressure fluctuating and begin a declining trend. Messages sent to [maintenance] and Dispatch with our concern this is a real problem with the Engine 1 Engine Oil System. At this point I transferred control of the aircraft to the First Officer. I Contacted Dispatch via VHF radio and we agreed that ZZZ 80 miles behind us was the best and safest option with excellent weather, 13000 foot runways and Company Maintenance. By this time the Pressure was in the Yellow Caution Zone, still fluctuating and still dropping. Now the First Officer was flying and communicating with ATC while I monitored and coordinated the situation. Under my direction the First Officer [advised ATC] with Center and requested a course reversal for an emergency descent and divert to ZZZ. Flight Attendants were advised of the situation via "TEST" (Time available, Emergency, Signal, Transmit additional instructions) and passenger were given a PA informing them of an Engine Problem, a Diversion and that our ETA was about 20 minutes from now. By the time we were heading for ZZZ and descending through FL240 the Oil Pressure was in the Red (single digits), the QRH was used starting with Engine Low Oil Pressure checklist which directed us to the Engine Shutdown Check List. Engine 1 was shutdown using the checklist and all items up to the Landing portion were completed by 10000 feet. Requested a straight-in approach instead of landing to the north which was the airports configuration at the time. Called Flight Attendants on inter-phone for a 5 minute warning and also assured passenger via PA that all checklists were complete, Engine on left side had to be shut down and that all would be well. At 3000 ft and a 10 mile final I took control of the aircraft for the single
engine approach and landing which was uneventful. Stopped about halfway down runway for an Aircraft inspection by Airport Fire Rescue. We were cleared of any leakage or aircraft damage which allowed us to continue to the assigned gate. Maintenance personnel confirmed that we had a serious oil leak somewhere in the accessory drive/starter section of the engine confirming our cockpit indications were correct.

My first officer did a tremendous job of flying and communicating with ATC while I managed the problem, ran all of the QRH checklists meanwhile communicating with FA's and passenger. Threat and Error Management (TEM) and Crew Resource Management (CRM) procedures were used throughout the event. The flight attendants were cool, calm and collected on the inter-phone and did a great job of keeping the passenger calm and safe during this event. I was able to greet all passengers as they left the airplane and all seemed relieved and happy with the crew and very happy with the outcome. Was able to debrief all crew members and we all agreed that the event went very well and that all of our years of training and experience had paid off.

**Narrative: 2**

[Report narrative contained no additional information.]

**Synopsis**

B737 flight crew reported a decreasing oil quantity indication on the Number 1 engine, followed by a subsequent loss of oil pressure. The engine was shut down and a successful diversion was accomplished.
Time / Day
Date : 201707
Local Time Of Day : 0601-1200

Place
Locale Reference.Airport : IAD.Airport
State Reference : DC

Environment
Flight Conditions : VMC
Light : Daylight

Aircraft : 1
Reference : X
ATC / Advisory.TRACON : PCT
Make Model Name : P180 Avanti
Crew Size.Number Of Crew : 2
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Approach
Airspace.Class B : IAD

Aircraft : 2
Reference : Y
ATC / Advisory.Tower : IAD
Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer
Flight Phase : Initial Approach
Airspace.Class B : IAD

Person
Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Last 90 Days : 105
Experience.Flight Crew.Type : 230
ASRS Report Number.Accession Number : 1469490
Human Factors : Distraction

Events
Anomaly.Deviation - Procedural : Landing Without Clearance
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected: In-flight
Result: Flight Crew: Became Reoriented

**Assessments**

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

**Narrative: 1**

I was PIC and pilot flying, SIC was pilot monitoring and handling radio communication. The Approach Controller issued a speed restriction and gave us a warning for wake turbulence. Shortly after he gave us a heading to intercept the final approach course, and cleared us for the visual approach. The Controller issued frequency change to Tower, just as we encountered wake turbulence. We discussed the issue and adjusted our glide-path accordingly to avoid another wake turbulence encounter. We completed the before landing checklist items and on the roll-out realized that we did not switch to Tower for our landing clearance.

Distraction and lack of effective CRM resulted in missing required ATC communication during a critical phase of flight. The current approved checklist for the aircraft does not mention landing clearance on the "Before Landing" checklist.

**Synopsis**

Piaggio 180 Captain reported landing without a clearance after they were distracted by a wake turbulence encounter.
ACN: 1469136 (16 of 50)

Time / Day
Date: 201707
Local Time Of Day: 1201-1800

Place
Locale Reference.Airport: LGMK.Airport
State Reference: FO
Altitude.MSL.Single Value: 4000

Environment
Flight Conditions: VMC
Weather Elements / Visibility.Visibility: 10
Light: Daylight
Ceiling.Single Value: 15000

Aircraft
Reference: X
ATC / Advisory.Center: LGGG
Aircraft Operator: Air Taxi
Make Model Name: Gulfstream IV / G350 / G450
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 135
Flight Plan: IFR
Mission: Passenger
Flight Phase: Initial Approach
Route In Use: Direct

Person
Reference: 1
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)
Qualification.Flight Crew: Multiengine
Experience.Flight Crew.Total: 4500
Experience.Flight Crew.Last 90 Days: 40
Experience.Flight Crew.Type: 700
ASRS Report Number.Accession Number: 1469136
Human Factors: Time Pressure
Human Factors: Communication Breakdown
Communication Breakdown.Party1: Flight Crew
Communication Breakdown.Party2: Flight Crew

Events
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
Result: Air Traffic Control: Issued Advisory / Alert

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

Narrative: 1
PIC loaded the VOR Approach. At first, he proceeded direct to the VOR 6 point, part of the procedure turn, when instructed to proceed direct to the VOR. However, this was resolved with FO input (reluctantly accepted by PIC), and we proceeded direct to the VOR 5,000 feet. PIC asked if we were cleared for the approach. I said "Let me confirm". Altitude alerter set at 5,000. ATC said: "Maintain 5,000 to the VOR. Upon reaching the VOR, cleared for the approach." PIC said to reset altitude selector to 3,500, which is the published VOR crossing altitude. Tone of cockpit up to that point was less than full CRM with PIC expressly stating that he preferred less input from FO. FO queried PIC, but PIC insisted on 3,500. As I recall, this was non-radar environment. ATC asked our altitude as we approached/crossed VOR. 4,000. ATC: You were instructed to maintain 5,000. I have traffic below you. Maintain 4,000 now." Apparently, we still had acceptable separation at that point.

CRM is important at all times and even MORE (not less) important when operating in foreign airspace (accents, unfamiliar procedures), and under the pressure of slot times (PIC seemed stressed about departure/arrival slot times).

Synopsis
Gulfstream IV First Officer reported they descended below the altitude they were cleared to on the LGMK VOR 6 Approach.
**Time / Day**
- Date: 201707
- Local Time Of Day: 1201-1800

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

**Environment**
- Flight Conditions: VMC
- Weather Elements / Visibility: Haze / Smoke
- 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 Approach
- Airspace.Class B: ZZZ

**Person : 1**
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function.Flight Crew: Captain
- Function.Flight Crew: Pilot Flying
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number.Accession Number: 1468417
- 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: First Officer
- Function.Flight Crew: Pilot Not Flying
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number.Accession Number: 1468415
- Human Factors: Situational Awareness
Human Factors : Communication Breakdown
Human Factors : Distraction
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Flight Crew

Events
Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Regained Aircraft Control
Result.Flight Crew : Executed Go Around / Missed Approach
Result.Air Traffic Control : Provided Assistance

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

Narrative: 1
As we were turned for a long final for Runway XYL, outside of ZZZZZ Intersection, we were asked repeatedly to report the field in sight. At the same time, the FMS was loaded and sequenced, but the CDI had not auto tuned, so the Autopilot was not catching the localizer. My First Officer was looking outside trying to find the field and I was splitting my attention between looking for the field, trying to not overfly the localizer and trying to figure out where the automation had failed. By the time I knew we were going to overfly the localizer I had turned off the autopilot and manually turn the aircraft towards the airport, while still trying to find the runway. Between the haze, the multiple straight lengths of pavement and XYR being closer and more prominent than XYL I was having a hard time picking out XYL and accidentally lined up on XYR.

We were also told to keep our airspeed up to 180 knots. Because we were still trying to configure for landing, we were late making the switch over to tower. By the time that I realized that we were lined up for the wrong runway, we were below 1000 feet. I then called for and executed a go around procedure.

Narrative: 2
Captain was flying. I was the pilot monitoring. Started when we were getting vectored for a visual approach for RWY XYR. Captain was confused on heading/altitude assignments I do not know why. As getting established we were not receiving the Localizer properly for the runway (it was tuned and identified though) but not helping us line up with the runway. Soon I noticed the Captain getting nervous, we were not configured completely to land and very off centerline with the runway. Being the First officer I should have prompted corrective action sooner, but the captain called a go-around. Afterwards I noticed he was confused with another runway and flying toward that one the whole time. We conducted a pilot induced go-around.

The second I felt uncomfortable I should have said something. Even though he is a new
Captain I almost felt shocked by what was happening and almost froze.

It is a situation you don't expect to come across. But being fairly new in the company and on approach to landing I did not just want to point out the Captain's mistakes. It was a very big mistake so I instantly second-guessed myself on what was going on. After doing the go-around there was great CRM in bringing the aircraft in and felt way more comfortable. It was the first go-around I have ever done. In the future if there is any doubt on the operation of the flight or if I feel uncomfortable I will let the Captain know immediately. It is not worth keeping quiet and rather be wrong and corrected then right.

Synopsis

CRJ200 flight crew reported that during descent the autopilot was unable to capture the localizer.
ACN: 1467476

Time / Day
Date: 201707
Local Time Of Day: 1201-1800

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

Environment
Flight Conditions: IMC
Weather Elements / Visibility: Turbulence
Ceiling. Single Value: 1800

Aircraft
Reference: X
ATC / Advisory.TRACON: 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: Initial Approach
Airspace. Class B: ZZZ

Person: 1
Reference: 1
Location Of Person. Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function. Flight Crew: Captain
Function. Flight Crew: Pilot Not Flying
Qualification. Flight Crew: Air Transport Pilot (ATP)
Experience. Flight Crew. Type: 7530
ASRS Report Number. Accession Number: 1467476

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)
ASRS Report Number. Accession Number: 1467014
Human Factors: Distraction
Human Factors: Confusion
Human Factors: Training / Qualification
Events

Anomaly.Deviation - Speed : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Detector.Person : Flight Crew
When Detected : In-flight

Assessments

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

Narrative: 1

Descending through the ZZZZZ fix on the ILS approach, the First Officer (FO) was maintaining a speed of 210 Knots using Full Boards. We hit turbulence while descending through the clouds and the load factor increased and quickly the speed dropped and the stick shaker came on. I quickly called for the command of the controls and the FO quickly removed his hands from the controls. I then added power and lowered the nose and removed the boards to close and thus regain full control authority. I then re-intercepted the Glide Slope and then gave the controls back to the FO. I then continued with the gear and flap settings and by the 1000 feet call all was configured and by 500 was stable and the landing was spot on.

I believe that I have been noticing a trend where the FOs do not really understand the use of flight boards, especially when inputting full amount. They seem to fixate on the descent and omit the visual indications such as the yellow band and incremental Pitch Limit Indicator (PLI). For some reason, these visual indications are either omitted or not used as an impending warning to probable events such as a stall. I notice that in almost every flight I have to discuss the use of Boards or in some cases I have had to assist in closing boards because the yellow band turned RED.

In some cases FOs have taken the assist personally and have increased tension in the cockpit because in their perception the assist was taken as intrusion. I further believe that CRM has been taken out of context and has made FOs the premier Flying pilot that "is the sole manipulator of controls." For example, I had an FO, recently, who thought that having an EMB 190 type certificate made him loggable PIC when flying.

They seem to look at themselves as PIC rather than first officers who are still flying and assisting the Captain. I believe this false sense of understanding, hierarchy, has misguided FOs and thus relied on a false sense of a pilot who never has the need to ask questions.

I think that during training or Initial Operating Experience (IOE), the FO needs to be reminded of the need to keep learning and that just because they passed IOE is by no means an excuse to overlook the Captain's experience. CRM should be shared information that allows for Safety but in some cases new FOs are relying less on sharing and more on acting as individuals in command authority when the sole manipulator of controls.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis
ERJ175 flight crew reported receiving a stick shaker warning when intercepting the glideslope from above with the speed brakes deployed.
**ACN: 1467455** (19 of 50)

**Time / Day**
- Date: 201707
- Local Time Of Day: 0001-0000

**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: ATC

**Person: 2**
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 accessed 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.
ACN: 1467251  (20 of 50)

Time / Day
Date: 201707
Local Time Of Day: 1801-2400

Place
Locale Reference.Airport: LGAV.Airport
State Reference: FO
Altitude.AGL.Single Value: 1500

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

Aircraft
Reference: X
ATC / Advisory.Center: LGGG
Aircraft Operator: Air Taxi
Make Model Name: Gulfstream IV / G350 / G450
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 91
Flight Plan: IFR
Mission: Passenger
Flight Phase: Initial Climb

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)
Qualification.Flight Crew: Multiengine
Experience.Flight Crew.Total: 23000
Experience.Flight Crew.Last 90 Days: 90
Experience.Flight Crew.Type: 2300
ASRS Report Number.Accession Number: 1467251
Human Factors: Human-Machine Interface
Communication Breakdown
Communication Breakdown.Party1: Flight Crew
Communication Breakdown.Party2: Flight Crew

Person: 2
Reference: 2
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Taxi
I am employed with an air charter company as PIC operating under FAR 135. The company manages an aircraft that can be operated under FAR 91 when utilized by the aircraft owner. I was assigned a series of flights with a pilot to fly as SIC operated part 91 that was working for various company's part time as a SIC on the same type of aircraft. On departure on this flight shortly after takeoff I made a turn too soon that is in violation of the SID that was caused by an error programmed in the FMS. The error was recognized by ATC, myself, and the SIC at the same time. ATC gave us vectors. As PIC I am ultimately responsible however I believe that if our company operating procedures were utilized and understood better through training to the same level as required by FAR 135 standard operating procedures would better prevent this type of error.

CRM is always important, and is even more important when operating in foreign country and under perceived time pressure. CRM best practice would be to ask FO if he is ready,
rather than unilateral decision, and to fully brief the departure, etc. Company policy is to take off in heading mode, and this is an example of when heading mode would have assured initial compliance with SID.

Not aware of any traffic conflict in connection with this incident.

**Synopsis**

GIV flight crew reported turning earlier on departure due to the FMC not being programmed correctly.
ACN: 1467196 (21 of 50)

**Time / Day**
- Date: 201707
- Local Time Of Day: 1201-1800

**Place**
- Locale Reference.Airport: OKB.Airport
- State Reference: CA
- Altitude.MSL.Single Value: 1200

**Environment**
- Flight Conditions: VMC
- Weather Elements / Visibility: Visibility: 9
- Light: Daylight

**Aircraft : 1**
- Reference: X
- ATC / Advisory.CTAF: OKB
- Aircraft Operator: Personal
- Make Model Name: Small Aircraft
- Crew Size.Number Of Crew: 1
- Operating Under FAR Part: Part 91
- Flight Plan: VFR
- Mission: Personal
- Flight Phase: Initial Climb
- Airspace.Class E: OKB

**Aircraft : 2**
- Reference: Y
- ATC / Advisory.CTAF: OKB
- Make Model Name: Small Aircraft
- Crew Size.Number Of Crew: 1
- Operating Under FAR Part: Part 91
- Flight Phase: Initial Climb
- Flight Phase: Initial Approach
- Airspace.Class E: OKB

**Person**
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Personal
- Function.Flight Crew: Pilot Not Flying
- Qualification.Flight Crew: Instrument
- Qualification.Flight Crew: Commercial
- Qualification.Flight Crew: Flight Instructor
- Qualification.Flight Crew: Multiengine
- Experience.Flight Crew.Total: 900
- Experience.Flight Crew.Last 90 Days: 8
Experience.Flight Crew.Type : 47
ASRS Report Number.Accession Number : 1467196

Events
Anomaly.Conflict : NMAC
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew
Miss Distance.Horizontal : 375
Miss Distance.Vertical : 150
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

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

Narrative: 1
This was the return leg of a personal pleasure flight to Oceanside, CA (OKB). I was the PIC pilot flying for the first leg and had swapped seats and was not flying on the return flight. Not being PIC for this leg, and despite being the more experienced aviator, I was relaxing and mentally disengaged with more of a passenger mindset, given I was with a properly rated, current and qualified pilot in the left seat of a single-pilot aircraft. We briefed the takeoff procedures after the run-up, and the PIC had verbally noted the "fly friendly" noise abatement sign at the departure end of the runway, and I reiterated the sign text: follow the river to the shoreline. A C172 departed in front of us for closed traffic, and when the PIC began taxiing towards the runway immediately after they began takeoff roll, I recommended we hold for separation given our dissimilar aircraft. After the 172 had gotten airborne, we taxied onto Runway 24 and departed. This was sooner than I personally would have departed, but I did not verbalize this and felt it would be a non-issue since they were remaining in the pattern and we were a west departure. In the moments after takeoff leading up to the event, I was enjoying the view out my side of the aircraft while casually glancing over to keep an eye on the traffic that departed in front of us. I noticed our courses diverging and made a call-out that the traffic was now at 11 o'clock, which was acknowledged. There was a scattered layer above us, which momentarily caused a level off. On my next glance I noticed the 172 had turned northbound and our courses were nearly perpendicular and we were co-altitude, so I again called out that the 172 was 11 o'clock, northbound, same altitude, which was again acknowledged, but no action was taken. As we continued westbound I saw the situation developing, and I issued another verbal warning to the PIC, which was acknowledged, but again no corrective action was taken and the aircraft continued to converge. I immediately looked inside and saw the PIC with his head down at the iPad and at that point I assumed the controls and initiated a pitch up and climbed the aircraft through a break in the clouds. Aircraft 2 passed below and behind at an estimated range of 400 feet diagonally. While I do not believe the situation was unsafe, the separation was not comfortable nor expected by either aircraft. I should have taken action sooner, and believe I would have had I been participating in the flight more actively. It is worth noting that I often fly into [an airport with parallel runways], so I am frequently exposed to aircraft being closer than normal during arrival and departure, which may bias my opinion of whether or not a collision hazard existed. In those situations, however, the aircraft are typically on parallel or divergent courses, which was not the case here, and had I not taken action, a collision hazard would have certainly existed regardless of any subjectivity.
As with most abnormal events in aviation, there were numerous links in the chain of events, and there were missed opportunities to break that chain sooner. This was a case involving both poor communication and poor CRM. During the debrief of the event, the PIC stated he was just flying straight out to the shoreline as he was used to when flying out of many southern California airports, and did not notice or follow the river, which turns slightly south, as the 172 did. I wish the PIC would have verbalized to me that he was overwhelmed, confused or unsure of the departure routing, and I would have been able to assume the role of a proactive crew member and help the PIC stay mentally ahead of the aircraft instead of just sight-seeing. If I had better situational awareness of my pilot's workload, I could have stepped in earlier in the flight to assist. While unable to see the river from the right side of the aircraft, I am still guilty of not querying the PIC when I initially noticed our departure courses diverging. We should have been following behind the preceding traffic which would have averted the need for corrective action. Additionally, had I pushed for additional separation between our aircraft on departure that would have given additional time to maneuver behind the preceding 172 when they began the crosswind turn over the shoreline, building additional lateral separation. The PIC, a VFR private pilot, mentioned during the debrief of the event that he was distracted by the clouds. This fixation likely contributed to the PIC's inaction and loss of situational awareness. The weather was reporting CLR at the field, had it been reporting clouds or had I personally looked at weather and seen the marine layer approaching, I would have filed for an IFR departure, we would have been able to climb above the traffic in front of us, and ATC would’ve been there acting as a third set of eyes for safe separation.

While often mentioned, it is worth reiterating that cockpit technology serves to aid in our situational awareness, and is no substitute for true situational awareness of what’s happening both in and out of the cockpit. This should continue to be stressed to pilots in training, and to experienced pilots who use this technology. The FAA is already in the process of realigning training to focus on decision making, task priority, and situational awareness in lieu of purely maneuver-based evaluation. Instructors also need training in these subject areas so students are properly educated. I support this shift and believe it could prevent future occurrences of events such as this. In addition to teaching standard traffic patterns, pilot training also needs to highlight the existence of numerous non-standard procedures that pilots will encounter, particularly at uncontrolled fields, and the importance of proper pre-flight planning to review and understand these procedures prior to stepping into the cockpit. I believe flight planning applications can sometimes be detrimental to the formation of good habits for proper pre-flight planning, because they can tempt pilots into a feeling of security with having all the information available on-demand at your fingertips. Instructors need to stress the importance of thorough pre-flight planning even more so with the advent of this technology.

It should be general good practice that whenever occupying a crewmember seat that a rated pilot always stay engaged in the flight's progression and be ready to offer assistance regardless of who is pilot in command. I had made the trip to relax and get away for an afternoon, and my decision to disengage from the planning and execution of the return flight proved detrimental, and was a missed opportunity to act as a mentor to a fellow aviator.

**Synopsis**

General aviation flight instructor reported a NMAC after departure from a CTAF airport.
Time / Day
Date : 201707
Local Time Of Day : 1801-2400

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.Ground : ORD
Aircraft Operator : Air Carrier
Make Model Name : Medium Transport
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Taxi

Aircraft : 2
Reference : Y
ATC / Advisory.Ground : ORD
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 : 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 : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Type : 180
ASRS Report Number.Accession Number : 1465460
Human Factors : Communication Breakdown
Human Factors : Distraction
Human Factors : Situational Awareness
Human Factors : Confusion
After landing on runway 27R we were directed by ATC to wait for a gate at the T-pad east of runway 15 approach end. We waited 45 minutes for the gate to open and then were cleared via Taxiways T - H - J - J1- B. We were told that at B - A10 there would be [an aircraft] exiting the Ramp, if the aircraft was still there, we could 'double back' to make our gate. We were looking at the distance and both called out the [aircraft exiting the ramp] which we determined would be out and not a factor.

As we were looking for the aircraft ATC pointed out to us and passing the B-A7 intersection (south towards A10) an E145 was quickly approaching from the left, I saw 'something' in my peripheral vision and when I turned to look, the Captain in the jump seat that day was already tapping the PF on the shoulder alerting him of the approaching aircraft. The PF immediately stepped on the brakes as the E145 overtook us on B -and to our opinion was that the E145 never even noticed us traveling south and cleared ahead of them.

I believe this was a close call due to the speed at which the E145 was moving, they would
not have had the opportunity to stop. Our speed allowed for an uneventful, albeit heart pounding, stop. I am doubtful any passengers sensed anything nor the two FAs.

Aircraft merging into B from A5-A7 seem to pose a danger for aircraft on taxiway B. We briefed the Hot Spots and in my notes I further detailed them for my attention. This point on B however, will get special consideration from me in the future. I have issues with the 'listen and do' policy at ORD (if it is an official policy?), how do they know that everyone has understood their clearances as intended by ATC? The system there seems to be relying heavily on the experience level of the airmen operating there. I can only assume the E145 was following what they understood to be their clearance, though taxiing WAY too fast I might add. We were surely following our clearance.

This area needs to be denoted as a Hot Spot. ORD needs to start listening for read-backs. ATC needs to monitor Taxi speeds.

Narrative: 2

Upon landing we were issued a wait time for our gate. We sat in the "Tango Pad" off the T taxiway at ORD. When our gate opened up we received taxi instructions from the ground controller (T, J2, J, B, A10, gate). As we were taxing on the taxiway "J", we began to approach the intersection where taxiway "J" and "B" merge. Just prior to that, the FO and I were referencing the outbound traffic that was parked at our gate previously assigned. I became fixated on that aircraft as we approached the intersection. Just then, our jump seater tapped me on the shoulder and pointed out a converging aircraft on my left hand side. I immediately applied heavy breaking to slow the aircraft and prevent it from striking the other aircraft. It was an E145. We never received any "give way" instructions from the controller. After the aircraft passed in front of us, we continued to the gate uneventfully.

The area where taxiway J and B merge should be a spot of awareness or "hot spot" listed on the 10-9 page. Especially during times where "west flow" is in effect. It is in close proximity to the "penalty box", and any aircraft exiting that might come into conflict with aircraft on taxiway J. Also, better CRM should have been used by both crew members.

Synopsis

Air carrier flight crew reported almost colliding with another aircraft while taxiing.
Time / Day
Date: 201707
Local Time Of Day: 0601-1200

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

Environment
Flight Conditions: Marginal
Weather Elements / Visibility: Rain
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
Flight Phase: Initial Approach
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)
ASRS Report Number.Accession Number: 1465019
Human Factors: Communication Breakdown
Human Factors: Situational Awareness
Communication Breakdown.Party1: Flight Crew
Communication Breakdown.Party2: Flight Crew

Events
Anomaly.Deviation - Altitude: Excursion From Assigned Altitude
Anomaly.Deviation - Procedural: Published Material / Policy
Anomaly.Inflight Event / Encounter: CFTT / CFIT
Detector.Person: Flight Crew
When Detected: In-flight
Result.Flight Crew: Regained Aircraft Control
Result.Flight Crew: Overcame Equipment Problem
Result.Flight Crew: Became Reoriented
Assessments

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

Narrative: 1

During the final portion of flight, the Approach Controller issued a final vector to intercept the localizer to [land] and instructed us to maintain 2000 ft until established. The First Officer was the pilot flying. I was the Monitoring Pilot in Command (PM). The altitude pre-selector window was showing 2000 ft and I believe we were already leveled at that altitude. We captured the localizer and a few seconds later I noticed we were at 1800 ft descending in FPA mode, below the glideslope, still outside the final approach fix. I told the First Officer that we were to maintain 2000 until established; as I was speaking the First Officer re-selected 2000 ft but the airplane remained descending in FPA, almost immediately the First Officer disengaged the autopilot and manually raised the nose to go back to our assigned altitude of 2000 ft. The altitude alert also sounded as the First Officer was correcting the deviation. The lowest altitude that I saw on the tape was 1700 ft. While the autopilot was off I selected FLCH to restore proper flight director guidance, soon afterward the First Officer requested the autopilot back on, and I engaged it. The airplane leveled off at 2000 ft and shortly after captured the glideslope. The remainder of the approach was uneventful. At the gate the First Officer and I discussed what had happened and he told me that he wanted to dial back the speed, but mistakenly twisted the altitude selector knob instead of the speed selector knob. I am not sure how we ended up in FPA mode since, like I said before, I believe we were leveled at 2000 ft in ALT mode. But after discussing the situation with the First Officer, I’m second guessing myself and I think it is possible we were in leveling at 2000 ft in ASEL mode, when he mistakenly changed the altitude. This would have resulted in FPA becoming the active vertical mode.

I identified the following contributing factors to this scenario:
-IMC conditions and light rain at 2000 ft. Convective activity in the area.
-Report time was [morning] and PIC (myself) had been flying all [evening] shifts, several past midnight, in the two weeks prior, and had not had a report time for a flight before [morning] in three weeks. I believe the above factors played a role in slowing down my scan, which resulted in a deviation of more than 100 ft.

[Suggestion] There should not be pairings that result in a sudden shift from [evening] operations to [morning] operations and vice versa, since it is very difficult to readjust while in the middle of a trip or a reserve stretch. Put more emphasis on CRM and crew communications during training events. Had the First Officer expressed his intentions of slowing down I would have payed immediate attention to his actions, and could have caught the error instantly.

Synopsis

EMB-175 Captain reported the FO mistakenly twisted the altitude selector knob instead of the speed selector knob causing the aircraft to drop below assigned altitude.
ACN: 1462284 (24 of 50)

Time / Day
Date: 201707
Local Time Of Day: 0601-1200

Environment
Flight Conditions: VMC

Aircraft
Reference: X
Aircraft Operator: Air Carrier
Make Model Name: B737 Undifferentiated or Other Model
Crew Size, Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Cruise
Route In Use: Oceanic

Component
Aircraft Component: Oxygen System/Crew
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: First Officer
Function, Flight Crew: Pilot Flying
Qualification, Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number, Accession Number: 1462284
Human Factors: Communication Breakdown
Human Factors: Troubleshooting
Communication Breakdown, Party 1: Flight Crew
Communication Breakdown, Party 2: ATC
Analyst Callback: Attempted

Events
Anomaly, Aircraft Equipment Problem: Critical
Anomaly, ATC Issue: All Types
Detector, Person: Flight Crew
When Detected: In-flight
Result, Flight Crew: Diverted

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

**Narrative: 1**

After boarding was completed for our flight we pushed off the gate on time. The taxi out to runway was uneventful. The takeoff, climb and initial cruise portions of our flight were also uneventful. Approximately 2 hours into the flight we called back to the Flight Attendants to initiate a Lavatory Break. We discussed that as the Pilot Flying (PF) I would use the Lavatory first and the Captain (CA) second. While out on the Lavatory Break, I heard a loud whoosh noise from up in the Flight Deck. This noise caught my attention so I immediately called up to the Flight Deck to request entry back in. When I got back into my seat the CA was holding the oxygen hose and his mask together in his hands while we could hear a hissing sound. The CA explained that the Oxygen hose for his crew mask would not stay attached to the mask. At this point we initiated a positive exchange of control and I re-assumed control of the Aircraft as the Pilot Flying (PF). I then took hold of the mask and the Oxygen hose and attempted to hold them together to save as much crew oxygen as we could. As a crew we thought we would be able to put the mask and the hose back together to save the oxygen from leaking out. The CA made several attempts at re-securing the oxygen hose to the mask but did not succeed. I also made several attempts at securing the oxygen hose back to the oxygen mask. Due to the positive pressure of Oxygen coming from the hose, we were both unsuccessful at securing the Oxygen hose. After several minutes we became unable to even hold the oxygen hose to the mask. At this point there was nothing to even slow the flow of the crew oxygen and we began to lose crew oxygen at an extremely fast rate. When this event began we had just passed the point where our enroute alternate changed. As this event was unfolding, the CA and I started to discuss our options including other enroute alternate options. We notified [dispatch] of our situation right after it occurred, explained what our situation was and asked for a descent to FL250. We never got a definitive response from [dispatch]. After we heard the controller repeatedly contact other aircraft we asked again for an emergency descent down to FL250. [Dispatch] was still extremely slow to get back to us. This delay eliminated one of our divert options because we were starting to track away. Finally we decided that we could not wait any longer and needed to start down. We told ARINC that we were executing an emergency descent to FL250. On the way down we elected to continue down to FL230. Since one divert airport was no longer an option we elected to change our destination to the next divert Alternate airport due to the fact that we [were using an alternate means of communication] and could not communicate with the Company to receive an accurate fuel burn and time to our destination alternate at the lower altitude. ARINC then gave us a frequency to contact Center. We elected to continue the descent down to 14,000 as we were trying to formulate our game plan. We then maintained 14,000 feet until we were sure that we had adequate fuel to continue the flight to the Alternate. After repeatedly trying to contact Center on our VHF Radio and not getting a response we attempted to contact ARINC again on our HF radio. When even this didn't work we went back to trying to contact Center. While in the descent the CA and I utilized our CRM and decided on the tasks that we were to deal with. He began to speak to the Flight Attendants and Passengers and let them know what our situation was and that we were headed to the Alternate airport. While the CA was doing this I was continuing to fly the aircraft but also still trying to reach Center on the assigned frequency as well as on 121.5. After multiple attempts to Center, I heard two other aircraft on guard informing Center that we were trying to reach them. I then contacted the other aircraft on guard and asked them to relay to Center our descent, problem, where we wanted to go and that we had been unable to make contact with them on the assigned frequency. One aircraft continued to assist us by relaying our position and status to Center until we were able to reach VHF range. After we changed our destination to our enroute Alternate, and things
started to calm down, we realized that we were still [not communicating]. This brought up the point that we were unable to receive landing information from the ACARS as well as other messages from dispatch. We saw that the runway was 6,000 long. Discussing our options the CA and I agreed that this Alternate was not a good option for us. We elected to change our destination due to its 10,000 foot runway and that it also had company Services and support due to it being a line station. At some point during the descent we also noted that the Crew Oxygen Bottle had completely emptied itself and was now reading 0 psi. Upon arrival we immediately contacted Operations and asked for a phone, which we then called Company Maintenance Control and Operations. During the flight the CA repeatedly asked ATC multiple times to contact the company due to the fact that we were NO COMM and could not reach the company. After speaking with the company the CA said that ATC never called the company and that they had only sent a couple of messages. Maintenance came out to the plane and we explained to them what happened. We sat on the ground for approx. 2 hours when we were finally informed that the aircraft could not be fixed and that a rescue aircraft was on its way down to pick up our Passengers. Maintenance replaced the Oxygen bottle overnight and the CA and I ferried the flight back the next morning.

Synopsis

B737 First Officer reported that the one of the flight crew's oxygen masks became separated from its oxygen feeder hose, resulting in oxygen escaping from the disconnected hose resulted in complete loss of aircrew oxygen supply. The crew diverted to an alternate airport.
ACN: 1459409 (25 of 50)

**Time / Day**
Date: 201706

**Place**
Locale Reference. Airport: OGG.Airport
State Reference: HI
Altitude.AGL.Single Value: 0

**Aircraft**
Reference: X
Aircraft Operator: Air Carrier
Make Model Name: Large Transport
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Parked

**Person**
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Pilot Flying
Function.Flight Crew: First Officer
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Type: 1370
ASRS Report Number.Accession Number: 1459409
Human Factors: Situational Awareness
Human Factors: Other / Unknown
Human Factors: Communication Breakdown
Communication Breakdown.Party1: Flight Crew
Communication Breakdown.Party2: Flight Crew

**Events**
Anomaly.Deviation - Procedural: Published Material / Policy
Detector.Person: Flight Crew
Were Passengers Involved In Event: N
When Detected: Pre-flight
Result.Flight Crew: Became Reoriented

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

**Narrative: 1**
While preparing the airplane for departure from OGG, I called Clearance Delivery to request our clearance and crossing altitude per OGG’s Gate Hold procedure. We were
flight-planned at FL370 and the CRZ page, after full performance initialization, indicated our maximum altitude would be FL375. Thus, I requested our primary altitude be FL370 and secondary FL360 as the next-best option as we were unable FL380. R465, our filed route, is a one-way airway and it is customary to fly "wrong-way" altitudes in the interest of efficiency.

When I completed my request, the captain asked me, "What's 360?" I replied, "Our secondary altitude, in case 370 isn't available." Yesterday, the captain had told me he had been to OGG a few times but not that often, so I assumed his question indicated he hadn't previously observed the practice of requesting a secondary altitude, much less one that appeared incorrect at first glance. Instead, he stated, "I don't want 360." Again misreading his intent, I stated, "You know R465 is a one-way track, right?" He said, "I don't care. You didn't ask me. I don't want 360, I want 350." Perplexed by the illogic of that position but submitting to his authority, without further discussion I called Clearance to amend our secondary request to show FL350. The captain subsequently stated that I was not flying alone and needed to consult him on such matters. I did not and do not disagree with this statement. I had made an assumption about best practice regarding altitude without discussing it with him in the interest of time, but in doing so cut him out of the communication loop. He neglected to iterate why FL350 was preferable to him, but not wanting to appear to antagonize him, I did not ask.

A few minutes later, the ground crew was ready to push but he had not yet initiated the departure briefing or called for the preflight checklist. I pulled out my briefing card and asked "Are you ready to talk about it?" He said, "All my [stuff's] the same as yesterday, go for it." I looked at him in disbelief. "Really, you don't want to discuss your items? Fuel plan, anything?" I asked, since several of the briefing items listed in [the company guidance] were not, in fact, the "same as yesterday." "Is there something about the fuel you don't understand?" was his reply. I tried to wrap my head around the irony of having moments before been lectured about cutting him out of the loop regarding a secondary altitude request and then subsequently having to advocate for something as basic as a [company] mandated departure briefing. "I mean, I know how much fuel we have. But a taxi plan, you don't want to talk about anything? You just talked about me not being single-pilot. How is this different? What about a shared mental-model?" He pulled out his phone and waved it at me. "Are we going to have a problem here? One phone call and we spend another night." The stark safety implications of a captain threatening to remove a first officer from duty for requesting a departure briefing didn't sink in until later. Instead, trying to de-escalate the situation, I said, "No, captain, if that's how you want to run things." But I was angry at this point, and this likely sounded sarcastic. We skipped the items normally briefed by a captain, and I briefed the Pilot Flying items.

The flight continued without further incident, although no extraneous conversation between us transpired. I understand that Captain's Authority is a foundational tenet of airline safety because I have exercised it myself as a Part 121 captain in my career; I have taught it as an indoc instructor; I have respected it working with captains on special assignment and most importantly flying the line. [The company manual] clarifies that while the Captain is the final decision-making authority, it is the responsibility of all crewmembers to contribute to the decision-making process. Our safety-critical workplace demands that input from others be considered, but ultimate decision making must rest with a well-trained and capable leader. Those decisions have to be followed, as they were in this case. But in this case SOP was willfully disregarded, and Captain's Authority was wielded as a disciplinary weapon.

**Synopsis**
An Air Carrier First Officer reported a breakdown in CRM between himself and the Captain and operations not in compliance with Company Policy after he had not included the Captain in the selection of a pre-flight secondary altitude request.
ACN: 1458967 (26 of 50)

Time / Day
Date: 201706
Local Time Of Day: 0601-1200

Place
Locale Reference. ATC Facility: SCT.TRACON
State Reference: CA
Altitude. MSL. Single Value: 2800

Environment
Flight Conditions: Mixed
Weather Elements / Visibility. Visibility: 9
Light: Daylight
Ceiling. Single Value: 3400

Aircraft
Reference: X
ATC / Advisory. TRACON: SCT
Make Model Name: Light Transport, Low Wing, 2 Turbojet Eng
Crew Size. Number Of Crew: 2
Operating Under FAR Part: Part 91
Flight Plan: IFR
Mission: Passenger
Flight Phase: Initial Climb
Route In Use. SID: ZZOOO1
Airspace. Class B: SAN

Person
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: Instrument
Qualification. Flight Crew: Commercial
Qualification. Flight Crew: Multiengine
Experience. Flight Crew. Total: 4400
Experience. Flight Crew. Last 90 Days: 22
Experience. Flight Crew. Type: 150
ASRS Report Number. Accession Number: 1458967

Events
Anomaly. Deviation - Track / Heading: All Types
Anomaly. Deviation - Procedural: Published Material / Policy
Anomaly. Deviation - Procedural: Clearance
Detector. Person: Air Traffic Control
When Detected: In-flight
Result. Flight Crew: Returned To Clearance
Assessments

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

Narrative: 1

During departure from SAN on cleared route ZZOOO1.IPL aircraft climbed on heading 275 deg to initial ALT of 520 MSL and continued climb but instead of continuing on course to JETTI waypoint the crew began an early left turn toward ZZOOO waypoint approximately 2.7NM prior to reaching waypoint JETTI while continuing climb to 12000 MSL. Upon reaching the initial altitude of 520 MSL and prior to switching from KSAN tower to SOCAL Departure Control the Co Pilot (CP)/Pilot not Flying (PNF) queried the Pilot in Command (PIC)/Pilot Flying (PF) if we were supposed to begin a turn and the PIC incorrectly assessed that we were required to turn left and changed the Flight Director from NAV to HDG mode (which was preselected for a left turn) rather than continue follow the FMS programed SID in the Flight Director NAV mode. Deviation began approximately 1 minute into flight, error identified by crew with 10-15 seconds upon query by SOCAL approach and initial input for correction made within 15-20 seconds after identification of deviation.

Upon notification from SOCAL approach that radar track showed our aircraft deviating from the published SID in an early left turn the PIC/PF, assessed his situational awareness of aircraft location in relation to the published departure was not accurate, reviewed position on FMS Map, determined was in an incorrect early left turn prior to waypoint JETTI and began correction to a right turn towards the published SID course when SOCAL approach cleared to continue turn toward ZZOOO waypoint. PIC/PF selected a DIRECT TO ZZOOO waypoint and continued route.

Incorrect interpretation of SID procedure by CP/PNF, failure to maintain adequate situational Awareness by PC/PF at time of incident and incorrect decision of PC/PF upon query by CP/PNF.

Contributing Factors: Perceived "rushed" environment and reduction in time planned for thorough briefing departure and planned procedures to execute it due to passengers arriving unannounced 30 min prior to scheduled departure. Assigned crew on this flight had not recently flown as a crew and typically PC would operate as PNF to manage navigation duties during high workload however based on co-pilots high experience level PC made decision to act as PF.

PC was overconfident of CP decision/recommendation process. PC did not take the time adequately brief planned departure route and procedure planned to execute. Action by PC to accept recommendation of early turn without a more thorough assessment/cross check of correctly programed onboard navigation equipment was the incorrect action.

A thorough crew de-brief was conducted by PIC and CP following completion of flight. We reviewed our flight tracks from web based resources on Foreflight and Flight Aware and openly discussed the chain of events and key moments in the flight where the deviation actually occurred , what we should have done prior to, during and after the deviation to mitigate its occurrence in the future.

PIC review Crew Resource Management study material from recent recurrent flight training. PIC will also complete online training courses applicable to Crew Resource Management.

As the Director of Operations and primary pilot, I will discuss options with owner to utilize
outside crewmembers more frequently to help build greater familiarity among crews. When operating as PIC I will more actively evaluate my decision to operate as PNF or PF based on a more detailed evaluation of the anticipated flight workload, crew experience and familiarity with the planned flight route. Always make time to conduct a thorough brief of planned routes focusing on SID procedures and focus on key navigation steps and planned utilization of Flight Director modes throughout critical segments of the procedure.

Synopsis

Corporate Jet Captain reported he made an early turn on the ZZOOO 1 departure from SAN and corrected back to course after query by SCT TRACON.
ACN: 1458687 (27 of 50)

**Time / Day**
- Date: 201706
- Local Time Of Day: 1801-2400

**Place**
- Locale Reference
- ATC Facility: SCT.TRACON
- State Reference: CA
- Altitude MSL Single Value: 2000

**Environment**
- Flight Conditions: VMC
- Light: Daylight

**Aircraft : 1**
- Reference: X
- ATC / Advisory
- TRACON: SCT
- Make Model Name: Challenger CL600
- Flight Plan: IFR
- Flight Phase: Initial Climb
- Route In Use SID: OSHNN7
- Airspace Class B: LAX

**Aircraft : 2**
- Reference: Y
- ATC / Advisory
- TRACON: SCT
- Aircraft Operator: Air Carrier
- Make Model Name: EMBERJ 170/175 ER/LR
- Crew Size Number Of Crew: 2
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Mission: Passenger
- Flight Phase: Initial Climb
- Route In Use SID: DARRK1
- Airspace Class B: LAX

**Person : 1**
- Reference: 1
- Location Of Person
- Facility: SCT.TRACON
- Reporter Organization: Government
- Function
- Air Traffic Control: Departure
- Qualification
- Air Traffic Control: Developmental
- ASRS Report Number Accession Number: 1458687
- Human Factors: Human-Machine Interface
- Human Factors: Situational Awareness
- Human Factors: Distraction

**Person : 2**
Aircraft X departed LAX Runway 25 complex on the OSHNN7 RNAV SID. On initial contact, I turned Aircraft X to heading 190 to shorten the route for his flight and climb reference other traffic. I observed Aircraft Y, appear to be deviating from the Runway 24 complex departure course for the DARRK1 RNAV SID. I advised the Malibu Radar controller, who was responsible for Aircraft Y that Aircraft Y appeared to be deviating and immediately issued a safety alert to Aircraft X and advised a left turn to heading 160. Aircraft X reported Aircraft Y in sight.

This has happened multiple times since the implementation of METRO-PLEX. These conflicts keep reoccurring and are an imminent safety threat.
**Narrative: 2**

Aircraft Y, with me as Pilot Flying was notified that we had deviated from our assigned DARRK1 SID RNAV departure from LAX runway 24L and that we had gotten within two miles of another aircraft. ATC then provided us a heading to fly and a number to call. Upon review of the FMS it was determined that the RNAV departure had been input incorrectly as an RNAV departure for runway 25L vice runway 24L.

This was my leg as Pilot Flying and with my unfamiliarity with LAX I had incorrectly programmed the FMS for runway 25L DARRK1 SID vice runway 24L DARRK1 SID. Upon my brief, and through the T.O. check I was incorrectly and erroneously fixated and briefed runway 25L vice runway 24L. This error was influenced with a short taxi and a last minute intersection take-off on runway 24L/E7. An aircraft two ahead of us on taxiway E prior to taxiway E6 had an issue that required other aircraft to use taxiway E7 for takeoff and that required rerunning the takeoff numbers for runway 24L/E7.

Upon reaching [destination] the Captain called ATC.

Contributing factors:
1. Pilot Flying unfamiliarity with LAX contributed with the transposition of runway 25L with runway 24L.
2. The distraction of redoing the takeoff data at the last minute was a contributing factor although that should have also been a reminder of the correct runway.
3. We had flow into XXX from ZZZ and arrived late and were thus 11 minutes delayed. I believed that this may have also contributed to a feeling of being rushed.

Avoiding Recurrence:
1. Be more careful with the Before Takeoff check to ensure correct FMS SID is programmed correctly.
2. Ensure that the aircraft is flying the correct RNAV and correct if wrong.
3. Ask for a delay if given a last minute intersection T.O. or request those numbers ahead of time.
4. Better adherence to CRM.
5. If feeling rushed, slow down!

**Narrative: 3**

Prior to takeoff from runway 24L we were number 3 for departure and I instructed the first officer to run the before takeoff checklist. We ran the checklist and runway 24L was stated as being in the FMS. I did not look down to verify this because I was taxing the aircraft. We had issues running the numbers for 24L/E7 because the first officer had the runway confused with 25L and initially ran those numbers. We were rushing to do this and when we were number 1 for departure holding short of the runway when we received the numbers and verified them prior to entering the runway and we were promptly issued a line up and wait clearance. Turning onto the runway we were cleared for takeoff. At about 1500 ft. MSL and checking in with departure we were told by ATC to turn right to a certain heading. We complied with the instructions and were given subsequent headings and then direct a fix. When this happened ATC told us we had drifted left of course and had a possible pilot deviation.

We had briefed runway 24L for departure including the taxi and takeoff, speaking with the first officer after he had told me he is still unfamiliar with LAX and he seemed to have runway 24L and 25L mixed up. We were also late getting to LAX so we were rushing to depart on time. 25L was mistakenly put into the FMS and not caught by either of us. On
the before takeoff checklist this item was missed and I believe it was because we were rushing to run numbers for the intersection departure.

First and foremost we should not have rushed anything. When we were told to expect an intersection departure we should have pulled out of line and run numbers, re-briefed and made sure everything was correct. As the captain I should have realized the first officer was becoming over saturated and slowed down the pace.

**Synopsis**

SCT Departure Controller and flight crew reported an aircraft departed and turned left instead of right causing an airborne conflict.
**Time / Day**

Date: 201706  
Local Time Of Day: 1201-1800

**Place**

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

**Environment**

Weather Elements / Visibility. Visibility: 10  
Weather Elements / Visibility. Other

**Aircraft : 1**

Reference: X  
ATC / Advisory.CTAF: ZZZ  
Make Model Name: Skylane 182/RG Turbo Skylane/RG  
Operating Under FAR Part: Part 91  
Flight Plan: None  
Mission: Training  
Flight Phase: Takeoff  
Airspace.Class E: ZZZ

**Aircraft : 2**

Reference: Y  
ATC / Advisory.CTAF: ZZZ  
Make Model Name: Stearman  
Crew Size.Number Of Crew: 1  
Operating Under FAR Part: Part 91  
Flight Phase: Landing  
Route In Use: Visual Approach  
Airspace.Class E: ZZZ

**Person : 1**

Reference: 1  
Location Of Person.Aircraft: X  
Location In Aircraft: Flight Deck  
Reporter Organization: Personal  
Function.Flight Crew: Instructor  
Function.Flight Crew: Pilot Not Flying  
Qualification.Flight Crew: Instrument  
Qualification.Flight Crew: Commercial  
Qualification.Flight Crew: Flight Instructor  
Experience.Flight Crew.Total: 7050  
Experience.Flight Crew.Last 90 Days: 15  
Experience.Flight Crew.Type: 242  
ASRS Report Number.Accession Number: 1458655  
Human Factors: Situational Awareness
Person : 2
Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Trainee
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 500
Experience.Flight Crew.Last 90 Days : 6
Experience.Flight Crew.Type : 6
ASRS Report Number.Accession Number : 1459564
Human Factors : Situational Awareness

Events
Anomaly.Conflict : Ground Conflict, Critical
Detector.Person : Flight Crew
Miss Distance.Horizontal : 15
Miss Distance.Vertical : 20
When Detected : Taxi
Result.Flight Crew : Took Evasive Action

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

Narrative: 1

Conducting an annual pilot check as required by aircraft owner. Doing a series of takeoffs and landings. Pilot had just completed a second landing and taxied back for departure for a "short field" TO Practicing CRM, I was acting as PNF, reading check list. We completed before TO check, including our added "base clear, final clear", pilot made radio call "taking [the] runway" and proceeded to runway. At edge of runway Stearman appeared in windscreen, aborting. We braked heavily and these two actions avoided a collision.

How could two experienced commercial pilots miss the short final aircraft? Two major errors on our part -

1. Failure to have a spatial orientation of aircraft in the pattern. Discussions with other pilots (Stearman pilot made a radio call acknowledging the near miss, made another circuit of pattern and departed airport and we did not have discussion with them) indicates Stearman pilot made pattern position reports that neither of us registered. Radios appeared to be operating correctly.

2. Failure to see Stearman on short final, with bright yellow wings and bright blue body. Two possibilities [occur] to me, either we did not look in the correct place or the Stearman's position was blocked by the roof of Cessna. Future actions to avoid repeat:

- Before entering runway stop well back at 30 to 90 degrees to runway so as to ensure an unobstructed view along both sides of glide path.
- Make radio call of intentions to enter runway and wait before moving to give any pilot on final time to respond.
- Look at all possible glide paths from base in close, to furthest possible and high on final.
**Narrative: 2**

Following a full stop taxi back landing and preparing for another takeoff, I did not hear transmission of location from another aircraft in pattern. After doing a clearing turn prior to takeoff I did not observe the aircraft on final. I made a call announcing my approach to the runway for takeoff. As I approached the runway, a Stearman made a missed approach avoiding me.

I need to strive to increase and maintain audio and visual situational awareness of other aircraft location in the pattern and airfield environment.

I should have the radios verified as working properly to avoid intermittent reception.

I need to assure a full 360 turn when checking for traffic prior to takeoff to assure high wing situation does not hinder full view of aircraft approaching the runway before crossing hold line.

**Synopsis**

C182 instructor pilot and student reported taxiiing onto the runway creating a conflict with a landing aircraft.
**ACN: 1456507 (29 of 50)**

**Time / Day**
- Date: 201706

**Place**
- Altitude.AGL.Single Value: 0

**Environment**
- Flight Conditions: VMC

**Aircraft**
- Reference: X
- 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: Parked

**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: 1456507
- Human Factors: Communication Breakdown
- Human Factors: Situational Awareness
- Human Factors: Time Pressure
- Human Factors: Training / Qualification
- Human Factors: Workload
- Human Factors: Distraction
- Communication Breakdown.Party1: Flight Crew
- Communication Breakdown.Party2: Flight Attendant

**Events**
- Anomaly.Flight Deck / Cabin / Aircraft Event: Other / Unknown
- Anomaly.Deviation - Procedural: Published Material / Policy
- Detector.Person: Flight Crew
- When Detected: Pre-flight
- Result.Flight Crew: Became Reoriented

**Assessments**
- Contributing Factors / Situations: Company Policy
- Contributing Factors / Situations: Procedure
Contributing Factors / Situations: Human Factors
Primary Problem: Company Policy

Narrative: 1

We are constantly being interrupted during checklists, pilot to pilot briefings, while talking to clearance delivery etc. According to many of the new flight attendants they are being taught in the flight attendant training center to ask the captain for each and every thing that they may need or want. On many occasions the flight attendants board, conduct a safety check and then sit in first class and proceed to give me a verbal request for the several cabin items that they may want. On occasion, I have asked the Lead flight attendant gently and nicely if she could please request her extra ice cubes, cold cups, head sets, toilet paper and cocktail napkins via the jetway phone as we are busy with a maintenance issue, weight restriction issue, weather, routing issue etc. On each occasion I was met with great resistance. I was told that they are unfamiliar with the jetway phone or any other method of requesting said items. Usually boarding has not yet started and the flight attendants may use the jetway phone and/or speak to an agent as I do. Many times I just simply walk up to the top of the jetway and make this request with the agents. Usually this is for the missing agriculture forms or the necessary custom forms for international flights. I am aware of this need after my flight attendant briefing when I try to confirm that these forms are on board. These requests may seem simple at first glance. However, this starts a new stream of interruptions as the flight attendants will continue to come to the flight deck and alert us to the status of the many requests. They will either report the delivery of said items and/or ask about the status of others.

The other part of this new status quo that may not be readily apparent is the inherent problem with the request. For example: How many cold cups do you need? What kind of headsets? First class or economy? How many? How many napkins? What kind? So now if I decide to just try to accommodate such requests, a plethora of issues arise as quite frankly I do not know what a "cold cup" is exactly. So what may seem as a one minute distraction can lead to many more questions, more phone calls and more follow ups. With our new shorter show times, when exactly can I do my pilot duties? May I say that we pushed late because I was busy calling for cold cups? As we all know, interruptions and distractions lead to mistakes. I have seen many first officers miss many items on the set up. For example: They miss that the window heat that was off when it should have been on for a through flight. They miss the changes on the departure clearance (different SID, routing and/or altitude). Captains are forgetting the fuel sheet when fueling is late because they are distracted. I have had several first officers ask me if we could close the cockpit door for a while so they could be uninterrupted for their setup. This is especially true when in Mexico and we must get our departure clearance via voice.

I see that CRM is now included in the flight attendant manual. Are the flight attendants being taught the ramifications of said distractions and interruptions? Do they know that a simple shout into the flight deck during a checklist or clearance read back may lead to an incident or accident? Have they seen the Tenerife accident video? Or the like?

To summarize, the pilots are distracted by the plethora of interruptions. The interruptions are harsh and preclude the opportunity to stop at an appropriate point. The pilots are being tasked to perform duties outside the realm of pilot duties because of the interruptions, the pilots feel rushed and are making mistakes. This is a general report and not specific to this crew.

Synopsis
A B737 Captain reported pilot preflight distractions, interruptions, and task loads resulting from the company's current Flight Attendant training policy to include the crew in more of the cabin activities, needs, and wants.
ACN: 1454820 (30 of 50)

Time / Day
Date: 201706
Local Time Of Day: 0601-1200

Place
Locale Reference.Airport: ZZZ.Airport
State Reference: US
Altitude.AGL.Single Value: 800

Environment
Flight Conditions: VMC
Light: Daylight

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

Component
Aircraft Component: Turbine Engine
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: 1454820
Human Factors: Distraction
Human Factors: Situational Awareness

Events
Anomaly.Aircraft Equipment Problem: Critical
Anomaly.Deviation - Procedural: Published Material / Policy
Anomaly.Inflight Event / Encounter: Unstabilized Approach
Detector.Person: Flight Crew
When Detected : In-flight  
Result. Flight Crew : Returned To Departure Airport  

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

Narrative: 1  
During a return to field maneuver following engine compressor stalls during takeoff, the landing gear was not extended until approximately 800 AGL on the approach. On the first leg of a scheduled 3 leg day, we performed a high speed rejected takeoff due to suspected main tire failure at approximately 105 knots. We felt a light "thud", and a minor initial yaw moment similar to what one would expect with increased friction from a deflated right main tire. After we returned to the gate, maintenance notified us that all tires and fuse plugs were intact, and the only discrepancy noted was the lavatory service panel door was open (right side of aircraft). Maintenance re-secured the panel, did not note any damage or other discrepancies, and returned the aircraft to service.  

On the subsequent takeoff, we experienced a similar light "thud" at a slightly higher, but similar airspeed. I, the captain as Pilot Monitoring, elected to continue the takeoff with the assumption that the lavatory service panel door opened again and/or slammed shut. As we accelerated through rotation and liftoff, however, there were several more of these thuds, and I noted what felt like associated yawing moments each time it happened. I realized at this point we likely had a compressor stall, further evidenced by the left engine's APR (Automatic Power Reserve) activating, and the ITT (Interstage Turbine Temperature) on the right engine climbing into the red. We continued with a two engine profile, as the compressor surges/stalls stopped after approximately 5-6 times. I briefed the First Officer to be ready for the right engine to fail at any moment, and our plan of attack to proceed (fly the correct profile and pitch for V2 until acceleration altitude). We told tower we needed to return to the field for landing, and took a heading to set up for a downwind leg. Once we reduced thrust per the normal climb profile, the right engine's ITT returned to normal indications and no damage was suspected. Therefore, we elected to not shut it down, but would still return to the field out of an abundance of caution. We completed all appropriate checklists, briefed our plan (an ILS to the longest runway transitioning to a visual approach at approximately 8 miles out, and briefed the flight attendants and passengers.  

As we slowed for the approach and began to get configured, I became fixated on watching the right engine's behavior as thrust was increased to overcome drag. The First Officer flew the bugged reference speeds for the given initial configuration (Flaps 20) on the downwind and base legs. We intercepted the localizer normally, approximately 2500 ft above the local terrain. As we were level and prior to the glideslope becoming "alive", the First Officer called for gear down and flaps 30, and I became concerned that our attitude and angle of attack were becoming a bit steep for level flight. My thoughts were that if the right engine failed at this point, we would be in a nose high attitude with little visual reference and relatively close to the ground. I then told the FO to fly a little faster, closer to our normal approach speed prior to the final approach fix, and delay her configuration changes until the glideslope indicated a dot and a half low, where we normally go gear down and flaps 30, then flaps 45 as we intercept the glideslope.  

Due to me focusing on radio calls to tower, coordinating emergency response at the tower
handoff point, watching the engine instruments, and now coaching the First Officer's Flight
Path Management, I did not select the gear down when the FO called for it. I do recall
pushing the flight attendant chime button and selecting flaps 30, but failed to actually
extend the gear handle. The FO called for Flaps 45 upon glideslope intercept, I set them,
and we continued inbound. At approximately 800 AGL, the gear horn began to sound, and
I realized the gear was not down and locked, because the gear handle was never lowered
to the extended position. I immediately lowered the landing gear and received three green
lights within seconds. We were in visual conditions and otherwise stable, so I commanded
the First Officer to continue the approach and landing.

Because of the unknown nature of our engine problems, I made the command decision
that landing from a later than standard gear extension, was safer than executing a go-
around procedure at high thrust settings. We were fully stable the entire approach, and
touched down normally without further incident. Additionally, the landing was overweight
and I confirmed our touchdown rate was less than 360 fpm. For me personally, I have not
had a scenario with uncertain outcomes or procedures to follow in quite some time.
Throughout the event, I found myself thinking about what I would do "if", and I think it
began to cloud the basic roles of monitoring. Therefore I missed the very obvious task of
extending the gear when the First Officer called for it. I also feel that normally, the Pilot
Flying would notice if the Pilot Monitoring did not actually select the gear down, but high
levels of focus by both of us, along with adrenaline, contributed to some "tunnel vision".
While we followed the CRM model fairly well, bought ourself time by extending downwind,
etc, I think the stress of the day from two separate challenging events (high speed
rejected takeoff, and unknown engine problems), deteriorated my mental performance to
a point where I became too focused on watching the FO perform, as well as the engine
behavior. In the future, I may need to buy even more time (if possible) to allow our minds
to settle down and fly our normal, abnormal or emergency profile as applicable. One
should never have to rely on automation to remind you to extend the gear, but I am glad
it was available and working for us that day.

Synopsis

CRJ-700 Captain reported returning to the departure airport after a compressor stall, but
delaying the landing gear extension until 800 feet above the ground.
ACN: 1454754 (31 of 50)

Time / Day
Date : 201706
Local Time Of Day : 0601-1200

Place
Locale Reference.Airport : ELP.Airport
State Reference : TX
Altitude.MSL.Single Value : 6000

Environment
Flight Conditions : VMC
Light : Daylight

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

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)
ASRS Report Number.Accession Number : 1454754
Human Factors : Communication Breakdown
Human Factors : Situational Awareness
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Flight Crew

Person : 2
Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1454755
Human Factors : Situational Awareness
Human Factors: Communication Breakdown
Communication Breakdown. Party 1: Flight Crew
Communication Breakdown. Party 2: Flight Attendant

**Events**

- Anomaly. Flight Deck / Cabin / Aircraft Event: Other / Unknown
- Anomaly. Deviation - Track / Heading: All Types
- Anomaly. Deviation - Procedural: Published Material / Policy
- Anomaly. Deviation - Procedural: Clearance
- Anomaly. Inflight Event / Encounter: Unstabilized Approach
- Anomaly. Inflight Event / Encounter: CFTT / CFIT
- Detector. Automation: Aircraft Terrain Warning
- Detector. Person: Flight Crew
- When Detected: In-flight
- Result. Flight Crew: Regained Aircraft Control
- Result. Flight Crew: FLC complied w / Automation / Advisory
- Result. Flight Crew: Became Reoriented
- Result. Air Traffic Control: Issued Advisory / Alert

**Assessments**

- Contributing Factors / Situations: Airport
- Contributing Factors / Situations: Airspace Structure
- Contributing Factors / Situations: Human Factors
- Primary Problem: Human Factors

**Narrative: 1**

I was operating flight as pilot monitoring. At first I didn't notice anything out of the ordinary. In fact the entire flight was normal up until landing time this morning. Step by step is the sequence of events that took place after being cleared the visual approach. After being cleared the visual approach and being at a safe altitude of 9,000 feet (mind you field elevation is roughly 4,000 feet) Captain puts in an altitude of 6,000 feet and didn't communicate to me that he set a new altitude in the MCP.

After the short amount of time passing I told him "sir, I show 6,000 feet set confirm?" Of course, as pilot monitoring, I'm watching very carefully what the Captain is doing so that nothing serious happens to risk the safety of our approach and landing. I give the Captain 10 seconds to see if he will tell me of the new altitude set in the MCP. I hear nothing, just silence as the aircraft descends into mountainous terrain.

We are now descending through the highest terrain which is 7,176 feet and the Captain puts in 4,500 feet in the MCP we are still descending closer and closer towards the highest terrain which mind you the "MSA" in that quadrant states 8,400 for a minimum safe altitude.

Now I know something seriously is wrong. Something just doesn't feel right I know we're not supposed to be this low especially over mountainous terrain. Now at this time the very loud and serious terrain terrain pull up pull up warning flashes red and sounds in the flight deck. As I immediately begin to perform a recovery procedure for this uncomfortable undesirable situation the Captain says "I got it". Unfortunately he did not recover properly which scared me even more and showed me that he was playing chicken with mountains and with our lives.
This was no profile approach or visual. ATC kept us at 9,000 feet for a reason, so that we can be clear of obstacles and mountainous terrain and yet for whatever reason he decided to set 4,500 in the MCP and descend to this dangerous altitude in mountainous terrain. Instead of recovering properly he began a left base turn with close proximity to the mountains.

He was "cutting corners" way too close and there was no APP mode or LOC or LNAV selected. I mentioned to the Captain where the runway is and pointed it out clearly as the visibility was greater than 10 and the winds were calm. You couldn't ask for better weather during this approach. I've flown many flights to and from [this area] and am very familiar with this airport as it can be tricky if pilots don't pay attention to detail and don't brief or execute an approach as briefed correctly. Now with no CRM from my Captain into the equation and terrain warnings and flying toward the wrong runway, [let] alone wrong airport and me yelling "go around" and no response and the Captain continuing the very unstable approach.

I was put in a situation I would never want anyone to ever experience. Captain was hand flying from the time being "cleared for the visual to the runway." Now the aircraft still in a left turn towards final 1,000 feet above touchdown still no gear down and still no flaps configured for landing. This put me in a very uncomfortable situation. Not to mention we weren't even heading towards the airport, Captain was flying the aircraft blindly toward Biggs Air Force base which we even discussed about during the approach briefing that it can be easily mistaken for El Paso airport as I mentioned I flew here before and am familiar with the terrain and layout of the airport. At this point I am so uncomfortable to the point that my training kicks in and in the name of safety I say, "sir we are way off course go around."

Unfortunately he does not respond and does not execute a go around procedure. He is flying the aircraft closer and closer to the ground.

I keep trying to point out Runway 4 which is 12,020ft long and it is very clearly visible where El Paso is especially Runway 4. To my disbelief the Captain now is doing a series of unstable erratic maneuvers and is now setting himself to land on Runway 8R. A much shorter runway that we were not cleared to land on. Yet he was committed and aiming for Runway 8. Even the Tower makes a remark and asks if we're okay.

Meanwhile I am telling the Captain. We must go around. I now raise my voice even more and say "Sir this isn't right go around" he claims that he has controls and he "can do it" yet we were way off course and never were in course in the first place for a proper stable landing on the runway because of the descent he initially performed into the high terrain as well as aiming towards the wrong airport and wrong runway once I guided him towards the correct airport once again and correct runway.

Then it was my third and final yell for "go around". He said no we're landing, everything is under control when in fact the aircraft was 100% not in control. It was fast and sloppy and behind the curve and the aircraft was very unstable all the way until we made contact hard with the runway. The Captain barely put the aircraft on the runway with extensive abnormal high power settings in the flare to keep the aircraft from hitting extremely hard.

I hope and pray that nobody ever has to go through what I have gone through this morning on approach into El Paso, TX. We are not Cowboys of the sky we are professional aviators and are set to high standards and have standardization for a reason, either pilot can call for a go around. And if an approach does not seem right then it most likely is not
right. And unstable approach deserves a go around period. Especially one with pull up terrain warnings and wrong airports and runways in front of the pilots windshield. We preach callouts for a reason to follow them and to be safe so we can live to fly safely another day with many blue skies and soft landings, so we can be role models to the generation in future of aviation safety.

**Narrative: 2**

This narrative starts while being vectored for a visual approach to Runway 4 at El Paso. We were cleared to 9,000 heading 270 about 7 miles north of ELP. We were cleared for visual approach to Runway 4. We continued descent toward 6,000 and heading westbound. Once clear of the mountain ridge to the west of ELP I began further descent when we had a momentary terrain warning, I could immediately determine that terrain clearance was not a problem as we were in the clear and visually cleared all terrain prior to descending, I stopped the descent and the warning ceased.

I continued the turn to the east south of the mountains and had difficulty in reacquiring the landing runway. There was some confusion looking into the sun at Biggs AAF and ELP. I continued towards the airport and realized I was north of the position I planned. The First Officer suggested a go around, which I considered and elected to continue since I still had adequate area to maneuver for the landing. I continued toward the runway and the First Officer assisted in confirming the landing runway. The First Officer again called for a go around, I told him I had the Runway and was confident the approach can safely be completed. I made a right turn to a modified left approximately 2 mile base for Runway 4. During the turn the First Officer called for a go around. The aircraft approach speed was about 125 and during this approach nothing seemed rushed. At no time during this operation did I feel I was pushing the aircraft or my capabilities.

Having thought many hours about this flight I can see where my CRM skills were far from my beliefs. I do believe in the company's policy on go arounds. I do believe that the approach, although not pretty, was safe. But the big thing was that the First Officer was not comfortable and his judgement should not have been overlooked. I will not do this again. As for the terrain warning, although not actionable could have been avoided by planning the flight path either higher or over a different ground track.

**Synopsis**

The flight crew of an air carrier aircraft reported they exhibited poor Crew Resource Management (CRM) while in a stressful situation during approach and landing.
ACN: 1448430 (32 of 50)

**Time / Day**
Date: 201705
Local Time Of Day: 1201-1800

**Place**
Locale Reference.Airport: OAK.Airport
State Reference: CA
Altitude.MSL.Single Value: 3000

**Environment**
Flight Conditions: VMC
Weather Elements / Visibility: Visibility: 10
Light: Daylight

**Aircraft**
Reference: X
ATC / Advisory.TRACON: NCT
Aircraft Operator: Personal
Make Model Name: Bombardier Learjet Undifferentiated or Other Model
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 91
Flight Plan: IFR
Mission: Personal
Nav In Use: GPS
Flight Phase: Initial Climb
Route In Use: Vectors
Route In Use.SID: SKYLINE 6
Airspace.Class B: SFO

**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: Instrument
Qualification.Flight Crew: Air Transport Pilot (ATP)
Qualification.Flight Crew: Flight Engineer
Qualification.Flight Crew: Flight Instructor
Experience.Flight Crew.Total: 24000
Experience.Flight Crew.Last 90 Days: 234
Experience.Flight Crew.Type: 3500
ASRS Report Number.Accession Number: 1448430

**Person : 2**
Reference: 2
Location Of Person.Aircraft: X
Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation - Procedural : Clearance
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

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

Narrative: 1

Departed OAK on an IFR flight plan which included the Skyline Six departure procedure. My First Officer was a low time pilot with 500 hrs total time and 125 hrs in the Learjet. He read the departure procedure to me which was fly heading 278 to 3,000 then left heading 200 to intercept the 135 radial from PYE. He failed to read the departure route description which was to climb on heading 278 vectors to PYE 135, cross 4 DME northwest of OAK at or below 2,000 and above 1,400. I did not verify the routing on my iPad and assumed what he told me was correct. After turning to 200 at 3,000 feet, ATC shortly thereafter vectored me back to heading 270. We were then vectored and assigned higher altitudes. We were assigned FL190 and then ATC said we needed to copy a phone number for NORCAL. In the process of copying the phone number we flew through FL190 by about 1,500 feet.

Several factors contributed to these deviations:
1. It was a long day and by the time we departed OAK we had been up for 12 hours. I discovered that my First Officer did not get any sleep the night before.
2. My First Officer is very inexperienced and has not had much instrument procedure time other than what he received to get his ratings.
3. Captain failed to verify departure procedure with FO.
4. Captain tried to multi-task by flying the airplane and copying a phone number from ATC.
5. Captain failed to use appropriate automation to lighten the work load i.e. Altitude Capture feature of the autopilot.

I feel fatigue, an inexperienced FO, not verifying departure procedure with FO, and not using auto flight features of the Learjet all contributed to these deviations. To correct...
some situations, I feel it is necessary to fly a high performance aircraft with a more experienced crew member. Use Crew Resource Management techniques to verify that both crew members are in agreement with procedures and to use aircraft automation to lighten the work load in high workload environments.

**Narrative: 2**

[Report narrative contained no additional information.]

**Synopsis**

Learjet flight crew reported a heading deviation on the SKYLINE 6 Departure from OAK.
ACN: 1447468 (33 of 50)

Time / Day
Date: 201705
Local Time Of Day: 0601-1200

Place
Locale Reference.Airport: BUR.Airport
State Reference: CA
Relative Position.Distance.Nautical Miles: 7
Altitude.AGL.Single Value: 500

Environment
Flight Conditions: VMC
Weather Elements / Visibility.Visibility: 10
Light: Daylight
Ceiling.Single Value: 8000

Aircraft
Reference: X
ATC / Advisory.Tower: LAX
Aircraft Operator: Military
Make Model Name: Military
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 91
Flight Plan: None
Mission: Training
Nav In Use: FMS Or FMC
Nav In Use: GPS
Flight Phase: Cruise
Route In Use: Visual Approach
Airspace.Class C: BUR

Component
Aircraft Component: Navigational Equipment and Processing
Aircraft Reference: X
Problem: Improperly Operated

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Military
Function.Flight Crew: Pilot Not Flying
Function.Flight Crew: Captain
Qualification.Flight Crew: Rotorcraft
Experience.Flight Crew.Total: 538
Experience.Flight Crew.Last 90 Days: 50
Experience.Flight Crew.Type: 331
ASRS Report Number.Accession Number: 1447468
Human Factors: Communication Breakdown
Human Factors: Confusion
Human Factors: Situational Awareness
Human Factors: Workload
Human Factors: Distraction
Communication Breakdown. Party 1: Flight Crew
Communication Breakdown. Party 2: Flight Crew
Communication Breakdown. Party 2: ATC

Events
Anomaly. Airspace Violation: All Types
Anomaly. Deviation - Procedural: FAR
Anomaly. Deviation - Procedural: Published Material / Policy
Detector. Person: Flight Crew
Detector. Person: Air Traffic Control
When Detected: In-flight
Result. Flight Crew: Took Evasive Action
Result. Flight Crew: Requested ATC Assistance / Clarification
Result. Flight Crew: Became Reoriented
Result. Air Traffic Control: Issued Advisory / Alert

Assessments
Contributing Factors / Situations: Airspace Structure
Contributing Factors / Situations: Human Factors
Contributing Factors / Situations: Procedure
Primary Problem: Human Factors

Narrative: 1
We had decided the night prior to conduct the VFR Los Angeles low level route, beginning at Queen Mary's and terminating at the western side of Santa Monica pier before transiting west outside LAX Class B Airspace before exiting the area. I utilized one of our pre-mission computers for inputting GPS user waypoints that coincided with the Los Angeles TAC chart. We briefly went over the route and the plan of action the night prior, and the morning of the flight during pre-flight briefing.

I led our operation brief and crew brief the following morning. We conducted all preflight, takeoff, post-takeoff checks without incident enroute to LAX. We contacted SoCal Approach on 125.35, with request at 25 miles south. We were switched over to Long Beach Tower on 119.4, where we again made the request for the specified route. Long Beach (LGB) assigned our aircraft a discrete squawk, and cleared us along the route beginning at Queen Mary’s VFR checkpoint. Upon visually identifying Queen Mary, we began the route to our next set of checkpoints, at 90 knots Groundspeed, which were following the Los Angeles River northbound to Dodger Stadium. It was at this time that we recognized we were outside of Long Beach’s airspace, and called requesting a frequency change, which was approved. As the non-flying pilot, I was responsible for navigating the route while my junior co-pilot would fly the visual checkpoints. I tuned in LAX tower frequency of 120.95 and made one courtesy call along the route, with no response since I was outside the airspace. We continued northbound, and it was at this point where problems began to arise. I was sitting left seat, and was not able to visually identify Dodger Stadium. I instructed my co-pilot to continue north along I-5 where we were expecting to see the stadium. I let this task saturate me, and lost situational awareness to where we were along the route at this time. Instead of fessing up, orbiting, or calling any available tower frequency along the route, I decided to continue since we were still along
the GPS route on the mission displays. We then transited west along Ventura freeway into BUR Class C airspace, both without switching to their assigned tower frequency or aware that we were flying inside their airspace westbound. The next VFR checkpoint along the route was Hollywood Hills, southeast of the I-405 south and Ventura Freeway to the west. We transited along the western side of Hollywood Hills, still without being on Bob Hope tower frequency or aware of the airspace infraction at this point in time. Upon following the I-405 southbound, we were contacted over LAX tower frequency by SMO, requesting military helicopter come in and identify. I immediately responded, and was informed of the airspace violation. Due to my loss of situational awareness, overconfidence in GPS systems, and failure to ensure my flying pilot vocalized and identified visual checkpoints along the route, we were completely in inadvertent disoriented flight at this time. Due to these factors and oversaturation in a congested environment, I allowed our aircraft to deviate from the assigned flight path and jeopardize the safety of the FAA and airspaces in the area. As I spoke with the Santa Monica tower controller, I realized our severe mistake. I noticed our position and guided the pilot to continue transiting west to Santa Monica pier, our final checkpoint, so we could immediately egress the area before causing further infractions. At the same time, I briefly tried to explain our situation to the controller, and was given a phone number to call upon landing, which I received. We flew the helicopter west over the water outside LAX airspace, then proceeded to exit south over the water at 200 AGL.

I believe several human errors occurred both during preflight and mission execution that led to this incident, as listed below:

**Human Causal Factors**

- Poor preflight planning of the route, specifically what frequencies were going to be input into our radios and systems.
- A lack of sound judgment when not able to identify checkpoints early in the route.
- Loss of situational awareness, leading to oversaturation in a congested environment, ultimately leading to airspace incursion.
- Late corrective actions due to disorientation.
- Overconfidence in GPS systems.

Multiple, if not all, of these contributing factors are founded in poor Crew Resource Management, from preflight planning to execution of the mission.

- Poor communication, specifically that to express lack of visual checkpoint identification and the lack of crew communication to express concern.
- Severe lack of decision making skills to turn around, or contact a previous frequency to get re-established along the proper route leg.
- Overall lack of assertiveness by any of the crewmembers in verbalizing their lack of visual cues and certainty along the route.
- Leadership deficiency by aircraft commander to discontinue, or to be aware of the airspace/frequency switches needed before Bob Hope Burbank's airspace.
- Overall crew situational awareness degraded to be able to think ahead of the aircraft and route in order to keep within the rules of FAA airspace and communication requirements.
- Misperception that tower or control would contact us on frequency or guard frequencies upon seeing aircraft inbound/outbound.

**Inactions**

- Inaction to positively switch over to Bob Hope Burbank Tower's frequency when arriving for Hollywood Hills checkpoint.
- Inaction to ask Long Beach what frequency to expect next when unsure.
- Inaction to properly check GPS waypoints with chart when visual checkpoints weren't identified.
- Inaction to speak up concern as a crew when disoriented.

Actions

- Admitted fault when Santa Monica called us for aircraft identification over LAX tower frequency.

Overall, multiple lessons learned were obtained from this event. Military aviators are extremely well trained, and there is no excuse for operations in congested airspaces without knowing exactly where the aircraft needs to be and when, who to talk to and when, and what navigational aids need to be monitored at all times. One of my biggest safety takeaways from this event is that I was not completely confident in the route I was taking, and I therefore lost the unspoken trust that exists between the FAA and military pilots during this time. I should have relied on the expertise of the aircraft handlers, and fessed up to when I thought I wasn't seeing a direct visual representation of my GPS waypoints. I could have used any tower frequencies in the area, simply asked the question, or utilized my crew more to back my navigational decisions up. I placed multiple aircraft at risk in not doing so, and I want to make it crystal clear that constant communication between aircraft and handlers is vital to safety, particularly when there is any doubt of aircraft location. There must be a respect of the procedures and airspace restrictions that have been put in place, which are there for the safety of all personnel. In that respect, I must ensure none of those safety measures are broken, as well as remain infinitely flexible in coordination with controller agencies to ensure safety compliance.

One stand-out lesson learned from this incident is 'if there is a question, then there is no question.' This means if there is any grain of doubt in airspace restrictions, clearances, or operations that I speak up and clarify in order to regain situational awareness and confidence to safely transit the route. Another extremely important lesson to be learned is to know your comfort level, which I clearly did not. I was over-reliant on GPS systems on the aircraft, not the printed charts and the handling professionals in the airspace. Using systems as a navigational aid is a great idea, but only as a backup to the printed charts. Part of being a professional pilot is admitting when you're wrong, and making an approach to learning what you did incorrect and growing from it. Post mission analysis is yet another lesson learned, for the increased communication and experiences that can be passed in order for a safer flying environment to be fostered.

I've also learned how to evaluate operational risk management, in its most basic form to not accept unnecessary risks, or to allow costs to outweigh the benefits. If I wasn't completely experienced and confident in this route, I shouldn't have opted to continue. The benefits for executing this route were airspace training, communication training, and local area familiarity. However, the costs were much higher. Unsafe transit through airspace without 2 way communications could have led to unnecessary wave-offs of civilian traffic, inadvertent same altitude fly-bys, and questionable radar returns leading to maneuvering of traffic due to one misplaced aircraft. Some mechanisms that could have prevented this incident are as follows: calling all air controllers well outside their designated airspace; making pilot calls over operation tower frequencies if not heard the first time, or checking its backup frequency to ensure; not assuming air traffic control will see you with a discrete squawk and reach out to you first when getting near; discontinuing route when unsure of location; checking in with any of the local frequencies to obtain clarity and confidence, ultimately for situational awareness and safety.
Synopsis

A military helicopter pilot reported a flying low altitude VFR flight in the LAX basin which inadvertently entered BUR airspace.
**Time / Day**
- Date: 201704
- Local Time Of Day: 1801-2400

**Place**
- Locale Reference: Airport: ZZZ.Airport
- State Reference: US
- Altitude MSL Single Value: 600

**Environment**
- Flight Conditions: IMC
- Weather Elements / Visibility: Visibility: 2
- Light: Night
- Ceiling Single Value: 200

**Aircraft**
- Reference: X
- ATC / Advisory: Tower: 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: Takeoff
- Airspace Class B: ZZZ

**Person**
- Reference: 1
- Location Of Person: Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function Flight Crew: First Officer
- Function Flight Crew: Pilot Not Flying
- Qualification Flight Crew: Air Transport Pilot (ATP)
- Experience Flight Crew Last 90 Days: 216
- Experience Flight Crew Type: 532
- ASRS Report Number Accession Number: 1444941
- Human Factors: Situational Awareness

**Events**
- Anomaly Deviation - Speed: All Types
- Anomaly Inflight Event / Encounter: Weather / Turbulence
- Detector Aircraft Other Automation
- Detector Person: Flight Crew
- When Detected: In-flight
- Result Flight Crew: Took Evasive Action

**Assessments**
Contributing Factors / Situations: Weather  
Primary Problem: Weather

**Narrative: 1**

This was our first day working as a Crew on our final third leg assignment. Our flight was 35 minutes late due to FA connection and thunderstorms were present in ZZZ. The ATIS was changing rapidly and provided 4 updates in less than an hour, pressure dropped from 29.60 to 29.50 in the 30 minutes prior to departure. We taxied to Runway XXC for departure at ZZZ, and were encountering extended taxi time as several aircraft went missed due to low ceilings and ZZZ Tower was issuing 20 miles in trail separation with simultaneous departures off Runway YR and XXC and landing YR. ATC congestion was busy and the Tower was doing a good job reporting the rapidly changing weather conditions with wind and pressure reports.

As we neared our departure sequence the intensity of rainfall and lightning was increasing. No adverse windshear reports were present on the field and no aircraft were reporting any windshear after takeoff. Prior to our clearance to taxi into position on XXC, the Captain requested an updated wind report from Tower. The Tower reported wind direction at 100 and speed of 8 knots. We updated this data in the Performance Computer which directed a new flap setting of 10 degrees. We completed the Departure Plan Checklist and set the flaps accordingly. Additionally the Performance Computer data included windshear, max thrust, and wet good settings. The hold down VR was 126 if I recall correctly based on a 142.2 takeoff weight.

The Captain did a good job of briefing the windshear profile, should we encounter it after takeoff. He reviewed the emergency thrust, and configuration callouts which helped to develop our shared mental model. Tower informed us that the weather had cleared the runway moving east rapidly and to use caution for frequent lightning in the area. ZZZ Tower issued takeoff clearance off XXC and to turn to heading of 090. We initiated the takeoff and complied with the wind shear profile VR takeoff. Shortly after raising the landing gear, I observed a significant decrease in airspeed of 15 knots. I called out windshear to the Captain and I increased the thrust above max thrust setting.

The Captain began a reduction in pitch to compensate for the degraded airspeed when the EGPWS declared WIND SHEAR decreasing performance warning. The Captain immediately pushed the thrust to emergency thrust and began following the escape guidance. I began calling out airspeed and altitude trends and it took a short time for the aircraft to display positive trends. The windshear event was brief, but had a significant negative performance effect on the aircraft. As the windshear warning extinguished, the Captain directed necessary MCP mode changes to prevent flap over speed during retraction.

I alerted the Tower of our windshear event and 20 knot airspeed loss. ZZZ Tower ceased departures after our report. We still had a heading and 3000 FT hold down altitude to comply with while changing to Departure frequency. We did not observe any engine exceedance but our focus at the time was on aircraft recovery. Lighting in the area was very bright and proved to be a significant distraction. We contacted Dispatch via ACARS in cruise and informed them of the windshear encounter and to ask Maintenance if they received any engine exceedance. The rest of the flight was without incident and we contacted Maintenance at destination to discuss if a Maintenance entry was required.

The Captain and I reviewed the event and discussed if there was anything we could have improved during the recovery. Between the two of us this was the first time in our airline career that we had ever encountered a true windshear event after takeoff. I explained the
best practice in dealing with a windshear event is to not ever be in a position to encounter one in the first place. My position was that while we knew of thunderstorms in the airport vicinity, there were no adverse reports of windshear reporting on the airport, or by the multiple aircraft departing ahead of us. There was no information that would lead us to have delayed or discontinued the takeoff as the predictive windshear did not alert either. We believed our practice of updating the takeoff data to reflect the most accurate winds was good practice as was our discussion of the windshear profile plan should it be encountered. I believe our CRM measures proved to be a valuable tool in managing the threat. However, I will conclude with RRM (Risk and Resource Management) perhaps being the most overlooked aspect of this situation. Risk is inherent in what we do, but weather like this in proximity to ZZZ proves to be a high risk environment, and we could have possibly benefited from more information with Dispatch as a resource offering guidance to help manage or aide in the operation as a whole in determining the factors involved when operating multiple flights in a high threat environment.

Synopsis

B737NG First Officer reported experiencing windshear shortly after gear retraction. An EGPWS wind shear warning and an airspeed loss both occur as the Captain recovered using maximum thrust.
**ACN: 1444463** (35 of 50)

**Time / Day**
- Date: 201704
- Local Time Of Day: 1201-1800

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

**Environment**
- Flight Conditions: VMC
- Light: Daylight

**Aircraft**
- Reference: X
- ATC / Advisory.Center: ZZZ
- Aircraft Operator: Corporate
- Make Model Name: Super King Air 350
- Crew Size.Number Of Crew: 2
- Operating Under FAR Part: Part 91
- Flight Plan: IFR
- Mission: Passenger
- Flight Phase: Climb
- Route In Use: Direct
- Airspace.Class A: ZZZ

**Person**
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Corporate
- Function.Flight Crew: Captain
- Function.Flight Crew: Pilot Flying
- Qualification.Flight Crew: Flight Instructor
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- Qualification.Flight Crew: Multiengine
- Experience.Flight Crew.Total: 9600
- Experience.Flight Crew.Last 90 Days: 80
- Experience.Flight Crew.Type: 700
- ASRS Report Number.Accession Number: 1444463
- Human Factors: Communication Breakdown
- Communication Breakdown.Party1: Flight Crew

**Events**
- Anomaly.Deviation - Procedural: Published Material / Policy
- Detector.Person: Flight Crew
- When Detected: In-flight
- Result.General: None Reported / Taken
Assessments
Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1
While climbing through approximately FL230 at our best climb speed, ATC requested us to increase climb rate as it would help them out tremendously and also gave us a frequency change. I told the FO to reply that we could not increase our rate of climb as we were already doing the best we could. The FO (who is also a company Captain) told the Controller that we would give him the best we could and acknowledged our frequency change. Before the FO contacted the new Controller I reiterated that we needed to let them know that we could not increase our rate of climb. The FO then stated to me "I'm not going to tell them that. I will tell them that we will give them what we can and let them figure it out." I was taken aback by his statement and attitude. The FO then contacted the new Controller and told them that we were climbing as fast as we could. At this point, having told the new Controller we were climbing as well as we could, I let the issue drop for the sake of not creating a hostile environment on the flight deck. The Controller did not make any further mention of our climb rate.

I was so taken aback by this Captain's attitude that I did not respond as I would have with a new FO and gotten on the radio myself and made clear that we could not comply with the ATC request to increase climb rate. In the future I will not attempt such diplomacy as I tried on this Captain acting as an FO, but will act as I would normally and make sure there is no confusion between ATC and my aircraft.

One very important human factors lesson I have taken away from this issue is the effect that having two Captains on a flight deck can make. Our company routinely uses two Captains and in such cases in the past the other Captains have always deferred to the individual that is designated as the trip Captain. I have also done this when I have been assigned as an FO. I have learned to be vigilant in the future for others who may not remember that I am the Captain. I will include this reminder of crew roles in all future crew briefings.

Synopsis
BE-350 Captain reported having CRM issues with a Captain-qualified First Officer.
**ACN: 1444225 (36 of 50)**

**Time / Day**
- Date: 201704

**Place**
- Locale Reference, ATC Facility: ZZZ.ARTCC
- State Reference: US
- Altitude, MSL, Single Value: 25000

**Environment**
- Flight Conditions: IMC

**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
  - Flight Phase: Climb
  - Airspace, Class A: ZZZ

**Component**
- Aircraft Component: INS / IRS / IRU
  - 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: Pilot Flying
  - Function, Flight Crew: First Officer
  - Qualification, Flight Crew: Air Transport Pilot (ATP)
  - Experience, Flight Crew Type: 926
  - ASRS Report Number, Accession Number: 1444225
  - Human Factors: Situational Awareness

**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 : Human Factors
Primary Problem : Human Factors

**Narrative: 1**

In climb out, my Captain was lowering his sun visor in anticipation of climbing through clouds and mistakenly turned off our Inertial Reference 1 (IR1) just like what was described in [a recent company] newsletter. QRH procedures were followed, and we arrested the climb and requested FL280 as final to avoid RVSM airspace. Options were discussed using great CRM and Dispatch was informed. We were flying to [a destination] where the weather was VFR and we kept a constant plan in case of emergency descent since we lost EGPWS. This is mostly an informational report since it is a known problem so that these incidents can be tracked and a fix may be found to this known risk.

**Synopsis**

A319 First Officer reported the Captain inadvertently turned off Inertial Reference system #1 while deploying the sun visor.
**ACN: 1442013 (37 of 50)**

**Time / Day**
- Date: 201704
- Local Time Of Day: 1801-2400

**Place**
- Locale Reference.Airport: ZZZ.Airport
- State Reference: US
- Altitude.MSL.Single Value: 28000

**Environment**
- Flight Conditions: VMC
- Light: Daylight

**Aircraft**
- Reference: X
- ATC / Advisory.Center: ZZZ
- Aircraft Operator: Corporate
- Make Model Name: Super King Air 200
- Crew Size.Number Of Crew: 2
- Operating Under FAR Part: Part 91
- Flight Plan: IFR
- Mission: Ferry
- Nav In Use: FMS Or FMC
- Nav In Use: GPS
- Flight Phase: Cruise
- Route In Use: Direct
- Airspace.Class A: ZZZ

**Component**
- Aircraft Component: Oxygen System/Crew

**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: Multiengine
- Qualification.Flight Crew: Flight Instructor
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- Qualification.Flight Crew: Instrument
- Experience.Flight Crew.Total: 4949
- Experience.Flight Crew.Last 90 Days: 150
- Experience.Flight Crew.Type: 2154
- ASRS Report Number.Accession Number: 1442013
In preparation for a relocation flight the crew had performed a thorough preflight check of the oxygen system and checked both masks, but then turned the oxygen off to return to the FBO. When we returned to the aircraft to depart, I pulled the oxygen back on, and even checked the position of the handle while running checklists, but did not realize the system was not pulled quite all the way on.

While enroute at FL280, approximately 10 minutes into cruise, the passenger oxygen masks dropped in the cabin. The cabin altitude indicated 12,000 ft and the cabin differential was around 5.0 PSI. I did not notice the cabin rate. I attempted to lower the cabin altitude with the altitude control knob, and adjusted the cabin rate controller to no avail. I then chose to attempt to cycle the bleed air valves. I turned the left bleed air valve to Inst and Enviro Off, then back on. At approximately the same time the CAB ALT HI master caution light illuminated (as would be expected with decreased airflow). There was dialog between the crew about feeling hypoxic, and I then realized that my faculties were notably decreased. I felt light headed and on the verge of tunnel vision. I assumed control of the aircraft, began a rapid descent, and [advised ATC]. During the descent the cabin altitude continued to rise. The highest cabin altitude indication that I noticed was 15,000 ft.

We began to use oxygen, and the FO pointed out that there was no oxygen flowing (I
think that I got the last breath or two of residual oxygen pressure remaining in the system). I saw there was still 1700 PSI oxygen, had received some oxygen, and visually saw that the oxygen handle was on. I was not able to wrap my head around the idea that the handle was not pulled all the way on, and was not able to figure it out until we were level at 10,000 ft. If I had handled the situation better, I would've directed the FO to focus on why there was no oxygen, while I focused on the descent.

Regarding my communications with ATC controllers and requested lower. I received multiple step-down altitudes, but should've initially indicated to ATC that I was going to descend to 10,000 ft i.e. my first radio call should've been, "Aircraft X is descending to 10,000 ft" instead of "Aircraft X, we need lower". Regarding CRM issues, we go to safety conferences and train as single pilot operators. I think that we can improve our operation by spending time simulating emergency situations as a crew and more clearly defining expectations of each crew member.

The aircraft was safely returned to the departure airport without further incident.

**Synopsis**

BE20 Captain reported a loss of pressurization at FL280, but the crew could not get oxygen from their masks.
ACN: 1440864 (38 of 50)

Time / Day
Date: 201704
Local Time Of Day: 0601-1200

Place
Locale Reference. Airport: VNY.Airport
State Reference: CA
Relative Position. Distance. Nautical Miles: 2
Altitude. MSL. Single Value: 1300

Environment
Flight Conditions: VMC
Light: Daylight

Aircraft
Reference: X
ATC / Advisory. TRACON: SCT
Aircraft Operator: Air Taxi
Make Model Name: Challenger CL601
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: Initial Climb
Route In Use. SID: NEWHALL9
Airspace. Class E: SCT

Person
Reference: 1
Location Of Person. Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Taxi
Function. Flight Crew: Pilot Not Flying
Function. Flight Crew: First Officer
Qualification. Flight Crew: Air Transport Pilot (ATP)
Qualification. Flight Crew: Flight Instructor
Qualification. Flight Crew: Multiengine
ASRS Report Number. Accession Number: 1440864
Human Factors: Situational Awareness
Human Factors: Distraction

Events
Anomaly. Conflict: Airborne Conflict
Anomaly. Deviation - Track / Heading: All Types
Anomaly. Deviation - Procedural: Published Material / Policy
Anomaly. Deviation - Procedural: Clearance
Detector. Automation: Aircraft TA
Detector. Person: Air Traffic Control
Assessments

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

Narrative: 1

Prior to departure Van Nuys (VNY) airport, [we were] given clearance to include the NEWHALL9 departure (SID). The departure was reviewed by both pilots and briefed by the Captain (Pilot Flying) before and during the Takeoff Briefing. The Pilot Flying Number 1 VOR was set with VNY and the Number 2 VOR was set with FIM and R-102. Clearance was issued for runway 16L with "Climb via the SID, initial 4000 feet." The tower cleared [us] for takeoff and alerted the crew of a helicopter at 1 o'clock position. Helicopter was seen and acknowledged. Upon taking the runway, the Flight Director was placed in NAV for the departure. Upon liftoff, the Captain (Pilot Flying), changed the Flight Director to Heading (HDG) mode stating "I know this departure" and began a right turn to 113 degrees upon climbing to 1300 feet. A Traffic Alert (TA) was received from the helicopter after liftoff. In the turn I asked the Captain if he wanted the Flight Director in the NAV mode in which he said yes and he reached up and selected. The command bars showed a turn to the right. The Captain said "that's not right" and stayed in the left turn hitting the Flight Director HDG button several times. [We were] given a new altitude to climb to and asked if [we were] cleared to "Climb via the SID." The controller noted there may be a possible pilot deviation due to the climbing turn. The Captain took over the radio and began explaining his actions and referring to the helicopter that had been noted just prior to takeoff. Throughout the next couple of controllers (SOCAL, LA Center with 2 sector changes), the Captain would take over the radio and talk with the controller. With the 3rd controller change (still LA Center), [we were] was given a number to call for a possible pilot deviation.

The NEWHALL9 departure instructs a takeoff from 16L to "Climb on heading 163 degrees, cross FIM R-102 or D2.2 VNY at or below 1700 feet, then climbing LEFT turn heading 113 degrees to assigned altitude." After the Captain went to heading and began turning at 1300 feet, the command bars in NAV mode was correctly indicating to turn right, as the left turn was began early prior to the FIM R-102 or D2.2 VNY.

After clearing the area, the Captain kept reviewing the NEWHALL 9 SID and noted, "I see where I went wrong, that's what I get for trying to fly the SID by memory."

It should be noted that the takeoff clearance with the helicopter created a preventable distraction as there was a Traffic Alert (TA) shortly after takeoff. Even the first controller noted that they were "not sure why takeoff clearance at VNY was given with the helicopter maneuvering near the end of the runway." Also a contributing factor was that the Captain had been operating from VNY for many years and felt very comfortable with the area and procedures; but it had been a few years prior.

Corrective actions include to fly as briefed, be sure to take-off in NAV mode for departure (SID) unless the controller gives something to the contrary. Also, with a crewed aircraft, CRM should be maintained between the Pilot Flying (PF) and the Pilot Non-Flying (PNF). These delineations between the 2 crew members had been discussed previously, that when the autopilot is not engaged, then the PNF is responsible for selecting the correct
Flight Director modes and FMS changes, while at the command of the PF. Once the autopilot is engaged then the PF personally selects Flight Director modes and FMS changes, unless he/she directs the PNF otherwise. It is also imperative that SIDs, Approaches, and STARs be followed to their instructions unless other clearance is received from ATC. This applies no matter how much one is familiar with an airport or procedures.

Synopsis

CL-601 First Officer reported a track deviation occurred departing VNY when the flying pilot tried to fly the departure from memory.
<table>
<thead>
<tr>
<th><strong>ACN:</strong> 1440119 (39 of 50)</th>
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</thead>
</table>

**Time / Day**
- Date: 201704
- Local Time Of Day: 0601-1200

**Place**
- Locale Reference.Airport: BWI.Airport
- State Reference: MD
- Altitude.MSL.Single Value: 12000

**Environment**
- Flight Conditions: VMC
- Light: Daylight

**Aircraft**
- Reference: X
- ATC / Advisory.TRACON: PCT
- Aircraft Operator: Air Taxi
- Make Model Name: Cessna Citation Sovereign (C680)
- 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
- Route In Use.STAR: TRISH3
- Airspace.Class E: PCT

**Component**
- Aircraft Component: Altitude Hold/Capture

**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 Not Flying
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number.Accession Number: 1440119
- Human Factors: Communication Breakdown
- Human Factors: Situational Awareness
- Communication Breakdown.Party1: Flight Crew

**Events**
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : Clearance
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Regained Aircraft Control
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Provided Assistance

Assessments
Contributing Factors / Situations : Airspace Structure
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Human Factors

Narrative: 1
TRISH3 RNAV Arrival BWI - Flying Pilot Briefed STAR altitude restrictions. At FL140 [we were] cleared to descend via the STAR. Non Flying Pilot (NFP) set 4000 feet into the altitude alert and was confirmed by Pilot Flying (PF). Aircraft made TROYZ Intersection at FL120 and leveled off. After level off Flying Pilot went into the FMS PROG page and observed Top of Descent for next fix was scheduled in 1 min. Flying Pilot then went into the FMS and selected Direct 8000 feet interrupting the scheduled RNAV descent. Aircraft went into an immediate descent. Non flying pilot advised Approach FMS had lost VNAV and was unable to comply with STAR. ATC then descended [us] to 4000 feet for Radar Vectors for [the] 33R Visual.

CRM or lack thereof! PF was in my opinion unsure [the aircraft] was going to cross the next fix at the correct altitude. PF neglected to communicate concern. PF when unsure needs to communicate with NFP any concerns!

Synopsis
C680 Captain reported that the pilot flying went into the FMS and selected Direct 8000 feet interrupting the scheduled RNAV descent.
ACN: 1439855

Time / Day
Date: 201704
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: Night

Aircraft
Reference: X
ATC / Advisory.Ramp: 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: Taxi
Maintenance Status.Maintenance Deferred: Y
Maintenance Status.Records Complete: Y
Maintenance Status.Released For Service: Y
Maintenance Status.Required / Correct Doc On Board: Y

Component
Aircraft Component: Pneumatic System Control
Aircraft Reference: X
Problem: Improperly Operated
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: 1439855
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 Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1440400
Human Factors : Troubleshooting

**Events**

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : MEL
Detector.Person : Flight Crew
When Detected : Aircraft In Service At Gate
Result.General : Maintenance Action
Result.Flight Crew : Returned To Gate

**Assessments**

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

**Narrative: 1**

Aircraft was deferred with MEL 36-10-XX-XX (Pneumatic Supply Systems #3). The MEL does not specify whether to operate the air system in auto or manual--only that isolation valves are functioning. On pushback and starting #3 engine, the auto controller did not open the appropriate isolation valves to pressurize the #3 manifold for engine start and there was consequently no N2 rotation. At this point, while FO was starting the engine and stated that there was no rotation, I switched the controller to manual and opened the 1-2 and 1-3 isolation valves as is done to pressurize the manifold for start, thinking this was an MEL issue. I directed the FO to start all three engines in this configuration with the thought that after engine start the auto controller would operate normally. When switching back to Auto, after all engines running, the 1-3 isolation valve closed and the #3 manifold depressurized - same problem.

At this point, we realized that to operate in manual, we should have explicit direction in the MEL and wanted to check with maintenance about the need to defer the auto mode or some other procedure to pressurize the #3 manifold. Ramp control directed us to park at maintenance area and maintenance boarded the aircraft through the avionics door. Subsequent maintenance efforts to correct the problem showed that a manifold fail indication (part of their process to do an air system decay check) had not been cleared. By the time this was discovered as the problem, and another manifold decay check was executed, we had burned enough fuel to require return to a gate and refuel.

What led to problem: rather than applying systems knowledge and operations with an MEL of uncertain effects, in hindsight, when the #3 system did not pressurize, I should have gotten pulled back into the blocks, written it up and handed the problem to maintenance. It is unclear whether an earlier block turn back would have led to an earlier discovery of the problem.

Even though the MEL didn't direct operation in the auto mode, there was nothing that
directed use of manual mode. Automatic mode is the default on an MD-11. If there was an explicit note in the deferral about operating in auto, I may not have been inclined to attempt a start in manual. Having flown the first leg of the evening in a different aircraft type may have given me some propensity on my part to do so in this case on an MD-11. From a CRM standpoint, as a minimum, I should have stopped the start and discussed any actions with the FO so we were on the same page. Also, regarding the source of the problem (Maintenance procedures for the deferral results in a manifold fail detected), Maintenance procedures never direct this fault to be cleared and consequently, the auto controller will not try to pressurize a manifold for which it has an indication of failure. Maintenance procedures should explicitly direct that this fault is reset after the mandated manifold decay check. Such a note would have prevented the issue altogether.

**Narrative: 2**

An underlying cause of this issue was the omitted resetting of the intentional manifold failure directed by the decay test. This led to other than expected indications of the air system. The system did in fact work as intended in AUTO when it "thought" the manifold was failed and did not allow the system #3 to be pressurized. Thus, is not the aircraft system as a causal factor but the maintenance publication which does not direct the malfunction to be reset after testing is completed. Maintenance experience with this particular omission is not common place so they did not know to look for this particular factor.

On the human side: Fast hands in my humble opinion led to what could be deemed a prolonged resolution. The action of setting the system in Manual before stopping for a moment to think about it set in motion actions that were resolved through combined effort. But I wonder if issue would have been approached in quite the same way had we stopped the push immediately and pulled back to allow maintenance to troubleshoot on their own after a debrief by the CA.

1) **Hindsight:** I could/should have been more verbal in taking the more conservative route and recommending that we stop the start attempt and figure/think things out before proceeding further.
2) **The MEL did not specify to operate the air system in AUTO or MANUAL.** Correct it to reflect expected mode in such a condition and perhaps specify expected indications. For example: Instead of stating "...provided: a. Both isolation valves are operative..." in the remarks or exceptions box of the MEL, perhaps it could state "...provided system is in AUTO and: a. Both isolation valves are confirmed operational (green) with APU air ON, and b. Pneumatic pressure is verified in the affected system manifold when supplied from an alternate source."
3) **Correct the Maintenance publication to ensure it specifically directs the resetting of the intentional manifold failure.**

**Synopsis**

MD-11 flight crew reported that instructions were unclear for an MEL item for the pneumatic system.
ACN: 1431354 (41 of 50)

Time / Day
Date: 201703

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

Environment
Flight Conditions: VMC

Aircraft
Reference: X
ATC / Advisory.Tower: ZZZ
Aircraft Operator: Air Carrier
Make Model Name: B777 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 C: ZZZ

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
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Type: 218
ASRS Report Number.Accession Number: 1431354

Events
Anomaly.Deviation - Speed: All Types
Anomaly.Deviation - Procedural: Published Material / Policy
Anomaly.Inflight Event / Encounter: Unstabilized Approach
Detector.Person: Flight Crew
When Detected: In-flight
Result.General: None Reported / Taken

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

Narrative: 1
Captain cleared for approach on downwind. Turned base at 3700 ft inside final approach fix. I called 1000 ft high in reference to FAF altitude. I do not recall all of the details precisely but I called a go-around for airspeed being 30 kts fast. The captain kept working the controls (all automation was turned off on downwind). He landed. The approach was not flown in accordance with SOP for a visual. We ended up high and fast which resulted in excess speed throughout the approach to a short runway.

Better CRM between the crew could have prevented this situation.

**Synopsis**

B777 First Officer reported an unstabilized approach with a Captain that continued to a landing even though he called for a go-around.
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
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
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
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-aboards. 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.
ACN: 1430330 (43 of 50)

**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
- Qualification.Flight Attendant: Current
- ASRS Report Number.Accession Number: 1430330
- Human Factors: Communication Breakdown
- Communication Breakdown.Party1: Flight Attendant

**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.

Is 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.
**ACN: 1429627 (44 of 50)**

**Time / Day**
- Date: 201702
- Local Time Of Day: 0601-1200

**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: 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: Takeoff

**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: 1429627
- Human Factors: Communication Breakdown
- Human Factors: Situational Awareness
- Communication Breakdown.Party1: Flight Crew

**Events**
- Anomaly.Deviation - Procedural: Published Material / Policy
- Detector.Person: Flight Crew
- When Detected: In-flight
- Result.Flight Crew: Rejected Takeoff

**Assessments**
- Contributing Factors / Situations: Human Factors
- Contributing Factors / Situations: Procedure
- Primary Problem: Human Factors
Narrative: 1

I set up the MCDU and briefed the First Officer (FO) it would be a Flaps 4 departure. Being his leg, I had him give me the rest of the Takeoff brief. We ran the "before start to the line checklist," boarded, closed, pushed, and ran the "before start below the line checklist." On this check, FO called Flaps 2 required, selected, and indicated. Being that was what was selected, I repeated back "2 verified." This was the 1st chance to catch that flaps 4 needed to be selected.

I had ran the ACARS for flaps 4 data and inputted those takeoff speeds into the MCDU, but Flaps 2 were still selected at this point and is what was selected for takeoff in the MCDU. On the taxi as part of my Taxi flow, is the second chance I had to catch the mistake of Flaps 2 selected instead of Flaps 4. Next we ran the taxi check, and then being number 1 for takeoff, FO started on his pre-takeoff checks. It was here we got a Takeoff config ok. I held short of the runway, looked down at my notes and saw my reminder that we needed to be Flaps 4. I told FO, and he selected Flaps 4. We were then cleared for Takeoff.

We ran the before takeoff check and lined up on the runway. I gave FO the controls. As he pushed the Thrust levers forward, we got a "No Take Off - Flaps." We immediately throttled back and contacted the tower telling them we needed to exit the runway to check something. We were basically given two right turns to taxi back to [the] runway. We figured out we had the right Flap setting selected, the right ACARS speeds for Flaps 4 inputted, but had not set Flaps 4 in the MCDU. We corrected our mistake, ran all appropriate checklists again, received clearance for takeoff, and continued on our way.

Complacency, lack of CRM, and overall missing attention to detail led to this incident. A checklist is useless if you do not actually check what you are supposed to. Moving forward, anytime something (ie Flaps, data, etc) needs to be verified - I will take the time to point and look right at that of which needs to be verified and checked. I will encourage my coworkers to do the same and that if something doesn't look right- speak up.

Synopsis

EMB-175 Captain reported that they rejected takeoff due to a misconfigured flap position.
**ACN: 1428180** (45 of 50)

**Time / Day**
- Date: 201702
- Local Time Of Day: 1801-2400

**Place**
- Locale Reference.Airport: ZZZ.Airport
- State Reference: US
- Altitude.MSL.Single Value: 24000

**Environment**
- Flight Conditions: VMC
- Light: Night

**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: Ferry
- Nav In Use: GPS
- Nav In Use: FMS Or FMC
- Flight Phase: Cruise
- Airspace.Class A: ZZZ

**Component : 1**
- Aircraft Component: AC Generation
- Aircraft Reference: X
- Problem: Malfunctioning

**Component : 2**
- Aircraft Component: APU
- 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: First Officer
- Function.Flight Crew: Pilot Not Flying
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number.Accession Number: 1428180
- Human Factors: Distraction
- Human Factors: Fatigue
Events
Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : Maintenance
Anomaly.Deviation - Procedural : Weight And Balance
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : Pre-flight
When Detected : In-flight
Result.General : Work Refused
Result.General : Maintenance Action
Result.Flight Crew : Diverted
Result.Flight Crew : Landed As Precaution
Result.Flight Crew : FLC complied w / Automation / Advisory

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

Narrative: 1
This narrative is the First Officer's sequence of events occurring during a two day period. The events leading up to this flight operation are discussed in my previous report and involved separate maintenance discrepancies. At the conclusion of my previous report, all pertinent maintenance discrepancies were resolved.

The Captain and I reported for duty mid-morning. We departed and proceeded on course. Our planned cruise altitude was FL240, due to MEL 21-51-XX RH Air Conditioning Pack. Approximately 5-10 minutes after reaching cruise, we received multiple EICAS master caution messages. I was pilot monitoring (PM) and the Captain was pilot flying (PF). The first EICAS message I observed was "GEN 2 OFF" master caution, followed by the autopilot disconnect chime and a flash of our PFD and MFD screens. Within 5-10 seconds after that message, the second EICAS message I observed was IDG 2. This IDG 2 message posted and cleared several times, then became steady. I looked on the overhead panel and observed that the IDG 2 switch-light indicated "FAULT." The Captain took the controls and began hand-flying, and asked me what the problem was. I explained to the Captain that GEN 2 had switched off, and we had an IDG 2 fault. I told the Captain I felt that the IDG malfunction most likely tripped the generator offline. We also had several other EICAS messages, including STAB/MACH TRIM and R WSHLD and R WINDOW HEAT messages. We then re-engaged the autopilot.

The Captain called for the IDG 2 QRH checklist. I completed the checklist, which directed me set GEN 2 to RESET/OFF, to confirm and disconnect IDG 2, and then to start the APU and turn on the APU GEN. I completed the checklist and reported the pertinent checklist notes to the Captain. At this point, we then ran the QRH checklists for trim and window/windshield heat messages, which all were resolved (I felt these messages all came
from the momentary power interruption when the IDG/GEN failed). The Captain and I then discussed the scenario and felt we had completed all of the QRH checklists properly. The QRH did not advise any flight deviations, so we decided it was safe to continue our flight to our filed destination. We were in the process of contacting dispatch to ensure we could account for the APU fuel burn when we were interrupted. Approximately 5 minutes after the IDG event, we received an APU OIL TEMP master caution message. The Captain called for the APU OIL TEMP QRH checklist. I ran the checklist, which first directed me to transfer the packs (one was deferred) to the engines (which had already been accomplished during climb, per the MEL procedure). The QRH then asked if the APU was required. I answered "YES" to this question, as our APU GEN was required to be operating per the IDG 2 QRH checklist. The Captain agreed with this. I followed the QRH, which directed us to monitor the APU indications and land at the nearest suitable airport. I discussed this with the Captain, and we both acknowledged that if the APU failed, we would be down to one operating electric generator.

The Captain told me we would divert, and we began to split up duties in the flight deck. The Captain asked if I knew of any nearby airports, and I quickly referenced my EFB and the "AIRPORTS" option of the FMS MFD display. I observed an airport directly east, within 5-10 miles, of the aircraft. The Captain quickly made a search of all airports within our nearest airport cone. We checked the distance to our departure airport and noted it was approximately 75 miles. Thus, the Captain made the decision that the nearby airport would be our best diversion point. He began to coordinate with ATC, and I completed all necessary diversion tasks. I obtained the ATIS, conducted a landing distance assessment, modified our FMS destination and flight plan, and loaded/briefed the instrument approach. The Captain continued flying and coordinated with ATC. The Captain also momentarily asked me to help him send an ACARS to our Dispatcher, in which we said the aircraft had multiple maintenance problems and we were diverting. The dispatcher replied and agreed, and she amended our dispatch release to reflect the diversion. The Captain and I then briefed the landing, discussed any additional threats and our mitigation plan, and finally completed the normal checklists and flows. The remainder of the flight was operated without incident and within all our company procedures. Due to time constraints, I did not make a PA to the cabin, but we did give our passengers the 10,000 ft sterile cockpit bells. Please note the only passengers on-board were a company flight attendant and two company mechanics. Thus, we felt that they would be adequately understanding of the situation, and that our flight attendant would ensure the cabin was ready for landing. The Captain and I did discuss declaring an emergency, but we felt the flight conditions were safe and under control. We did agree that if the APU and APU GEN failed, we would declare an emergency. Upon landing, we coordinated with ATC and another air carrier's station and obtained a parking location. We also sent our dispatcher another ACARS message detailing the problems. Once we parked the aircraft at the gate, the Captain and I shut the aircraft down and completed all relevant checklists. The Captain made a telephone call to dispatch, and I walked back into the cabin and explained the situation to our flight attendant and mechanics.

The Captain made two logbook entries: "IDG 2 master caution in cruise flight. Complied with QRH." and "APU OIL TEMP master caution while on one [engine] generator due to IDG 2 caution. Complied with QRH." The mechanics consulted with Maintenance Control and began inspecting the aircraft on the ramp. One of the mechanics relayed to me the status of the aircraft when I walked out to observe their work. He said the IDG on the right engine "was most likely shot" and pointed out the oil filter was in pressure bypass mode. He said he felt it would be unsafe to try and service the IDG, but rather that it needed to be replaced. There was no oil leak observed by myself or the mechanics inside the engine cowling. The mechanic then reported to me that he checked the APU oil level,
and that it was "very low." The mechanic reported there were no oil leaks observed inside the APU's titanium box. Upon further questioning by myself of how the low oil level occurred, the mechanic said he did not know. He remarked that APU oil levels should be regularly checked during CRJ-200 line/service checks. Ultimately, the mechanics deferred the IDG 2 and serviced and leak-checked the APU oil as the corrective actions for the two maintenance log entries. When I returned to the cockpit, the Captain informed me that Dispatch and Crew Scheduling had requested for us to take an FAR 117 flight duty period extension to complete the flight segment into our filed destination, to avoid it being cancelled. The Captain and I both agreed we were tired, and after a long sit at the previous airport and subsequent diversion, did not feel safe operating past the FDP limits. Thus, we rejected the extension. Crew Scheduling then provided all five of us (pilots, flight attendant, and mechanics) with hotel rooms. We were released from duty very late at night.

Day Two

The Captain and I reported for duty at mid-morning. We proceeded to the aircraft and began our pre-flight preparations. Two MELs had been applied - the IDG 2 (MEL 24-11-XX-XX) and APU OIL CHECK (related to IDG 2). The mechanics inspected the APU oil level and made an entry in the logbook. The Captain and I were satisfied with these entries and corrective actions, and the preflight inspection revealed no further abnormalities. We did also have an unrelated MEL - RH Air Conditioning Pack (MEL 21-51-XX-XX), which was also satisfactory. I was pilot flying (PF) for this leg, so I conducted the departure briefing. At the conclusion of the briefing, I read through each MEL with the Captain and discussed operational restrictions. I observed that we were limited to a minimum flight weight of 38,500 LBS per MEL 24-11-XX-XX. Since our aircraft was very light (3 passengers, 2 pilots), I told the Captain that we may have an issue with this limitation. We reviewed our weight numbers and confirmed that we would be landing well below this minimum flight weight for landing, as planned in our dispatch release. The Captain remarked this was a "good catch," and he made a phone call to Dispatch. Our dispatcher decided to add approximately 4,000 LBS of fuel, which would have us landing at just over 39,000 LBS. We found this to be an acceptable solution. We uplifted the additional fuel, and safely conducted the flight without incident and within all company SOPs.

I believe the biggest threat in this situation was the cascade of multiple system EICAS messages in a confined period of time. I feel that the Captain and I did a great job properly managing the workload and addressing the situation in a timely manner. Further, the Captain was quick to divide duties on the flight deck and ensure that one pilot was flying the aircraft and monitoring ATC, while the other pilot was able to perform troubleshooting and QRH duties. After the fact, I again reviewed the logbook for our aircraft. I was very surprised to find two entries a month earlier, which described almost word for word the scenario that we encountered. "In climb IDG DISC status message on number 2 engine." "After APU start - APU OIL TEMP caution." The aircraft appeared to have diverted following these issues, as both pages stated "ZZZ" as the station. The corrective action for the IDG 2 DISC message was a reset/could not duplicate, while the corrective action for the APU OIL TEMP message was adding 3/4 qt of oil to the APU. Of note, the next logbook described a replacement of the IDG 2 with a new unit. Thus, it appears that this aircraft encountered a very similar event less than a month ago. The IDG 2 was replaced, but it seems the corrective action for the APU being low on oil was simply to fill up the oil and sign off the logbook. Again, this is indicative of a "keep the airplane moving" mentality across our company. Given our APU was again low on oil, most likely there is a bigger problem with the APU on this specific aircraft that was never identified or purposefully ignored by our maintenance. Lastly, after the MEL 24-11-XX-XX was applied,
there appears to be no "check" in our system for dispatch to comply with the minimum flight weight of 38,500 LBS. If the Captain and I had not caught this error, we would have most likely been dispatched in a condition contrary to the MEL. Perhaps our Operations and dispatch need to develop some kind of performance check to ensure this limitation is automatically flagged on dispatch releases in the future.

I think the biggest thing to learn from this event is that it is imperative for a Captain and First Officer to develop a positive working synergy on the flight deck. I feel that the Captain's CRM allowed for us to work together extremely well, and we quickly and easily completed the diversion. Further, I believe this report again shows the negative safety culture of "keep the airplane moving" and "controllable completion factor" at our carrier. I believe for a write-up like this, there needs to be some kind of "big picture" troubleshooting, or at least a more comprehensive monitoring of the parts involved. If the APU had been placed on an oil watch, maintenance may have established why it was 3-4 qts low on oil a month earlier, and we would have never needed to go through the situation of diverting.

Synopsis

CRJ-200 First Officer reported diverting for IDG and APU problems. They discovered that a month earlier another crew had a similar experience with the exact same outcome.
**ACN: 1427831** (46 of 50)

**Time / Day**
- Date: 201702
- Local Time Of Day: 1801-2400

**Place**
- Locale Reference: Airport: ZZZ.Airport
- State Reference: US

**Environment**
- Flight Conditions: Mixed
- Weather Elements / Visibility: Thunderstorm
- Weather Elements / Visibility: Rain
- Weather Elements / Visibility: Turbulence
- Light: Night

**Aircraft**
- Reference: X
- ATC / Advisory: TRACON: 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: Initial Approach
- Airspace: Class C: ZZZ

**Person**
- Reference: 1
- Location Of Person: Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function: Flight Crew: First Officer
- Function: Flight Crew: Pilot Flying
- Qualification: Flight Crew: Air Transport Pilot (ATP)
- Experience: Flight Crew: Type: 300
- ASRS Report Number: Accession Number: 1427831
- Human Factors: Communication Breakdown
- Communication Breakdown: Party1: Flight Crew
- Communication Breakdown: Party2: Flight Crew

**Events**
- Anomaly: Deviation - Altitude: Excursion From Assigned Altitude
- Anomaly: Deviation - Track / Heading: All Types
- Anomaly: Deviation - Procedural: Published Material / Policy
- Anomaly: Deviation - Procedural: Clearance
- Anomaly: Inflight Event / Encounter: Weather / Turbulence
- Detector: Person: Flight Crew
- When Detected: In-flight
Results:
Flight Crew: Took Evasive Action
Air Traffic Control: Provided Assistance
Aircraft: Aircraft Damaged

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

Narrative: 1

Prior to starting the approach into ZZZ, it was evident that a line of thunderstorms was moving over the airport from the West. The weather continued to deteriorate and it appeared that we would not make it in. ATC switched runways in order to attempt to get in behind the worst of the cells. However, as we deviated south, we experienced severe turbulence and heavy precipitation flying directly into red and purple painting on our radar. I consistently expressed my discomfort of these conditions due to the airplane unable to maintain altitude and airspeed with drastic deviations up to plus or minus 700 ft. I questioned the captain whether or not the airplane could handle such violent turbulence but he did not seem phased. I suggested we divert as I observed more cells in our path, yet he was not would not take my comments seriously and elected to continue. Microbursts were then reported on final approach just ahead of our position so captain decided to have us proceed through the localizer and briefly wait them out. After a couple minutes, ATC gave us vectors to turn back toward the localizer. Precipitation was still heavy with moderate turbulence the whole way down, yet I managed to land safely.

After the flight had ended we discussed the possibility that we may have been struck by lightning, however, could not make a concrete conclusion that one had occurred. Before heading outside to conduct the post flight inspection, captain briefed me on what to look for regarding a possible lightning strike. During the time of my post flight inspection, there was heavy rain, wind, and lightning in the vicinity making visibility restrictive and challenging. I conducted the walk around with an adequate flashlight with ample lighting, as well as my vest and a clear poncho to keep me dry. I searched all features of the plane to the best of my abilities given these precarious weather conditions and found nothing that appeared to be compromised or out of place. I immediately reported this to my captain and a mechanic on board the aircraft after the walk around. The next day we received word that maintenance was called for a missing static wick and other damage to the aircraft due to what must have been a lightning strike and the "exit point" of the electricity.

Although I executed the post flight inspection to the best of my abilities, I may have put more emphasis on the fuselage and surfaces of the aircraft in search of the initial impact area of a lightning strike. If this happens again in the future I will put just as much focus on searching the aft sections of the aircraft to what could be the exit point of such lightning strike as well.

I feel as though the captain lacks good judgement and effective CRM after flying multiple trips with him. Flying into a thunderstorm such as this is reckless and he should take the recommendations of his first officer more seriously to divert to an alternate airport rather than take such unnecessary risks in dangerous conditions. Simply vectoring away from the storm to the east to hold for a while would have been an easy solution given the amount of fuel we had onboard. He has intentionally dismissed using SOPs during multiple past flights, resulting in an unpredictable cockpit environment. Overall he lacks professionalism,
including the way in which he communicates with crewmembers. I propose that he put safety at the forefront of operations while simply complying with company policy.

**Synopsis**

EMB-175 First Officer reported they continued the flight to their destination regardless of the thunderstorms in the area.
ACN: 1427576 (47 of 50)

Time / Day
Date: 201702
Local Time Of Day: 0001-0600

Place
Locale Reference.Airport: ZZZ.Airport
State Reference: US
Altitude.MSL.Single Value: 26000

Environment
Flight Conditions: IMC
Light: Night

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

Component
Aircraft Component: Speedbrake/Spoiler
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: 12065
Experience.Flight Crew.Last 90 Days: 66
Experience.Flight Crew.Type: 3795
ASRS Report Number.Accession Number: 1427576

Person: 2
Reference: 2
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
I was the Flying Pilot during the descent into ZZZ. While descending on the arrival, I deployed the spoilers (in speed brake mode) to 1/3 of the flight limit, without incident. A few moments later I further deployed the spoilers and the aircraft began a rapid roll to the right followed immediately by the autopilot disconnecting. After assuming manual control of the aircraft and returning to straight and level flight, an additional attempt to deploy spoilers with the autopilot disengaged (at time of deployment) was made and the same rolling motion occurred. The configuration synoptic showed the left spoilers stowed and the right spoilers deployed. We looked for an applicable checklist for this situation in both the QRH and AOM (Aircraft Operations Manual) without success. Due to the asymmetric deployment and resulting rolling motion we made an initial decision to land without using ground spoilers (auto or manual). We then attempted to get landing distance data for the no-ground spoiler condition. We checked the non-normal landing data options, the QRH and the AOM and found landing distance data with manual (as opposed to auto) ground spoiler deployment, but no data for a no-spoiler landing. We contacted Dispatch via SATCOM and spoke with both our dispatcher and a engineer to determine: 1. Is there a checklist we're not aware of that could address this problem? 2. Is there landing distance data available for a no-spoiler landing? 3. Is there anything else we should be considering prior to landing the aircraft? The answer we got was no, no and no. While still on the line
with Dispatch, I elected to try spoiler deployment one more time. Spoiler deployment was normal. I cycled the spoilers several times and each time the spoilers deployed normally (symmetrically) with no rolling motion at all. We decided to land with the spoilers disarmed and to deploy them manually after touchdown. The landing was uneventful and the spoilers deployed symmetrically when the handle was moved aft after touchdown.

As far as ATC is concerned, we told them that we'd be unable to make two assigned crossing restrictions during our descent due to a problem we were troubleshooting. We notified them early and they amended our clearance each time to delete the restrictions. We ended up asking for long vectors while we were talking to dispatch. We did not declare an emergency, request priority handling or ask for men and equipment to be alerted because the system was working normally again. The primary purpose of this report is to highlight the lack of a checklist to address this problem and, more importantly, the lack of landing data for a no-spoiler condition. I would like to commend my crew for excellent CRM and everyone taking part in seeing this situation to a successful conclusion! I have filed an event report concerning this event.

**Narrative: 2**

[Report narrative contained no additional information.]

**Narrative: 3**

[Report narrative contained no additional information.]

**Synopsis**

MD-11 flight crew reported an asymmetrical spoiler deployment during descent. The crew reported there was no data available for a no-spoiler landing.
ACN: 1427007 (48 of 50)

Time / Day
Date: 201702
Local Time Of Day: 0001-0600

Place
Locale Reference.Airport: MMMX.Airport
State Reference: FO

Environment
Flight Conditions: VMC
Weather Elements / Visibility: Haze / Smoke
Light: Night

Aircraft
Reference: X
ATC / Advisory.Center: MMFR
Aircraft Operator: Air Carrier
Make Model Name: Widebody Transport
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Cargo / Freight
Nav In Use: FMS Or FMC
Flight Phase: Climb
Route In Use.SID: TOLUCA 6A

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Relief Pilot
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1427007
Human Factors: Confusion
Human Factors: Communication Breakdown
Communication Breakdown.Party1: Flight Crew
Communication Breakdown.Party2: Flight Crew

Events
Anomaly.Deviation - Track / Heading: All Types
Anomaly.Deviation - Procedural: Published Material / Policy
Detector.Person: Flight Crew
When Detected: In-flight
Result.Flight Crew: Became Reoriented
Result.Air Traffic Control: Issued Advisory / Alert

Assessments
Contributing Factors / Situations: Aircraft
Contributing Factors / Situations: Airspace Structure
Contributing Factors / Situations: Human Factors
Contributing Factors / Situations: Procedure
Primary Problem: Aircraft

Narrative: 1

Events took place in the middle of the night, and we were on the ground in Mexico City for over six hours, so fatigue was probably a factor. The TOLUCA 6A departure out of MMMX requires a loop around the city for noise abatement, but terrain is also a significant factor if getting too wide outside of the loop. There is a right turn at 6 DME to a HDG of 174, and then another right turn at a second fix to a course of 263 (the TLC 083 radial inbound); creating a triangle of sorts. Both of these fixes are depicted on the departure as "fly over" and not "fly by" points. We were flying to airfields that are not in the aircraft's limited database. Therefore, approaches and departures had to be hand-built. The two pilots spent about 45 minutes trying to correctly build the departure in the box (they had plenty of time due to loading delays). The copilot was concerned that he could not input the points as "fly-over" points. In the air, when you go direct to a fix, you can also insert an intercept heading. However, none of us knew how to work that into the flight plan waypoints on the ground (if it is even possible in the old box). The displayed path on the ND treated the waypoints as "fly-by", meaning it cut the corners of the triangle and was inside of our required course. There were therefore two loops: An outer loop, which was our intended course and the one depicted on the SID, and an inner loop that cut the corners of the waypoints, which is what was depicted on the ND as we flew the departure.

As the copilot was very concerned with being inside of course, he briefed that he would takeoff in Heading Select mode. He would overfly the turn point, and then manually turn to the next heading. For the first turn point, it worked reasonable well. The PF may have started turning just a hair early, or maybe turned with too much bank, because we rolled out slightly inside of course. After completing the right turn at 6 DME, the PF initially but the heading bug to direct to the next fix, and the no-wind heading direct to the next fix was around 165 instead of 174. This is how I know that we were slightly inside of our "outer loop" intended course, although we were still outside of the "inner loop" purple course depicted on the ND. I expected the PF to correct back to the left until the heading to the next fix was 174, but he instead rolled the heading bug to 174, paralleling the course slightly inside of where we should have been (I didn't speak up because the deviation was minor and the next turn point would come quickly).

Although we had briefed "fly over" vs "fly by", and the copilot was concerned about being inside of course, apparently the PF was focused solely on the first turn point, because for some reason he turned to the second heading way too early. Instead of overflying the second waypoint and then turning, he rolled in a heading of 263 at least two miles prior to the turn point. I don't know if the plane even got to a heading of 263 before he realized he had turned early, because he then put in an intercept heading to correct back left, but it was not nearly aggressive enough (maybe a 230). I said "You are cutting inside of course" as I saw the plane was set to cross almost perpendicular to the purple line on the ND (the "inner loop"...the entire reason we were flying in heading mode instead of LNAV was that the depicted loop was "too far inside of course," yet we were about to cut well inside of even the inner loop). The PF asked the PM to put direct to the third waypoint with an inbound course of 263, and was distracted with this request as we were about to cross inside of the loop. I said "At this point you're better off just going LNAV" but got no response. The corrective action at this point was a hard 70-90 degree turn to the left to at least intercept the "inner loop," followed by an immediate right turn to 263. Right as we
were crossing inside of the inner loop, the PM said "I'll just put you direct" when the PF wanted the 263 inbound course. As he expressed his concern with that and they hadn't yet modified the route, I said more direct "just go LNAV" (which would have turned the plane left back to 174, we were crossing the depicted line at this point). The pilot ended up putting direct to the third waypoint, which gave a course of 250 instead of 263 (and the plane was pretty much on that heading already). Had he put 263 like the PF requested, the plane would have gradually corrected back to course, but not modifying the route at all and just engaging LNAV with what was originally built would have been a smaller overall deviation. Both pilots seemed to think that our overall deviation was minor and no more than a mile, not realizing how badly we cut that second corner (we were around three miles inside of course). After discussing the direct 250 vs direct with a 263, the captain made a comment "Well no one has yelled at us yet," and as if on cue the controller told us "Aircraft X, you are not on the procedure." I got the ATIS and read it off, and noticed that only the Captain rolled in the correct altimeter setting. On the descent/arrival checklist, the PF seemed momentarily confused that the PM had a different altimeter setting, and I spoke up again with no response. That's when I noticed that the copilot had his FLT volume punched off. He hadn't heard me read ATIS, and that's why he didn't respond to any of my inputs on the departure. I reached over and punched his intercom on. Once we landed and shut down and had a chance to discuss, I got a pen and paper and drew out what I had watched happen on the departure. The PF stated "I disagree" and remained convinced that the only problem was the Captain not putting in the 263 intercept when he went direct to the third waypoint (and while that would have helped, the plane was already headed west and well inside of course when they were having the discussion about whether or not to put in the intercept heading). While part of this course deviation was pilot induced and could have been flown better, it would have been nearly impossible to fly the departure perfectly, as we could not depict our desired course correctly. Things snowballed, but really began with not being able to pull the departure from a database or manually build one with "fly over" points.

This aircraft should be limited to destinations that are in its database, until the NG box can be upgraded. Our course deviation was mainly a noise abatement/ATC issue. However, there is significant terrain nearby (i.e., had the deviation been outside of course instead of inside). The weather was severe VFR, but had we been IMC the event would have been much more harrowing, and possibly a safety issue.

Had this been an RNP-1 or RNAV-1 Departure (which I believe all RNAV departures now are in the US, and is becoming the international standard), we would not have been legal to fly it (as all procedures must be pulled by name from a database without pilot modification). Although the departures out of Guadalajara and Mexico City do not state "RNAV1" and it was technically legal, and there were contributing factors of pilot situational awareness and CRM, the single biggest factor that led to our course deviation was the limitation of the old NG box. The lack of a database also caused problems on the way. We executed not exactly a go-around, but we had to break off the approach and get vectors for a second try. The approach was changed last-minute from the one we were expecting and had hand-built at altitude, and by the time we had it set up again, because it couldn't quickly be pulled from the database, we were too high to make the runway.

**Synopsis**

Air carrier Relief Pilot reported that after takeoff they were unable to maintain departure procedures due to the limited database in the aircraft.
Time / Day
Date : 201702
Local Time Of Day : 1201-1800

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

Environment
Flight Conditions : IMC
Weather Elements / Visibility : Icing
Light : Daylight

Aircraft
Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Taxi
Make Model Name : Learjet 40
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 135
Flight Plan : IFR
Mission : Passenger
Flight Phase : Descent
Airspace.Class E : ZZZ

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

Person
Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Taxi
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1423396

Events
Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation - Speed : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Flight Crew
When Detected : In-flight
Result. General: Maintenance Action  
Result. Flight Crew: Landed in Emergency Condition  
Result. Air Traffic Control: Provided Assistance

Assessments

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

Narrative: 1

I was assigned PIC on a flight carrying three passengers on a LR 40. The preflight was conducted in accordance with the checklist. Engine start and subsequent cockpit checks did not yield any abnormalities that would cause the flight to be cancelled/delayed. Takeoff, departure, and cruise were uneventful. During our descent we got an Amber EICAS message "Rudder Boost INOP". We ran the appropriate checklist which called for pulling a CB. That tripped off both yaw dampers (YD) and autopilot. The airplane started a roll to the left which I counteracted. The CB was set in accordance with the checklist. YD and AP were re-engaged and everything seemed to work normal again. No EICAS message at that time.

A short time thereafter we got the same message again. Simultaneously we received a PRIM PITCH TRIM FAULT (white) and IAS (amber, PFD) message. The airspeed indications were unreliable, differing between both Pilot's PFDs up to 60 KIAS. The IAS on the PF/left side dropped at some point by about 130 KIAS before returning to a "normal" value. At this point, as the indications seemed more "reliable" the controls were transferred to that side. ATC was advised of our situation. While the SIC was flying I monitored the systems available as well as requesting Speed and ALT read outs from ATC (difference between cockpit and ATC was up to 80 KIAS). We were assigned block ALT 5500-7000. As we had no reliable indications with regards to speed I told the SIC to fly by power settings and don't rely on the airspeed tape. To avoid any further distractions I requested to be taken off the arrival and being vectored straight to the ILS. ATC accommodated immediately. We flew the ILS, when handed off to Tower we were advised of our airspeed which was reported to be 110 KIAS while our cockpit instruments indicated 130 KIAS. To be safe PF added a little more power. From what I remember we landed a little faster than Vref but did not exceed any limitations.

I am glad that we landed safely. As we had multiple issues to deal with, multiple EICAS messages at the same time, IMC, icing, it became apparent that we had to prioritize. Possible ADC (Air Data Computer) failure took precedent over everything else. No doubt, the decision to [advise ATC] was the best course of action. We were able to focus on the tasks at hand while ATC kept other planes "away" from us. We made it safely on the ground. That's all that matters. No injuries, no damage. The fact that the PF cut off the engines after touchdown instead of engaging the thrust reversers is/was the least of our problems. Clear of the runway we waited for transportation for our passengers who didn't seem to be phased by the events as well as a tug to pull the plane to the facility. After the plane was parked I called Maintenance and the Chief Pilot and advised them of our experience. Consequent Maintenance write ups were filed and submitted. In our case proper training and great CRM made all the difference.

Synopsis

LR40 Captain reported "Rudder Boost INOP" light illuminated followed by pitch trim and IAS faults, as well as unreliable airspeed indications.
ACN: 1423070 (50 of 50)

Time / Day

Date: 201702
Local Time Of Day: 0001-0600

Place

Locale Reference.Airport: ZZZ.Airport
State Reference: US
Altitude.MSL.Single Value: 16000

Environment

Flight Conditions: VMC
Light: Night

Aircraft

Reference: X
ATC / Advisory.Center: 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: Climb
Airspace.Class E: ZZZ

Component

Aircraft Component: Engine Air Pneumatic Ducting
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: Captain
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1423070
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 Flying
Qualification: Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number: Accession Number : 1423077
Human Factors : Situational Awareness

Events

Anomaly: Aircraft Equipment Problem : Critical
Anomaly: Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Anomaly: Deviation - Speed : All Types
Detector: Automation : Aircraft Other Automation
Detector: Person : Flight Crew
When Detected : In-flight
Result: General : Maintenance Action
Result: Flight Crew : Returned To Departure Airport
Result: Flight Crew : Landed in Emergency Condition
Result: Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

On climbout through 16000 feet, approximately 7 minutes after takeoff, APU Fire Alert and APU Fire Handle Light illuminated, along with Aural Alert. Captain was Pilot Monitoring and FO was PF at time. PM assessed for a moment and conferred with PF before executing Phase One procedure. Level 3 Alert and Aural Alert went away after a few seconds but light in APU Fire Handle remained lit. Phase one procedure was complied with and Bottle 2 was discharged. In the meantime PM advised Center and coordinated immediate return. PM then ran QRH checklist for APU Fire while PF flew and talked to Center. After approximately one to two minutes after initially pulling fire handle and discharging the first bottle the Aural Alert and Level 3 Alert returned and the second bottle (Agent One) was discharged. Those two alerts returned intermittently throughout remainder of flight. Captain then took controls as PF and made the decision to stay fast (350 kts) below 10,000 to expedite return. PF slowed the airplane approaching and configured for landing on schedule. We intercepted the ILS on a visual approach becoming stable with checklists complete by 1000 AGL. Landing was normal and on rollout we coordinated with tower to exit onto the taxiway where emergency vehicles met the airplane to inspect the tail area for indications of fire/smoke. The emergency vehicles reported no abnormal visual or infrared indications.

The fire handle remained illuminated but all other alerts stayed extinguished. We elected to taxi back to the gate with the emergency vehicles following us, continuing to monitor the airplane. During the taxi back the FO suggested we secure Engine 2. This seemed prudent given the likelihood of a bleed leak in the tail giving the Fire alerts so we secured Engine 2 and advised Ramp Tower. About two minutes after shutting down Engine 2 the light in the APU Fire Handle extinguished as well. We parked the aircraft and shut down normally. Log entries were made for the APU Fire alert and for a Reverser 2 Press Fault and Reverser 2 Unlock indication. Maintenance was debriefed on everything before leaving the airplane. FO did an outstanding job as both PF and PM throughout the emergency and made excellent and timely suggestions (securing number 2 engine on deck especially). In our debrief we discussed Captain's decision to momentarily delay executing Phase One procedure and agreed that it would have been better to immediately pull the APU Fire Handle and discharge the first bottle.
APU Fire Indication, likely caused by Bleed Air leak in tail section. This was agreed with by maintenance who will make the actual determination of the cause. Nothing we could have done to prevent the emergency and I believe our CRM and decision making were sound with the exception of momentarily delaying the execution of Phase One procedures. Given the indications of a possible fire in the tail section of the fuselage I believe it was more than prudent to get the airplane on the ground ASAP and to exceed 250 kts below 10000.

**Narrative: 2**

[Report narrative contained no additional information.]

**Synopsis**

MD-11 flight crew reported experiencing an APU fire warning on climbout.