ASRS Database Report Set

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, 2017

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

Number of New Records in Report Set............21

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: 1402528 (1 of 50)

Synopsis
During engine start an A320 ADR 1 failed so the crew returned to the gate where Maintenance moved ADR 1 to the ADR 3 position, and ADR 3 to ADR 1 position. ADR 1's history included multiple resets so the crew objected but were released by the Chief Pilot and Maintenance. After takeoff, ADR 1 and ADR 3 both failed, so the flight completed the ECAMs and returned to land.

ACN: 1402352 (2 of 50)

Synopsis
BD700 (GLEX) Captain reported being cleared to FL230 which the First Officer under training, interpreted as 2300 meters on the SIERA7C to VHHH. ATC issued further descent to FL180 as the crew was approaching that altitude and short cuts off the arrival, to the ILS Runway 7L. The Captain became task saturated and, with little support from the First Officer, descended to 500 feet AGL on the localizer without glideslope intercept until a GPWS warning was heard.

ACN: 1399587 (3 of 50)

Synopsis
A Captain and First Officer described an unstabilized approach and go-around in a low fuel state after holding for passing thunderstorms.

ACN: 1398716 (4 of 50)

Synopsis
Air carrier Captain reported they feel fatigue events are under-reported due in part to a lengthy fatigue reporting form.

ACN: 1397028 (5 of 50)

Synopsis
B757 flight crew reported receiving an EICAS GEAR DISAGREE message and discrete GEAR light. After burning off fuel and flying a low approach, the flight landed safely and was towed off the runway.

ACN: 1396134 (6 of 50)

Synopsis
Flight crew reported multiple pack issues threatening to destabilize cabin pressurization. Crew was able to stabilize the issues and continue to its destination.

ACN: 1392942 (7 of 50)

Synopsis
EMB-145 First Officer reported the Captain failed to follow SOPs during a hold entry resulting in a track deviation.

**ACN: 1392532 (8 of 50)**

**Synopsis**
Air Carrier flight crew departing IAH Runway 15L reported turning the wrong direction on departure, received a correction call from the Tower Controller and an RA soon thereafter. Crew reported reversing the turn. Crew reported runway assignment was changed before departure.

**ACN: 1391473 (9 of 50)**

**Synopsis**
B757-200 Captain reported rejecting the takeoff when the First Officer's airspeed read zero because the pitot covers had not been removed.

**ACN: 1390440 (10 of 50)**

**Synopsis**
LR-60 First Officer described his CRM discussions with his Captain, also the Chief Pilot of the company, about his flights exceeding 250 kts below 10,000 ft. The Captain ignored the objection and at one point flew at 342 kts below 10,000 ft.

**ACN: 1386790 (11 of 50)**

**Synopsis**
A Flight Instructor in a Beechcraft BE9L reported, while taxiing to the hold short line, the RH main crept off the taxiway causing the RH propeller to clip the taxi light.

**ACN: 1382795 (12 of 50)**

**Synopsis**
B737 Check Airman does not believe that the current method of dealing with obstacle NOTAMs by the Engineering Department of his company is adequate to ensure that all of the NOTAMs have been addressed and the pertinent ones identified.

**ACN: 1382136 (13 of 50)**

**Synopsis**
A Flight Attendant reported while having a very rough approach the pilots did a go-around and something hit the right wing. The flight attendants did not have any communication with the flight deck.
Synopsis
A320 flight crew reported during climb the First Officer’s eyes became irritated, a floor vibration developed, and then the aircraft filled with sulfur smelling smoke. A diversion was made to the nearest suitable airport. An air conditioning system fault was suspected.

ACN: 1370617 (15 of 50)

Synopsis
A320 Captain experienced an electrical anomaly at FL340 resulting in loss of autopilot and autothrust along with Navigation Display information and frozen MCDUs. PFDs indicated Alternate Law. ATC is advised and the flight diverts to a suitable alternate airport. Before landing all systems return to normal operation.

ACN: 1366999 (16 of 50)

Synopsis
Air taxi Captain reported an altitude deviation resulted after responding to a descent clearance that was intended for an aircraft with a similar call sign.

ACN: 1366776 (17 of 50)

Synopsis
G-IV First Officer reported poor CRM procedures from the Captain that resulted in possible track deviation.

ACN: 1366775 (18 of 50)

Synopsis
G-IV First Officer reported poor CRM practices of the Captain she was flying with which resulted in descent below assigned altitude during approach and a possible track deviation during departure.

ACN: 1363465 (19 of 50)

Synopsis
An instructor pilot ferrying a light twin to SAF unexpectedly encountered thunderstorms and, while deviating, climbed to 12,500 ft, entered restricted airspace, and inadvertently entered IMC flight.

ACN: 1352977 (20 of 50)

Synopsis
EMB-145 flight crew reported the loss of pressurization during climb to FL240 with the other PACK already MEL’d.

ACN: 1351803 (21 of 50)
Synopsis
A B747-400 was unable to accept the cleared SID because no SIDs were available in their FMC for the only operational Runway. After hand flying the departure on vectors, the nose gear door did not close so as the First Officer dealt with the gear, the Captain overshot the 5,000 feet level off altitude assignment.

ACN: 1351162 (22 of 50)

Synopsis
A CRJ-700 flight crew reported what appeared to be pitot icing at FL370 in IMC. The equipment affected were both airspeed/Mach systems, Integrated Standby Instruments, FADEC, RUD LIMITER, STALL Warning, MACH TRIM and EFIS COMP MON. The crew diverted to the nearby airport for an uneventful landing. Descending through FL200 in VMC partial equipment functionality returned.

ACN: 1350090 (23 of 50)

Synopsis
LR-35 flight crew reported landing with a large fuel imbalance due to the fuel crossflow valve light being inoperative. An earlier fuel cross feed had been set up to address a fuel imbalance and was never secured during the approach checklist, due to the missing light indication. The right wingtip tank was damaged during the landing.

ACN: 1349852 (24 of 50)

Synopsis
Air Carrier First Officer reported that an unruly passenger disrupted the cabin shortly before landing.

ACN: 1349404 (25 of 50)

Synopsis
Co-pilot and Captain reported of a mistake with similar spelled intersections. Pilots entered incorrect intersection into FMS and did not check with the PDC for correct spelling. Aircraft turned away from intended route when it went to the misspelled intersection.

ACN: 1348983 (26 of 50)

Synopsis
A320 First Officer arrived early for a two leg trip and discovered that the APU is MEL'd. He informed the Captain of his findings in the hope that the aircraft would be refused, which eventually occurred. This caused a row with the Duty Manager.

ACN: 1348880 (27 of 50)
SR20 instructor pilot reported feeling rushed by an ATC clearance with a short void time and missed seeing a C172 on short final at an uncontrolled airport. He felt that the short void time created an unnecessary hazard.

**ACN: 1348729 (28 of 50)**

**Synopsis**
B787 First Officers were informed by the cabin crew that there was smoke and fumes in the aft galley apparently from a failed oven. The oven was switched off and the circuit breaker was pulled, but the flight attendants wanted to return to the departure airport. However, the Captain believed the problem was solved. Maintenance Control was contacted and after some deliberation the flight returned to the departure airport.

**ACN: 1345863 (29 of 50)**

**Synopsis**
B737-800 Flight Attendant reported being concerned about the safety implications of the Captain's decision to allow passengers in the aisle while they were waiting for a gate.

**ACN: 1345428 (30 of 50)**

**Synopsis**
B737 flight crew reporting diverting to an alternate after executing a go-around at EWR due to high winds, turbulence, and an unstable approach.

**ACN: 1340458 (31 of 50)**

**Synopsis**
During flight a B737 encountered severe clear air turbulence which caused an injury to a Flight Attendant. The flight crew advised ATC and landed at the destination airport.

**ACN: 1339202 (32 of 50)**

**Synopsis**
A pilot makes commentary as to the challenges with RNAV descents for aircrews.

**ACN: 1338714 (33 of 50)**

**Synopsis**
Air Carrier Flight crew reported a breakdown in communication during taxi out at ATL.

**ACN: 1335881 (34 of 50)**

**Synopsis**
Airline Flight Attendant reported having a gate agent commence passenger boarding before the required preflight safety checks were complete.
<table>
<thead>
<tr>
<th>ACN: 1334273 (35 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>B737 First Officer reported that while high on a visual final approach the Captain assumed aircraft control, configured to full flaps, gear down, and put the aircraft into a sideslip to lose more altitude. Being uncomfortable with the high sink rate at low altitude, the First Officer called for a go-around which the Captain ignored and landed the plane.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACN: 1333803 (36 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>ERJ-175 Check Airman reported numerous SOP, FOM, and FAR violations during an unsatisfactory line check.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACN: 1333548 (37 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>B737-800 flight crew describe passing 1,000 feet AGL on final with the flaps still in transit to 40 degrees. They cite distractions from weather, last minute runway change and comments from a jumpseating First Officer.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACN: 1333069 (38 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>Corporate flight crew reported an increased workload on departure when they received a different SID clearance from Tower than what was received from Clearance Delivery.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACN: 1332206 (39 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>During flight a DHC-8-100 Master Caution and annunciators alerted ROLL SPLR INBD HYD and ROLL SPLR OUBD HYD. The QRH was completed and the flight continued to the filed destination.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACN: 1330765 (40 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>Business jet Captain explained the confusion and workload following a late HOU runway change which necessitated an arrival change from the PUCKS 2 to BAYYY 2 RNAV Arrival.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACN: 1328709 (41 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>Air carrier First Officer reported experiencing CRM issues became low on final approach with a low altitude warning from ATC.</td>
</tr>
<tr>
<td>ACN: 1325584 (42 of 50)</td>
</tr>
<tr>
<td>-------------------------</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACN: 1324856 (43 of 50)</th>
<th>Synopsis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A319 flight crew reported RNAV arrival procedures, using the JAGGR STAR at DEN as an example, are increasing workload and asserted they are &quot;not as safe&quot; as previous descent procedures.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACN: 1322023 (44 of 50)</th>
<th>Synopsis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Air Carrier First Officer reported lining up for the wrong airport in a ground white-out condition. Poor internal cockpit communications was a factor.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACN: 1321481 (45 of 50)</th>
<th>Synopsis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B737 Captain reported being unable to stabilize the aircraft on its roll axis. Setting the aileron and rudder trim to zero, the pilot flying had to hold the control wheel right wing down five units, according to the control wheel scale, to stabilize the aircraft. After landing Maintenance informed the crew of the right inboard flap actuator being broken.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACN: 1320513 (46 of 50)</th>
<th>Synopsis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Embraer Regional Jet crew has a main pitch trim failure on departure. Crew returns to departure airport with reduced flap setting.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACN: 1319929 (47 of 50)</th>
<th>Synopsis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A330 Flight Crew reported a track deviation during SKORR3 RNAV departure from JFK. Distractions in the cockpit resulted in the SKORR3 being entered in the FMC without the RNGRR transition and was not detected until airborne. When the route discontinuity was cleared a turn direct to GAYEL was commenced before correcting back to SKORR.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACN: 1319617 (48 of 50)</th>
<th>Synopsis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
B737 Captain found that it was very difficult to avoid crossing the TIO R-113 during departures from Runway 7 at MROC and believed that company procedures should be modified to address the problem.

<table>
<thead>
<tr>
<th>ACN: 1318107 (49 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>Airbus flight crew reported they failed to make a crossing restriction when MCDU's 1 and 2 disagreed on projected vertical path performance.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACN: 1316475 (50 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>During the JFK RNAV (GPS) Y RWY 4L, a CRJ900 crew descended below the minimum altitude at the FAF and received a low altitude alert from JFK Tower.</td>
</tr>
</tbody>
</table>
Report Narratives
ACN: 1402528 (1 of 50)

**Time / Day**

Date: 201611
Local Time Of Day: 0001-0600

**Place**

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

**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
Nav In Use: GPS
Nav In Use: FMS Or FMC
Flight Phase: Takeoff
Airspace.Class B: ZZZ
Maintenance Status.Maintenance Deferred: Y
Maintenance Status.Released For Service: Y

**Component**

Aircraft Component: INS / IRS / IRU
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
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1402528
Human Factors: Distraction
Human Factors: Situational Awareness
Human Factors: Troubleshooting
Human Factors : Workload
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Maintenance

Events
Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : Maintenance
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Became Reoriented
Result.Flight Crew : FLC complied w / Automation / Advisory
Result.Flight Crew : Returned To Departure Airport
Result.Flight Crew : Landed in Emergency Condition

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

Narrative: 1

During engine start ADR 1 faulted repeatedly. Contacted Maintenance Control and did a successful com reset followed by an info only write up. Within a minute of taxi ADR 1 faulted again. Contacted Maintenance Control. They wanted to do another reset but I declined. This had been written up previously as well. We returned to the gate where maintenance began another reset. I expressed my concern that we had a history of resets and failures...they said well then we are going to defer it. They swapped number one and three ADR as one is non deferrable. Upon review FO and I became concerned as the MEL states effectivity A320 and subsequent. We were in A320. Contacted Maintenance Control, he was unsure and consulted his Supervisor who said it's good. I asked where I could find a reference to this as FO and I had been digging through the MEL preamble to confirm the validity. We could not. We then contacted Dispatch, asked for both amendment for time and MEL and expressed our concern over the verbiage. I then contacted crew schedule and asked to be transferred to the chief pilot on duty. They asked if I wanted the number and I said yes but also to transfer me. I was connected to a chief pilot not on duty. He asked me (reasonably) to contact the chief pilot who WAS on duty. I called the number provided by schedule and again was greeted by the same voice. He provided me with the number for the chief pilot on duty. I then called him. He referenced the MEL and did some research and ascertained we were good to go. Shortly after liftoff ADR 1 failed resulting in a cascade of additional failures. Gear stuck down, direct law, man trim, no auto thrust and of course, no instrumentation for the Captain (PF). I established a positive flight trajectory, confirmed the fo had reasonable indications from ADR 2 (our newest best friend) and transferred control. We established a box pattern while we worked through the ECAM and com including landing distance procedures. We returned to the departure airport, chose to brace the passengers, and landed uneventfully. Back end crew did an outstanding job managing passengers as well as following sop and protocol. FO displayed excellent airmanship and CRM. Truly did a great job.

I felt as though we were completely on our own trying to resolve the maint issue prior to
flight. During the event dispatch had ATC relay that they wanted us to contact them. Just the teeniest bit too busy for that. Seems like they might have preemptively sent us an acars with landing data as a backup to the charts. That would have been helpful.

**Synopsis**

During engine start an A320 ADR 1 failed so the crew returned to the gate where Maintenance moved ADR 1 to the ADR 3 position, and ADR 3 to ADR 1 position. ADR 1’s history included multiple resets so the crew objected but were released by the Chief Pilot and Maintenance. After takeoff, ADR 1 and ADR 3 both failed, so the flight completed the ECAMs and returned to land.
**Time / Day**

Date: 201611
Local Time Of Day: 0601-1200

**Place**

Locale Reference.Airport: VHHH.Airport
State Reference: FO
Relative Position.Distance.Nautical Miles: 9
Altitude.AGL.Single Value: 500

**Environment**

Flight Conditions: Marginal
Weather Elements / Visibility: Haze / Smoke
Weather Elements / Visibility. Visibility: 4
Light: Daylight

**Aircraft**

Reference: X
ATC / Advisory.Tower: VHHH
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: Ferry
Nav In Use: FMS Or FMC
Nav In Use.Localizer/Glideslope/ILS: Runway 07L
Flight Phase: Final Approach
Route In Use.STAR: SIERA7C

**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
Experience.Flight Crew.Total: 6800
Experience.Flight Crew.Last 90 Days: 30
Experience.Flight Crew.Type: 500
ASRS Report Number.Accession Number: 1402352
Human Factors: Situational Awareness
Human Factors: Communication Breakdown
Human Factors: Distraction

**ASRS Report Number**

Accession Number: 1402352

Human Factors: Situational Awareness
Human Factors: Communication Breakdown
Human Factors: Distraction
Communication Breakdown. Party 1: Flight Crew
Communication Breakdown. Party 2: ATC

Events

Anomaly. ATC Issue: All Types
Anomaly. Deviation - Altitude: Excursion From Assigned Altitude
Anomaly. Deviation - Procedural: Clearance
Anomaly. Inflight Event / Encounter: CFTT / CFIT
Detector. Automation: Aircraft Terrain Warning
Detector. Person: Air Traffic Control
When Detected: In-flight
Result. Flight Crew: Took Evasive Action
Result. Flight Crew: Returned To Clearance
Result. Flight Crew: Became Reoriented

Assessments

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

Narrative: 1

Ferry flight to VHHH.

We programmed & briefed the "SIERA 7C" STAR to the LIMES transition for the VHHH ILS 07L.

Approaching the VHHH FIR, ATC assigned a descent to FL230. My pilot monitoring read back and configured the autopilot for a descent to 2,300 meters. I requested that he verify the descent clearance which was not done. Shortly after ATC handed us off to Hong Kong control. Upon check in with Hong Kong control, the Pilot Monitoring (PM) reported descending to 2,300 meters again. I asked him to confirm 2,300 meters with ATC because normally Hong Kong altitudes are in feet and not meters. As we were approaching FL180 Hong Kong control assigned a descent to FL180 (I believe) at which time I re-adjusted the altitude selector quickly to enable leveling the aircraft at FL180.

Hong Kong control gave us a shortcut initially with a radar vector and a descent to 3000 feet. This shortcut drastically reduced our track miles to the airport forcing an expedited descent (2,600+ feet per minute). SIERA to I believe MURRY (2600 FPM descent) which was the SIERA seven Alpha arrival & keep your speed around 250 knots.

Hong Kong control then assigned direct MURRY and shortly after crossing MURRY direct to LIMES, TONIC and cleared us for the ILS 07L. Near LIMES I selected NAV (green needles) and armed the approach mode on the autopilot.

As you can see the arrival was rushed requiring multiple FMS programming changes with my pilot monitoring becoming more of a distraction than an assisting crewmember, contributing to the deterioration of CRM and situational awareness.

After passing TONIC on a heading of approximately 053 degrees, the aircraft did not capture the localizer requiring me to disengage the autopilot to manually intercept. Upon localizer capture I started a descent. The pilot monitoring was asked for the next altitude on the approach, his reply was 5000 missed approach altitude set. I was not asking for the missed approach altitude as we had not intercepted the glide slope at that time.
Being distracted by the pilot monitoring’s reply, looking to confirm the next altitude while manually flying the aircraft, the descent was continued without glideslope intercept. Due to these factors, fatigue, along with the hazy conditions on the approach I did not realize our descent was continued below the glideslope.

We then received multiple GPWS warnings of too low Gear and Pull Up at which point I initiated a climb. After climbing approximately 400 feet the warnings ceased and I leveled the aircraft. At the same time of the GPWS warnings the tower asked our altitude and the pilot monitoring replied correcting. On the tower’s second request for our altitude the pilot monitoring reported airport in sight and we were cleared to land on runway 07L.

The combination of high-speed descent, reduction of track miles to the airport due to shortcuts, the autopilot's failure to capture the localizer all while training a new pilot while fatigued set up a chain of events resulting in loss of altitude awareness.

I realize the chain was broken due to the EGPWS resulting in the successful completion of the ferry flight. I am humbly reminded of the importance of focusing on flying the aircraft even with multiple distractions.

**Synopsis**

BD700 (GLEX) Captain reported being cleared to FL230 which the First Officer under training, interpreted as 2300 meters on the SIERA7C to VHHH. ATC issued further descent to FL180 as the crew was approaching that altitude and short cuts off the arrival, to the ILS Runway 7L. The Captain became task saturated and, with little support from the First Officer, descended to 500 feet AGL on the localizer without glideslope intercept until a GPWS warning was heard.
**ACN: 1399587 (3 of 50)**

**Time / Day**

Date: 201611
Local Time Of Day: 1201-1800

**Place**

Locale Reference.Airport: ZZZ.Airport
State Reference: US
Altitude.AGL.Single Value: 400

**Environment**

Flight Conditions: IMC
Light: Daylight

**Aircraft**

Reference: X
ATC / Advisory.TRACON: 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
Flight Phase: Initial Approach
Airspace.Class C: 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: 1399587
Human Factors: Confusion
Human Factors: Distraction
Human Factors: Time Pressure
Human Factors: Workload
Human Factors: 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 Carrier
Function.Flight Crew: Pilot Flying
Function: Flight Crew: First Officer  
Qualification: Flight Crew: Air Transport Pilot (ATP)  
ASRS Report Number: Accession Number: 1399588  
Human Factors: Workload  
Human Factors: Training / Qualification  
Human Factors: Time Pressure  
Human Factors: Confusion  
Human Factors: Communication Breakdown  
Human Factors: Distraction  
Communication Breakdown. Party1: Flight Crew  
Communication Breakdown. Party2: Flight Crew

**Events**

Anomaly. Deviation - Altitude: Crossing Restriction Not Met  
Anomaly. Deviation - Speed: All Types  
Anomaly. Deviation - Procedural: Published Material / Policy  
Anomaly. Inflight Event / Encounter: Unstabilized Approach  
Anomaly. Inflight Event / Encounter: Weather / Turbulence  
Anomaly. Inflight Event / Encounter: Fuel Issue  
Detector. Person: Flight Crew  
When Detected: In-flight  
Result. Flight Crew: Took Evasive Action  
Result. Flight Crew: FLC complied w / Automation / Advisory  
Result. Flight Crew: Executed Go Around / Missed Approach  
Result. Flight Crew: Diverted

**Assessments**

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

**Narrative: 1**

We were holding, then cleared for the arrival, then given another hold. We did not have a filed alternate, but decided to divert and told ATC. Then they told us we would be the last ones in and gave us a vector for the approach for the original airport. We started out a little behind but briefed the approach. There were some small red areas on the radar, coming in I got too fixated on them and didn't start down in time. Then we were above the glideslope and trying to correct. I put out the spoilers and then forgot about them. At 1000ft realized we were at too high a descent rate and were only flap 30. I initiate a go around and briefly got the shaker, lowered the nose slightly and continued the missed approach. On climb out during 'climb sequence' the First Officer (FO) noticed the spoilers were still out. Due to deteriorating weather conditions we diverted.

Don't try to catch the glideslope from above and always state verbally when you put the spoilers out so the other pilot knows.

**Narrative: 2**

We were arriving during normal operations. As we approached fifty miles north we were informed by ATC that we ought to expect holding instructions over the VOR at FL210 for an hour due to thunderstorms moving through the area. We did so, and held for perhaps thirty minutes and eventually were the last aircraft assigned to the arrival before the
airport was closed down to other incoming northern traffic. Everything was proceeding well so far. The captain and myself had discussed that our fuel situation was somewhat tight from holding, and that we would either have to divert if were not let into our destination eventually, and that a go-around would possibly be impractical. Weather conditions at our destination were 3SM with BR and OVC skies at 600' AGL (we were given the ILS 9L approach). The approach went well, until the point at which we had to maintain 4000' at ZZZZZ Intersection. The captain did not initiate a descent at this point in time and we should have been on the glideslope in green needles crossing ZZZZZ1 Intersection at 2300 and 170 KIAS with at least some configuration bordering on full. Instead we were in green needles and the glideslope showed to be on the verge of full down deflection. I pointed this out, and suggested that she slow down and/or turn off the autopilot and simply hand fly the approach. She chose to remain in blue needles and remain almost level in an attempt to slow down the aircraft but it was not working and we were plainly far too high and almost approaching ZZZZZ1 Intersection with zero flaps or gear. The reaction was somewhat slow and we lost too much time slowing down (we should have pitched the nose up and a little more promptly in slowing down). I suggested even extending the gear down since we were at 205 knots and this might have helped us slow down further to extend flaps. Eventually the airplane slowed and we put in full flaps and gear but at this point we must have been much higher on the approach inside ZZZZZ1 Intersection than we should have been. The captain was still in blue needles at this point to my recollection and increased the rate of descent to one that was highly inappropriate. We broke through the OVC layer at 600' AGL and caught the glideslope likely a mile away from Runway 9L, but the rate of descent was so great that we slipped slightly below the glideslope and received a low caution message from our EGPWS (400' AGL). At this point she elected to initiate a mixed approach and the stick shaker activated at close to 300' AGL in a level pitch-attitude even though we maintained exactly VREF, 140 KIAS. The reaction was again kind of weak on the captain's part and I could tell that she was unfortunately losing her discipline by making radio calls (I told her I would take care of that since I was the PM and that she should fly since she wasn't maintaining the correct nose-up 10deg attitude for go-around). I had pressed the TO/GA switches and set go-around thrust and started initiating call-outs since she had done none of them till that point. Eventually when she called climb sequence I noticed that the spoilers were extended. They must have been out during the nose-dive to catch the glideslope, and still in during the missed approach (explains why we got the stick-shaker so quickly) and during the climb-out. I was very shocked to see that. I recall touching the flight spoilers and extending flaps to 45deg (we didn't have time to run through the Before Landing Check due to the speed of events inside the FAF). This could have developed into something more serious.

There were thunderstorm cells near the FAF ZZZZZ1 Intersection and near ZZZZZ Intersection and they certainly took up much of our attention. I know both of us were monitoring those because of their nearness to our approach course. The captain stated during the debrief that she was highly preoccupied by them and I felt that I was monitoring the weather, too. This was the largest detriment to our scan of the instruments and our overall situational awareness. Still, we DID eventually recognize that we WERE high, and I felt having been in this situation before and above 1000' AGL for a stabilized approach per our [operations manual], that we could have saved it if she had just taken more prompt and aggressive action by deactivating the autopilot, slowing the aircraft down immediately and then regaining normal approach profile before reaching 1000 feet AGL at the glideslope intercept altitude. I tried to prompt her to take action and it was simply too delayed to be of use.

I tried to back her up by extending flaps and going through callouts and also communicating with tower to be cleared to land but it all happened way too quickly and
everything felt rushed as she initiated the nosedive. It was probably at this point I told her later that she should have begun the missed....

Lastly, the stick shaker happened because at some point during the dive, she had extended the flight spoilers. I didn't notice this as she didn't say a word or bring up the flight control page on the EICAS ED-2. I remember touching the handle and it was still retracted, but I never got the chance to read the checklist because it was at that point that she begun the nosedive and I was drawn to the excessive descent rate at that point, so it could have been after I had said spoilers zero, flaps 45 that she had extended them.

I think the biggest things that led to the final GPWS warning and stick shaker were the lack of a prompt response upon recognition that we were high, the nose-dive and the extension of the spoilers.

I think that as an added safeguard, there should be a standard call-out for extending spoilers. I am seeing many captains extend them without any remarks to that effect. Some bring up the Flight Control page, which helps.

I really don't know what to say about the lack of correction upon recognizing that we were high after ZZZZZ Intersection. These are internal pilot issues, and I felt that I should have taken the controls from the captain at least twice since her reactions to the events were slow. I did not though, as were weren't really in any jeopardy until the stick shaker from which the captain recovered thankfully. Our CRM was decent until the last portion of the approach were the configuration of the aircraft started to happen on our part, although I believe that there were other underlying root causes to that which are hard to pinpoint here.

**Synopsis**

A Captain and First Officer described an unstabilized approach and go-around in a low fuel state after holding for passing thunderstorms.
ACN: 1398716 (4 of 50)

Time / Day
Date: 201610
Local Time Of Day: 0001-0600

Aircraft
Reference: X

Person
Reference: 1
Location Of Person: Company
Reporter Organization: Air Carrier
Function: Flight Crew: Captain
Qualification: Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number: Accession Number: 1398716
Human Factors: Fatigue

Events
Anomaly. Deviation - Procedural: Published Material / Policy
Detector: Person: Flight Crew
When Detected: Pre-flight
Result: General: None Reported / Taken

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

Narrative: 1
Second fatigue event in a month due to hotel fire alarms. Fatigue form is so long people do not want to spend [their] "home" time filling out needless details and not getting paid for it. This skews data collection in a direction the company would favor. Built in bias disqualifies any scientific foundation results might hope to claim. Question of getting paid for operationally originated fatigue and the delay the company uses before providing the compensation pilots were counting on to pay bills inhibits fatigue calls and greatly diminishes safety at [this airline]. This could easily be fixed by the company, but it appears financial motivations are outweighing this, increasing a significant safety issue.

It appears the company’s solution to increased fatigue and pilot CRM problems is to make it harder to report and more difficult for the pilots to avoid the situation. Safety is being compromised through both policies and I am seeing it on the line as a consistent line Captain. In accordance with the company’s professed safety policy, I am saying something.

Synopsis
Air carrier Captain reported they feel fatigue events are under-reported due in part to a lengthy fatigue reporting form.
**ACN: 1397028** (5 of 50)

**Time / Day**
- **Date**: 201610
- **Local Time Of Day**: 0601-1200

**Place**
- **Locale Reference.Airport**: ZZZZ.Airport
- **State Reference**: FO

**Environment**
- **Flight Conditions**: VMC

**Aircraft**
- **Reference**: X
- **ATC / Advisory.Center**: ZZZZ
- **Aircraft Operator**: Air Carrier
- **Make Model Name**: B757 Undifferentiated or Other Model
- **Crew Size. Number Of Crew**: 3
- **Operating Under FAR Part**: Part 121
- **Flight Plan**: IFR
- **Mission**: Passenger
- **Flight Phase**: Climb

**Component**
- **Aircraft Component**: Indicating and Warning - Landing Gear
- **Aircraft Reference**: X
- **Problem**: Malfunctioning

**Person : 1**
- **Reference**: 1
- **Location Of Person. Aircraft**: X
- **Location In Aircraft**: Flight Deck
- **Reporter Organization**: Air Carrier
- **Function.Flight Crew**: Pilot Flying
- **Function.Flight Crew**: Captain
- **Experience.Flight Crew.Total**: 15000
- **Experience.Flight Crew.Last 90 Days**: 120
- **Experience.Flight Crew.Type**: 7000
- **ASRS Report Number. Accession Number**: 1397028
- **Human Factors**: Troubleshooting

**Person : 2**
- **Reference**: 2
- **Location Of Person. Aircraft**: X
- **Location In Aircraft**: Flight Deck
- **Reporter Organization**: Air Carrier
- **Function.Flight Crew**: Pilot Not Flying
- **Function.Flight Crew**: First Officer
- **Function.Flight Crew**: Relief Pilot
Experience.Flight Crew.Last 90 Days : 76
ASRS Report Number.Accession Number : 1397031

Person : 3

Reference : 3
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Experience.Flight Crew.Last 90 Days : 200
Experience.Flight Crew.Type : 4602
ASRS Report Number.Accession Number : 1397034

Events

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

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

Normal takeoff. Good VFR weather. Upon gear retraction, received EICAS GEAR DISAGREE and discrete GEAR light. Turned on autopilot. Gave control of aircraft to First Officer. First Officer retrieved QRH procedure. QRH procedure dictates extension of gear. We notified ATC and leveled at 10,000 feet and 220 knots. Called [dispatch] on SATCOM. We agreed on the QRH procedure to be followed for GEAR DISAGREE and followed it. After procedure followed, also received GEAR DOORS EICAS and DOORS discrete light. Also, with GEAR lever down, and even after alternate extension attempted, NOSE green light failed to illuminate. Lamp tested okay. [Dispatch] agreed we needed return to most suitable airport. ZZZZ was selected due to longest runway in vicinity and excellent weather including favorable winds. ATC was notified we needed to burn fuel for more than 2 hours to reach our maximum landing weight. Lead Flight Attendant (FA) was notified first and asked to come to flight deck. PA was made to customer's truthfully describing situation. Center provided us vectors as we burned fuel. We reviewed and briefed all relevant AFM, QRH and FOM sections. Flight attendants planned to prepare cabin for emergency landing. We also briefed all FA's and suggested they use the time before landing, to review their manual SOP's also. [Dispatch and Maintenance] on the line had all agreed that we should do a low approach so they could view our gear. When we neared maximum landing weight, we told FA's to prepare the cabin for landing, made additional PA, contacted [dispatch] via SATCOM once more as requested, and initiated vectors for the low approach. We followed the localizer and glideslope to 600 feet, then leveled off and flew our low approach. Tower advised all gear appeared down. We went around and flew normal pattern for ILS, following QRH procedures, and landed normally. With unsafe gear indication remaining, we were towed off of the runway and to the gate. Both First Officers
did a fantastic job, with incredible CRM skills. I can happily say the same about all [our]
Flight attendants.

**Narrative: 2**

[Report narrative contained no additional information.]

**Narrative: 3**

[Report narrative contained no additional information.]

**Synopsis**

B757 flight crew reported receiving an EICAS GEAR DISAGREE message and discrete GEAR
light. After burning off fuel and flying a low approach, the flight landed safely and was
towed off the runway.
Time / Day
Date: 201610

Environment
Flight Conditions: VMC
Light: Daylight

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

Component
Aircraft Component: Air Conditioning and Pressurization Pack
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
Qualification. Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number. Accession Number: 1396134
Human Factors: Troubleshooting

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

Assessments
Contributing Factors / Situations: Aircraft
Primary Problem: Aircraft

Narrative: 1
1. EICAS amber "pack3, pack2, pack1"
2. Donned oxygen, established communication
3. Complied with QRH to line 7

4. Crew system knowledge and CRM decision to stop at line 7 of QRH.

5. Cabin pressure of 4,200 feet, duct pressure of 34 PSI, differential pressure 8.6 PSI, cabin rate of "0" zero.

6. Decision was made to contact Dispatch via SATCOM

7. Dispatch placed Maintenance Control and another Captain on SATCOM conference call.

8. After review of existing conditions and recommendation by the other Captain to turn off pack one, rest pack, set system A, and B and reset pack one both times. Reviewed EICAS primary, status page, and Environmental Control System (ECS) system page, cancel and recall Display Select Panel (DSP) review of EICAS. The other Captain recommended packs select high flow.

9. Through use of CRM, decision was made by crew and agreement with Maintenance Control, the other Captain and Dispatch to continue to destination with consideration of the following factors. 1) Increased fuel burn associated with packs high flow. 2) Possible need to divert at 10,000 feet due to loss of pressurization. 3) Need for equal time point with need for suitable weather at divert airports.

Crew also used performance in flight manual in QRH, to determine adequate fuel for diversion at low altitude was available. Landed safely with 15.4 kilos of fuel on board at destination.

Synopsis

Flight crew reported multiple pack issues threatening to destabilize cabin pressurization. Crew was able to stabilize the issues and continue to its destination.
**Time / Day**

Date: 201610
Local Time Of Day: 0601-1200

**Place**

Locale Reference.ATC Facility: ZID.ARTCC
State Reference: IN
Altitude.MSL.Single Value: 30000

**Environment**

Flight Conditions: Mixed
Light: Daylight

**Aircraft**

Reference: X
ATC / Advisory.Center: ZID
Aircraft Operator: Air Carrier
Make Model Name: EMB ERJ 145 ER/LR
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Nav In Use.VOR / VORTAC: IIU
Flight Phase: Cruise
Route In Use: Direct
Airspace.Class A: ZID

**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: Multiengine
Qualification.Flight Crew: Air Transport Pilot (ATP)
Qualification.Flight Crew: Flight Instructor
Qualification.Flight Crew: Instrument
Experience.Flight Crew.Last 90 Days: 150
Experience.Flight Crew.Type: 500
ASRS Report Number.Accession Number: 1392942
Human Factors: Situational Awareness
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 : Clearance
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Became Reoriented

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

Narrative: 1

I was flying the plane on autopilot. ATC called to assign a hold North of IIU on the 360 radial, right hand turns, and 20 mile legs. I programmed the FMS with the details of the hold and asked the CA to verify. The CA verified the input and the autopilot took the plane to IIU, turned to the radial, proceeded outbound, and began a left-hand turn to make a parallel entry into the hold. The CA saw the plane turning left, thought it should turn right, and took the plane out of lateral navigation into heading mode and began a right hand turn. The FO was confused on several levels -- there had been no transfer of controls, the turn made little sense, and I was unsure of how to both correct the CA and make an appropriate adjustment to the flight route. After a brief discussion, the CA radioed center and said "the box" was having trouble and we were correcting. Center radioed back a very casual response as their workload was high and didn't appear too concerned with the particulars of our hold. After a while the CA leaned back in his seat and I assumed the controls (again without any transfer of controls). I don't think we ever ended up holding "correctly" but after about one lap the plane was cleared to another fix and off we went.

The crew members had a discussion/disagreement on the ground about what happened, what should have happened, and the basics of holding. I feel the problem originated with a complacent pilot who had forgotten basics of a maneuver he didn't perform often (and usually let automation take care of it). The CA's lack of CRM and rush to 'correct' the issue also played a role. Additionally, my hesitancy to disagree with the CA allowed the problem to continue. That being said, when the PIC rips the controls from the SIC and the plane is not in any imminent danger, what's the "proper" protocol for regaining control and fixing the problem? In short, there was probably a lateral deviation, maybe some flight on the unprotected side of a hold. No terrain or traffic problems were encountered.

Synopsis
EMB-145 First Officer reported the Captain failed to follow SOPs during a hold entry resulting in a track deviation.
ACN: 1392532 (8 of 50)

Time / Day
  Date: 201610
  Local Time Of Day: 1201-1800

Place
  Locale Reference.Airport: IAH.Airport
  State Reference: TX
  Altitude.AGL.Single Value: 500

Environment
  Flight Conditions: VMC
  Light: Daylight

Aircraft
  Reference: X
  ATC / Advisory.Tower: IAH
  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
  Nav In Use: FMS Or FMC
  Flight Phase: Takeoff
  Airspace.Class B: IAH

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: 13000
  Experience.Flight Crew.Last 90 Days: 220
  Experience.Flight Crew.Type: 1221
  ASRS Report Number.Accession Number: 1392532
  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
  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: 251
ASRS Report Number: Accession Number: 1392564

Events
Anomaly: ATC Issue: All Types
Anomaly: Conflict: Airborne Conflict
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

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

Narrative: 1

During cockpit setup and preflight brief First Officer (FO) and I had discussed the relative probability of taking off on Rwy 15L vs Rwy 15R. We were prepared for either. Taxi out had been a runway change drill. We had set up for a 15L/WV departure, but got assigned Rwy 15R on initial taxi. At Spot 2 we got a late change back to Rwy 15L/WV from Ground and were told to contact Tower. Tower cleared us for takeoff while still halfway down Taxiway WA. We both heard, "Turn Right to 340, runway 15L WV cleared for takeoff." FO read back "Turn Right to 340."

FO was rushed, and I had slowed our taxi speed to give him time. He handled it all very well, and showed no performance degrade or task saturation. With correct Rwy takeoff data installed and verified, checklists complete, we took the runway and took off.

At 400 feet AGL I initiated a Right turn to 340. Tower radioed, "Confirm LEFT turn to 340." I immediately reversed turn to the Left. About that time we got a TCAS RA to "Monitor Vertical Speed." I didn't need to maneuver, because the aircraft attitude already had us perfectly aligned with the RA guidance. FO and I both knew what had happened. We have no idea how close we were to the aircraft off of Rwy 15R.

The RA was momentary, no more than a couple of seconds. I kept the left turn in while FO reset the heading bug to command Left to 340. When clear of conflict, FO radioed something to the effect of "We're sorry but we heard and read back clearance Right to 340." Tower replied something to the effect of "No problem, no big deal." We were both pretty alarmed by the event.

We continued to climb out uneventfully, but the cockpit was tense. We weren't sure how that had happened. Once we reached cruise, I used the CRM/Threat Error Management Skills Card to debrief the incident. We assessed that the Threat was ATC radio communications and a hearing/read back issue. We were both fairly certain of what we had heard, and we were very certain of what FO had read back. It did not seem unusual to us to turn right while taking off from Rwy 15L-- just the day before we had made a right hand turn to heading 340 while taking off on Rwy 15L/WV.

Clearly there had been an Error. We were not sure whether the error was ours, or Tower's, or both. We discussed the possibility that one or both of us had had an expectation bias.
based on our initial turn out heading clearance on the day before. Regardless, we had repaired that Error. The TCAS RA had also presented us with an Un-commanded Aircraft State (UAS), however brief. We had correctly recovered per procedure.

The aircraft was quickly returned to a Safe Operations state. We assessed that safety margins had been eroded but not compromised. Tower made a timely and correct radio call to alert us to a mistake. Our recovery procedure had worked perfectly. Threats and Errors had been repaired. We had indeed prepared during our preflight briefing (which, incidentally, included a comment about avoiding the threat of complacency). We hadn't violated any SOPs, but for reasons that were not clear to us, we had turned opposite to the clearance intended by the Tower controller. Based on our radio calls after the fact, we were pretty sure that Tower was not going to initiate action against us. But we were still not sure where the radio communications had broken down, and that remains an Unanswered Question.

**Narrative: 2**

[Report narrative contained no additional information.]

**Synopsis**

Air Carrier flight crew departing IAH Runway 15L reported turning the wrong direction on departure, received a correction call from the Tower Controller and an RA soon thereafter. Crew reported reversing the turn. Crew reported runway assignment was changed before departure.
ACN: 1391473 (9 of 50)

Time / Day
Date: 201609
Local Time Of Day: 1801-2400

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

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

Aircraft
Reference: X
ATC / Advisory.Tower: ZZZ
Aircraft Operator: Air Carrier
Make Model Name: B757-200
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Cargo / Freight
Flight Phase: Takeoff
Route In Use: None

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Total: 10300
Experience.Flight Crew.Last 90 Days: 200
Experience.Flight Crew.Type: 4000
ASRS Report Number.Accession Number: 1391473
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.General: Maintenance Action
Result.Flight Crew: Returned To Gate
Result.Flight Crew: Rejected Takeoff
Assessments

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

Narrative: 1

Upon arrival at the aircraft, I began my exterior preflight inspection. As I walked from the captain's side of the aircraft to the first officer's side, I noticed that the pitot covers were installed on the first officer's side. As I continued my exterior inspection, reaching the back of the aircraft, I noticed the mechanic on the first officer's side toward the nose, between the aircraft and the ground power unit. I completed my preflight and walked toward the nose on the captain's side, and was greeted by the mechanic. We shook hands and I noticed the aircraft logbook in his hand. He began to brief me about a deferral that he had just completed and wanted to bring to my attention. I took the aircraft logbook from him and opened it and saw where he had signed the Airworthiness Release. By his signature on the Airworthiness Release, I assumed he had removed the pitot covers when I saw him in that area of the aircraft minutes before. After completion of all preflight checks, CRM briefings, and weight and balance checks, I made contact with the mechanic and told him we were ready. He responded affirmatively. I said "Lights out, brake set, cleared to remove chocks and stairs, confirm gear pins, pitot covers removed." The mechanic responded "Removing chocks and stairs, no gear pins, and pitot covers removed." He further stated "Clear to start." After completion of the after start checklists, I cleared the mechanic off the headset and watched him drive away from the aircraft.

Once cleared for takeoff, we took the active runway and I transferred controls to the first officer. He pushed the thrust levers up and stated "Set takeoff thrust." As the aircraft accelerated, I called "80 knots." A few seconds later, the first officer said "No airspeed." I glanced to his side and he again stated "No airspeed." At that point I stated and initiated a rejected takeoff. We stopped the aircraft on the runway between 80 and 100 knots, which was prior to V1. The first officer noted a ground speed of 105 knots. We cleared the runway, did an after landing flow, and stopped the aircraft on the ATC-directed taxi way. The first officer pulled the QRH checklist to check the brake cooling chart. There were no airspeed or other known flags visible. I decided to contact Operations and let them know our situation. Operations agreed with our decision to perform a block turn back. We taxied back to the stand and maintenance discovered that the pitot covers on the first officer's side were still installed. I noted in the logbook the rejected takeoff as well as a block turn back. The mechanic then wrote in the logbook "Found pitot covers still installed on the right pilot's side." After he cleared the aircraft with a new Airworthiness Release, and I completed another walk-around inspection, we began the process to depart on our scheduled flight, which launched without incident.

This event was the result of the mechanic not completing assigned tasks, yet signing the Airworthiness Release, indicating the aircraft was ready for flight. Additionally, he verbally confirmed that the pitot covers had been removed, in response to my required audible checks. I am uncertain whether he was in visual sight of the pitot covers when he responded that they had been removed, or if he was simply repeating what is contained in our operational procedures. This type of incident could be prevented in the future by requiring the mechanic to make a log book entry following both installation and removal of the pitot covers and gear pins.

Synopsis
B757-200 Captain reported rejecting the takeoff when the First Officer's airspeed read zero because the pitot covers had not been removed.
**Time / Day**
- Date: 201609
- Local Time Of Day: 1801-2400

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

**Environment**
- Light: Dusk

**Aircraft**
- Reference: X
- ATC / Advisory: TRACON: ZZZ
- Aircraft Operator: Corporate
- Make Model Name: Learjet 60
- Crew Size: Number Of Crew: 2
- Operating Under FAR Part: Part 91
- Flight Plan: IFR
- Mission: Passenger
- Nav In Use: GPS
- Nav In Use: FMS Or FMC
- Flight Phase: Descent
- Airspace: Class B: ZZZ
- Airspace: Class E: ZZZ

**Person**
- Reference: 1
- Location Of Person: Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Corporate
- Function: Flight Crew: First Officer
- Function: Flight Crew: Pilot Not Flying
- Qualification: Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number: Accession Number: 1390440
- Human Factors: Distraction
- Human Factors: Situational Awareness
- Human Factors: Training / Qualification
- Human Factors: Workload
- 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 - Speed: All Types
- Anomaly: Deviation - Procedural: FAR
- Anomaly: Deviation - Procedural: Published Material / Policy
During a routine flight to ZZZ the PIC had exceeded speeds in excess of 250 knots below 10000 ft. It is also noted by SIC on further researching previous flights, that PIC had exceeded the 250 knots below 10000ft speeds to excess of 342 knots at times often at altitudes as low as 3000ft. This was brought to the PIC's attention several times by the SIC. The PIC had made several corrections. Several flights were made with the same crew and crew positions. The SIC had brought to the attention of the PIC the same speed issues while inflight and during debriefing and to be alert of the speed restrictions and altitudes compliance issues. The PIC responded by stating he was fully aware of such, and had a copy of the FARS with him.

It is suggested that the PIC and SIC have different flying backgrounds although the PIC has not had any Part 121 training and the SIC does, this may be a contributing factor to lack of CRM and cockpit communications between the pilots. Since this is a new paring. Both pilots are Captains in the aircraft, however the PIC in this case is also the chief pilot for the company, which may be a contributing factor in the SIC being reluctant to confront this issue directly with the PIC, due to the fact that the PIC has threatened the SIC about his employment with the company. Currently this crew pairing is incompatible to the safety of flight.

**Synopsis**

LR-60 First Officer described his CRM discussions with his Captain, also the Chief Pilot of the company, about his flights exceeding 250 kts below 10,000 ft. The Captain ignored the objection and at one point flew at 342 kts below 10,000 ft.
Time / Day
Date: 201608
Local Time Of Day: 0601-1200

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

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

Aircraft
Reference: X
Aircraft Operator: FBO
Make Model Name: King Air C90 E90
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 91
Flight Plan: IFR
Mission: Training
Flight Phase: Taxi
Route In Use: Vectors

Component
Aircraft Component: Propeller Blade
Aircraft Reference: X

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: FBO
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Instrument
Qualification.Flight Crew: Commercial
Qualification.Flight Crew: Flight Instructor
Qualification.Flight Crew: Multiframe
Experience.Flight Crew.Total: 5400
Experience.Flight Crew.Last 90 Days: 250
Experience.Flight Crew.Type: 600
ASRS Report Number.Accession Number: 1386790
Human Factors: Situational Awareness

Events
Anomaly.Ground Excursion : Taxiway
Anomaly.Ground Event / Encounter : Ground Strike - Aircraft
Anomaly.Ground Event / Encounter : Object
Detector<Person : Flight Crew
When Detected.Other
Result.Aircraft : Aircraft Damaged

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

Narrative: 1
After run-up, I was taxiing to hold short line for IFR departure clearance. Brakes are less effective in our training aircraft. I asked student for sequencing way point after radar vectors? He paused and I pointed to his paper departure procedure (I required them to have paper as well as their Digital Fight Bag-as they seem to depend on electronics versus anticipating battery failure and being prepared accordingly). When I bent down to point and instruct student how to navigate a departure procedure and follow ATC direction after Radar vectors away from the departing airport, the aircraft creeped off the pavement slightly. As I felt the right main drop a bit, I immediately stopped. I tried BETA to back up onto the ramp. When it wouldn't return to the ramp, I used differential power to turn left and return to the ramp. On this short distance, the right prop clipped the taxi light. I felt a very "slight bump", analogous to a small divot in the taxiway. I immediately checked all temperatures, pressures to sense any abnormality, especially any vibration and all was NORMAL. I paused and determined to continue flight.

We departed and flew the training lesson and returned this aircraft to its facility for a phase inspection and returned with another. At no time during this flight did any abnormality present itself. After loading the replacement aircraft, filing our return flight plan and beginning to taxi for departure, the student mentioned, "sir, prop bent on [original aircraft]". This was my first knowledge of any "issue". I replied as I taxied past [original aircraft] and saw the prop blade in question, that I would file to required reports on returning to our home base.

I learned some valuable lessons.
1. At any time, at any "Issue" stop and inspect aircraft. anytime pavement is taxied off. Shutdown aircraft and call maintenance to handle retrieval.
2. When training [international] students with language challenges, I must think and fly like I'm single pilot IFR and NOT expect them to be first officer CRM competent, even though they are Comm. Multi/ instrument/ pilots with Class B experience.

Synopsis
A Flight Instructor in a Beechcraft BE9L reported, while taxiing to the hold short line, the RH main crept off the taxiway causing the RH propeller to clip the taxi light.
ACN: 1382795 (12 of 50)

Time / Day
Date: 201608

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
Mission: Passenger
Flight Phase: Parked

Person
Reference: 1
Location Of Person: Hangar / Base
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Check Pilot
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1382795
Human Factors: Situational Awareness

Events
Anomaly.Deviation - Procedural: Published Material / Policy
Detector.Person: Flight Crew
When Detected: Routine Inspection
Result.General: None Reported / Taken

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

Narrative: 1
This report is not associated with a specific event. It is regarding a safety concern about how we, as line Crews and Dispatchers, handle obstacle NOTAMs.

As I understand it (based on conversations with Engineering), obstacle NOTAMs (towers, cranes, etc.) are analyzed by engineering. If the analysis determines that the obstacle in the NOTAM penetrates the obstacle clearance plane of a given departure (or arrival) runway, then that NOTAM and obstacle is highlighted on the weather packet cover sheet. Via the cover sheet, the Crew is instructed to input the obstacle height and distance from the runway into the performance computer for consideration in the takeoff and landing data. The problem is that our Pilots are only loosely aware of the above obstacle analysis process, and only by word of mouth rather than from our publications. Our publications explain HOW to input an obstacle into the performance computer, but not under what circumstances to do so. We have no guidance about it. Generally speaking, Pilots "assume" that if an obstacle presents a hazard to takeoff or landing, that "somebody" will put it on the weather packet cover sheet and tell them about it. As a result, obstacle
NOTAMs that are NOT highlighted on the cover sheet are largely ignored by Pilots. But there is a hole in this process. The loop is not closed.

As Pilots, we have no way of knowing if Engineering, Dispatch, or anyone else has analyzed a given obstacle NOTAM and determined that it is or is not a threat to our departure or arrival. We simply assume that if it is not specifically brought to our attention by "somebody" via the cover sheet, then it must not be a threat. Hopefully that is true, but what if something is missed? In our CRM vernacular, we have not followed the model because we have not "verified". Instead we have assumed. And "assuming" doesn't fit well into CRM. So if and when one of these obstacle NOTAMs gets past the Engineering and also goes unnoticed by Dispatch, and if it is just a bad day for a Crew and for Company, we could end up flying an aircraft into an obstacle that we "should have known about" because it was in the NOTAMs but the Crew assumed it was not a threat.

My opinion is that in our weather packet/NOTAM packet we need to "close the loop". We need to have some indication that any given obstacle NOTAM has been analyzed by engineering and deemed to be either a threat (on the cover sheet) or specifically NOT a threat (perhaps a note preceding or following the NOTAM "OBSTACLE NOT A FACTOR"). But the crew needs to know that is has been looked at. Further, in our FOM and/or AOM (Aircraft Operations Manual) we need a brief description of what Engineering does with obstacles, how the crew can know that Engineering has indeed done an analysis and did not "miss this one", and who to call if there is a question about an obstacle NOTAM. Our current lack of guidance and reliance on a word of mouth process leads crews to ignore NOTAMs, hope for the best, and rely on the "It's a Big Sky" theory and leave obstacle clearance to chance. In my mind that is clearly "accepting unnecessary risk" and contrary to the CRM model.

**Synopsis**

B737 Check Airman does not believe that the current method of dealing with obstacle NOTAMs by the Engineering Department of his company is adequate to ensure that all of the NOTAMs have been addressed and the pertinent ones identified.
ACN: 1382136

Time / Day
Date: 201608

Aircraft
Reference: X
Aircraft Operator: Air Carrier
Make Model Name: Commercial Fixed Wing
Crew Size. Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Final Approach

Person
Reference: 1
Location Of Person, Aircraft: X
Location In Aircraft: Cabin Jumpseat
Cabin Activity: Safety Related Duties
Reporter Organization: Air Carrier
Function: Flight Attendant: Flight Attendant (On Duty)
Qualification: Flight Attendant: Current
ASRS Report Number. Accession Number: 1382136
Human Factors: Communication Breakdown
Communication Breakdown. Party 1: Flight Attendant
Communication Breakdown. Party 2: Flight Crew

Events
Anomaly. Inflight Event / Encounter: Weather / Turbulence
Anomaly. Inflight Event / Encounter: Unstabilized Approach
Anomaly. Inflight Event / Encounter: Object
Detector. Person: Flight Attendant
Were Passengers Involved In Event: Y
When Detected: In-flight
Result: Flight Crew: Executed Go Around / Missed Approach

Assessments
Contributing Factors / Situations: Procedure
Primary Problem: Procedure

Narrative: 1
While having a very rough approach the pilots did a go around and hit the right wing on something. We had no communication with the flight deck. Then made a PA "we had a uncontrolled approach and we're going around we'll be on the ground soon". We felt that we should've had some communication if there was anything wrong with the plane or what happened. I felt that there was a severe lack of CRM. We as a FA team planned on the worst. With no communication we were left in the dark to what was going on. I feel that better CRM from the flight deck would've helped us calm the passengers that were for a better term freaking out. I feel it was us versus them (pilots). We need to know what happened and why.
Synopsis
A Flight Attendant reported while having a very rough approach the pilots did a go-around and something hit the right wing. The flight attendants did not have any communication with the flight deck.
ACN: 1380770 (14 of 50)

Time / Day
Date: 201608
Local Time Of Day: 0601-1200

Place
Locale Reference. ATC Facility: ZZZ.ARTCC
State Reference: US
Altitude. MSL. Single Value: 27000

Environment
Flight Conditions: VMC
Light: Daylight

Aircraft
Reference: X
ATC / Advisory.Center: ZZZ
Aircraft Operator: Air Carrier
Make Model Name: A320
Crew Size. Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Nav In Use: FMS Or FMC
Flight Phase: Climb
Airspace. Class A: ZZZ

Component
Aircraft Component: Air Conditioning and Pressurization Pack
Aircraft Reference: X
Problem: Malfunctioning

Person: 1
Reference: 1
Location Of Person. Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function. Flight Crew: Captain
Function. Flight Crew: Pilot Not Flying
Qualification. Flight Crew: Air Transport Pilot (ATP)
Experience. Flight Crew. Total: 14786
Experience. Flight Crew. Last 90 Days: 240
Experience. Flight Crew. Type: 12552
ASRS Report Number. Accession Number: 1380770
Human Factors: Troubleshooting
Human Factors: Workload
Analyst Callback: Attempted

Person: 2
As we climbed to FL320, passing FL270 a loud, but faint noise appeared. Initially I thought the galley chiller had spooled down and then immediately the Lead Flight Attendant called and advised of a loud sound on the floor near Row 7. The First Officer then said he felt a vibration at his feet. We were climbing at approximately 337 knots, Cost Index (CI) of 120, so I slowed the aircraft thinking it might be airframe vibration in the nose gear or wing root and advised both First Officer and flight attendant of that.

Slowing through 280 KIAS the noise cleared. I then began to accelerate the aircraft again to normal speed to confirm the vibration for maintenance. As we began to increase speed the First Officer again stated the vibration at his feet and within seconds of that a flow of "smoke" from behind me and above was moving forward and it began to fill the cockpit. Immediately recognizing the "threat" I directed the First Officer to "put your oxygen mask on," I announced I had the airplane (recognizing he was new on the plane), advised him to [advise ATC of the situation] and to get a direction to the nearest airport to land.

Within seconds of that the Lead Flight Attendant called to advise "smoke" in the cabin and I told her we also had "smoke" in the cockpit and we had [advised ATC] and would be landing in about 15 minutes. I immediately sent an ACARS, in the blind to Dispatch, advising "smoke" and we had [advised ATC of the situation] and are landing at ZZZ1." No reply was made by Dispatch as our ACARS was inoperative. No attempt to communicate
via ARINC was made due to being extremely busy trying to land as soon as possible.

I followed ATC altitudes and headings as best as possible and the First Officer began to go through the QRH for smoke/fumes. Communication was quite challenging with smoke, loud noise from aircraft flying speed, small text on the QRH and irritated eyes from the initial smoke exposure and the First Officer and I at several moments had to communicate via hand signals (Ironically the First Officer had complained of his eye contacts bothering him and irritating his eyes a few minutes prior to event and transferring the airplane to me in order to change contacts).

I would like to point that in spite of a lack of ECAM warning and guidance to the initial cause, the First Officer went through the QRH checklist and deciphered as to the best steps to take in an exemplary and decisive manner, although the text should be bigger! I was given a heading towards ZZZ1 which I had requested and ATC gave me the weather as low OVC and visibility. ATC then gave me the weather to ZZZ2, CLR 180/04 Runway 25 and they said it was only a few miles further if we needed it. I looked outside the window and saw a blanket of low clouds/ceilings, I saw the First Officer had run the checklist and I glanced up at the overhead panel switches and noticed the smoke had neutralized, still present, but not filling in the cockpit (I kept mask on due to concern for risk of not knowing contamination could cause us to black out), so I stated we should head for ZZZ2 and I told him I was very familiar with ZZZ2 and he said the same.

I did not think it would be safe to go into ZZZ1 in case navigation equipment may be degrading with low ceilings, thinking maybe it was a fire in the E and E compartment. We were advised by ATC that ZZZ1 runways was 6,000 feet and we acknowledged, both of us feeling more confident that the smoke had been neutralized and that we could safely make it to ZZZ2.

Several communication challenges occurred, once when the First Officer was trying to confirm a part of the checklist and another time when the Lead Flight Attendant called the cockpit three times, each time hanging up when the First Officer answered because she had thought it was the aft flight attendants answering until the First Officer made it clear that she was reaching the cockpit. The First Officer at that point told her we were going to land at ZZZ2 and no evacuation was needed. (Later after our debrief the lead flight attendant had explained how the Captain on the prior flight on the same airplane had asked that anytime the cockpit called the cabin all the flight attendants, forward and aft pick up thus adding to the confusion. Also, the aft flight attendants thought the aircraft might have a belly up landing because the prior flight on the same airplane the Captain briefed them on the wheels being hot).

We were then offered Runway 7 to ZZZ2 with light and variable winds and I accepted. The First Officer had already entered the new destination and Runway 7 ILS was selected and the approach and landing with medium brakes was made safely. We exited the runway and immediately came to a stop, shut down the number 2 engine and emergency crew and Tower confirmed no smoke anywhere after a 360 degree inspection.

We then taxied into a ramp position and evacuation was kept on hold, but flight attendants were advised that at any time they saw the need to evacuate to do so, engines were off and only APU with electric no PACKS on. It took some effort and time to get an RJ airstair, but it would not safely allow for deplaning, so I requested we be towed to the jet bridge suitable for our airplane. We were towed, jet bridge brought up and all passengers were deplaned safely. We secured the aircraft, I spoke with local Police and emergency personnel, Dispatch, Maintenance (filled a smoke report), Assistant Chief Pilot, discussed
and reviewed event with crew.

The crew I had, First Officer and flight attendants, on this particular event was nothing short of professional and executed their safety items in a very effective manner in spite of the many challenges and time constraint, their experience and CRM training was evident (First Officer, although a new hire, certainly used his prior experience in this event). We confirmed that the passengers were safe in the terminal, offering them all available food/drinks from the airplane and once we were told that a rescue jet would be landing shortly to get them safely to [the intended destination] we went to get rest at a hotel.

The following day the entire crew went to an Urgent care for a checkup, I had very irritated eyes and sinus irritation, First Officer woke up with irritated eyes and coughing, flight attendants complained of some irritation to eyes and sinus. There was 33 LBS of dry ice boarded and PACKS had been turned off, in addition to the smoke/chemical exposure. Med link was contacted and approved our return to work.

The event, procedure follow up with all departments and proper care for everyone's safety was very exhausting and taxing. We finally left ZZZ2 on the flight back to our domicile and everyone felt a great sense of relief once back to normalcy. A delay to return to work for the entire crew was a prudent course of action. A tremendous crew, I was proud to have worked with that day, and an asset to the safe operation for passengers.

**Narrative: 2**

Going through the QRH, the smoke began to be less intense as the checklist progressed. Unfortunately, during the progression I did not press the galley switch to an off position. The mask and the smoke hindered my vision and communication with the Captain and I was unable to 100% verify that the switch I was intending to press was the correct switch. Moving forward through the checklist, I made the decision that the smoke was not connected to an avionics smoke issue and moved to the lower portion regarding the "air conditioning smoke is suspected" section. At that moment I finished the section and felt like the smoke did not continue to infiltrate the cockpit.

I rejoined the Captain and assisted in changing our destination and set up the ILS approach to Runway 7 at ZZZ2. Medium brakes were selected and the approach descent checklist was completed. The Captain made another call to the flight attendants and let them know we did not expect to evacuate the aircraft on landing. The Captain disconnected the autopilot and auto thrust systems. During the approach and descent, it was difficult to hear each other clearly and we reverted to hand signals for the gear and the flap settings.

The Captain landed safely and we exited the runway, started the APU, and came to a complete stop on the ramp. At that moment we received an ECAM message: AIR PACK 1+2 FAULT as well as PACK 1 OVHT. We followed the ECAM procedure. The Fire and Crash crew drove around the aircraft and said they saw a small amount of "smoke" running from our number 2 engine. The Captain directed me to shut down the number 2 engine. We opened our windows to allow the smoke and fumes to exit the cockpit.

**Synopsis**

A320 flight crew reported during climb the First Officer's eyes became irritated, a floor vibration developed, and then the aircraft filled with sulfur smelling smoke. A diversion was made to the nearest suitable airport. An air conditioning system fault was suspected.
ACN: 1370617 (15 of 50)

Time / Day
Date: 201606
Local Time Of Day: 0601-1200

Place
Locale Reference.ATC Facility: ZZZ.ARTCC
State Reference: US
Altitude.MSL.Single Value: 34000

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

Aircraft
Reference: X
ATC / Advisory.Center: ZZZ
Aircraft Operator: Air Carrier
Make Model Name: A320
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Nav In Use: FMS Or FMC
Flight Phase: Climb
Airspace.Class A: ZZZ

Component: 1
Aircraft Component: Electrical Wiring & Connectors
Aircraft Reference: X
Problem: Malfunctioning

Component: 2
Aircraft Component: Electrical Distribution
Aircraft Reference: X
Problem: Malfunctioning

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Qualification.Flight Crew: Multiengine
Qualification.Flight Crew: Instrument
Experience.Flight Crew.Total: 6100
Experience.Flight Crew.Last 90 Days : 244
Experience.Flight Crew.Type : 4470
ASRS Report Number.Accession Number : 1370617
Human Factors : Situational Awareness
Human Factors : Troubleshooting

Events
Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Landed As Precaution
Result.Flight Crew : Diverted
Result.Air Traffic Control : Issued New Clearance
Result.Aircraft : Equipment Problem Dissipated

Assessments
Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1
During the last phase of climb and about to reach FL340, the aircraft passes through a zone of light turbulence (without representing any special consideration for it) and at that same time the AP (AUTO PILOT and A/THR (AUTO THRUST) systems disconnected by itself without any apparent reason, following this situation the screens on the cockpit experienced a "BLACK OUT" for about 1 or 2 seconds (A similar situation could be observed with a change of electrical power when using the external power unit when on ground) afterwards ALL navigations capabilities on the aircraft were lost and the EWD (ECAM WARNING DISPLAY) only showed the following ECAMS, AUTO FTL A/THR OFF and ENG THRUST LOCKED (THR LEVERS.....MOVE)

The Capt (PILOT MONITORING) at that time, calls out for a positive exchange of controls as established by the company policies and SOPs "I HAVE CONTROLS"... and then commands the start of "ECAM ACTIONS". We follow the ECAM and made a quick evaluation of the general condition of the aircraft discovering the following:

1) A cross check of the flight instruments was made looking for indications that could lead us to suspect of an ABNORMAL V ALPHA PROT or UNRELIABLE SPEED INDICATION without finding any differences in relation with airspeed or altitudes indications in between the primary and the standby flight instruments.

2) We were not able to re-connect the AP (AUTO PILOT) and A/THR (AUTO THRUST) systems by any means available.

3) Both PFD (PRIMARY FLIGHT DISPLAYS) showed indications that lead to the loss of flight protections (ALT LAW/DIRECT LAW).

4) Both ND (NAVIGATION DISPLAYS) neither showed the map route nor any other navigation references that help us to establish a good geographical position. Both ND remained with the ARC selection.
5) Both MCDU's (MULTIFUNCTION CONTROL DISPLAY UNITS) were frozen and did not accept any inputs.

6) The behavior of the aircraft in flight regarding handling was really sensitive to flight control inputs on hand flying but it remained within positive control for pilots.

The Capt. (now acting as PILOT FLYING) contact ARTCC and informs them about the loss of the automation and navigation systems of the aircraft and made a request to leave RVSM (REDUCED VERTICAL SEPARATION MINIMA) while continuing the flight to destination its evaluated and the possibility of diverting. ARTCC maintain the flight at FL340 for few minutes and ask if we were able to fly to [a nearby airport], our response is that it is not possible due to the lack of navigation systems, we then received a vector to fly and a clearance to descend to FL280. While this is happening we made a new Cross Check on flight instruments looking for differences on indications and we pull down the magnetic compass for a better references in flight without finding variations on indications.

At the same time we continue with the coordination and task sharing for the flight crew so the First Officer (Now acting as PILOT MONITORING) refers, finds and start the procedures stablished by the QRH and Flight Crew Operations Manual regarding the different scenarios that were stablished after the first evaluations made at the start of the failure and considering the following procedures: (presented in this report with no specific order of application)

- IR ALIGNMENT IN ATT MODE - NAV IR DISAGREE - NAV ADR DISAGREE - ADR 1+2+3 FAULT - ABNORMAL V ALPHA PROT - UNRELIABLE SPEED INDICATION - ALTERNATE AND DIRECT LAW - LANDING ASSESSMENT - FUEL CALCULATION

Suddenly the PFD (PRIMARY FLIGHT DISPLAY) and ND (NAVIGATION DISPLAY) of both Captain and First Officer came back to a "NORMAL" state of operation but AP (AUTOPILOT) and A/THR (AUTO THRUST) did not respond again to any activation attempts, seconds after, the failure appeared again and PFD and ND returned to its previous failure state described before.

At this point we were transferred to [adjacent] ARTCC and we transmit our decision to divert, this decision was made after as a CREW, Captain and First Officer determined that the aircraft status in this condition was not reliable for the continuity of the flight, representing an undesirable state, situation that affected the safety of the passengers and flight crew aboard the aircraft. We receive a vector to fly north and minutes after being established on that heading we were transfer back to [original] ARTCC. A moment before contacting ARTCC the aircraft recovered by itself its normal flight conditions. All navigation and automation systems were able to recover for flight.

ARTCC inquired us about the status of the flight and the aircraft condition besides a general description of what was happening; We advised ATC that the navigations and automation systems were not operating normally due to intermittent failures that occurred minutes before and the failures did not make the aircraft reliable for flight, and we stated that this conditions represented a risk for the possible loss of flight protections of the aircraft that could lead to undesirable condition during landing (Thinking about a DIRECT LAW). ARTCC gave us clearance to flight direct to ZZZ, we then informed of our intentions to use RWY 28R at ZZZ witch is the longest runway available at the airport and requested the presence of the Emergency crew and equipment of the airport.

At that moment we made a new full revision of all procedures described regarding the
failures that could have affected us minutes before in order to have a better understanding of what could happen if the failure came back again or by any means what could happened if we had a much worst situation during the remaining of the flight and landing attempt, after that, we ask for vectors to the Northeast in order to burn some of the remaining fuel so we were able to avoid an overweight landing at ZZZ.

We must remark that we made all necessary coordination's and communicate all our requirements at all times with ATC, FLIGHT ATTENDANTS, STATIONS and BRIEFING TO PASSENGERS. The flight Crew CRM performed with an excellent communication level and understanding, always with a full respect and proactivity in order to resolve the situations that we faced during flight until our landing at ZZZ, also, all the decision were made in conjunction and with a full understanding of its consequences. The final approach and landing were made in normal conditions, the failures at those points never came back again, but we were on alert in case any failure appeared once again.

Synopsis

A320 Captain experienced an electrical anomaly at FL340 resulting in loss of autopilot and autothrust along with Navigation Display information and frozen MCDUs. PFDs indicated Alternate Law. ATC is advised and the flight diverts to a suitable alternate airport. Before landing all systems return to normal operation.
Time / Day
Date: 201606
Local Time Of Day: 0601-1200

Place
Locale Reference.Airport: ATL.Airport
State Reference: GA
Altitude.MSL.Single Value: 11000

Environment
Flight Conditions: VMC
Light: Daylight

Aircraft
Reference: X
ATC / Advisory.TRACON: A80
Aircraft Operator: Air Taxi
Make Model Name: Light Transport
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 135
Flight Plan: IFR
Mission: Cargo / Freight
Flight Phase: Initial Approach
Route In Use: Vectors
Airspace.Class E: A80

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: Captain
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Total: 19000
Experience.Flight Crew.Last 90 Days: 150
Experience.Flight Crew.Type: 10000
ASRS Report Number.Accession Number: 1366999
Human Factors: Communication Breakdown
Human Factors: Situational Awareness
Human Factors: Fatigue
Communication Breakdown.Party1: Flight Crew
Communication Breakdown.Party2: ATC

Events
Anomaly.ATC Issue: All Types
Anomaly.Deviation - Altitude: Excursion From Assigned Altitude
Anomaly.Deviation - Procedural: Published Material / Policy
Anomaly.Deviation - Procedural: Clearance
Detector.Person : Air Traffic Control  
When Detected : In-flight  
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

On initial approach vectors to land with Atlanta Approach. The radio traffic was very congested. Approach was very busy. I was given a descent to 12,000, I copied the instruction. We descended to 12,000. Around the time we leveled at 12,000, I was given a speed reduction assignment. I acknowledged and we complied. Shortly thereafter, I thought that I was given another descent assignment to 10,000. I copied the instruction. My copilot was busy with some flying stuff and didn't hear the instruction. He then saw that 10,000 was in the altitude alerter, and asked, "when were we told to go to 10?" I said, "just now." So we started down. At 11,000, ATC came on and told us to stop, and asked why we were descending. I said, "We were instructed to descend to 10,000". ATC said we were not instructed. I said that I read back the assignment, and if it wasn't for me, why didn't you correct me. The remainder of the flight was normal. Just before going to tower frequency, approach gave me the TRACON phone number to call. I called. The lady on the phone said that she had pulled the tape, and there was no recording of an instruction for me to descend to 10,000 and furthermore no reply from me to that instruction. I told her that I didn't know why my response was not there, but the radio was so busy, that another plane may have keyed up at the same time and cut me out. But I know that I acknowledged an instruction that I believed was for me even though it was now apparent that it was for someone else. And that since I wasn't corrected, I felt I was properly complying with said instruction. She then said the instruction was for a [commercial] jet with a somewhat similar callsign. She said that paperwork was going to be filed with the FAA and to be waiting for a call.

I realize now that I should've clarified the instruction with ATC, when my copilot asked about 10,000 being in the alerter. I was confident I heard correctly, even though it is good CRM to clarify an instruction when a crew member questions the instruction. One of the controllers had told a couple of other planes that they needed to pay better attention to hearing their callsigns because they were calling these planes multiple times with no response. One controller told one plane to "listen up". And he said it quite sternly. So when my copilot questioned the assignment, I felt that I had it right and I also didn't want to anger the controller by trying to cut in. Not confirming was my biggest mistake. Fatigue may have had something to do with it also. We were arriving in ATL after a four hour plus flight. We left my home base [late at night]. So, I was tired as well.

Synopsis

Air taxi Captain reported an altitude deviation resulted after responding to a descent clearance that was intended for an aircraft with a similar call sign.
ACN: 1366776

Time / Day
Date: 201606
Local Time Of Day: 1201-1800

Place
Locale Reference, ATC Facility: EISN.ARTCC
State Reference: FO
Altitude, MSL, Single Value: 5000

Environment
Light: Daylight

Aircraft
Reference: X
Aircraft Operator: Air Taxi
Make Model Name: Gulfstream IV / G350 / G450
Crew Size, Number Of Crew: 2
Operating Under FAR Part: Part 135
Mission: Passenger
Flight Phase: Initial Climb

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
ASRS Report Number, Accession Number: 1366776
Human Factors: Communication Breakdown

Events
Anomaly, Deviation - Speed: All Types
Anomaly, Deviation - Procedural: Clearance
Anomaly, Deviation - Procedural: Published Material / Policy
Detector, Person: Flight Crew
Were Passengers Involved In Event: Y
When Detected: In-flight

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

Narrative: 1
After we had landed for a scheduled fuel stop. I was told to get off of the plane to ask the handler on the process for the Duty Free receipts for passengers and myself and the Flight Attendant (FA). It was determined that the handler per the customs agent only required
the completed Duty Free forms and receipts. I went back to the back to use the restroom, while the passengers were providing the handler with their completed forms, and the majority of the passengers (except the lead and his wife) wanted to get off the plane to stretch their legs and use the restroom. When I came back up front, the Captain advised me he had ordered the fuel, and I was advised to watch this carefully when the truck showed up so I did once the fuel truck arrived. In addition, he went into the FBO, but before I was given a piece of paper at this time from the Captain that had instructions on contacting Clearance that included the following: "contact 121.7 when 45 mins prior to ETD" at the same time I was also told to watch the fuel. The Captain had written XA:30 for the departure, but we had just landed at XA:03, and when I looked at the time when he walked away from me, I noticed that it was already XA:20. I still had to get the plane ready for departure, obtain the Oceanic Clearance, and watch the fuel. So, I immediately contacted Oceanic.

I contacted Oceanic Clearance and after confusion with the estimated departure time as given of XA:30 by the Captain (CA) Pilot Flying (PF), it was determined that the new estimated time would be XA:40 and I was to wait on the frequency for an amended clearance. The PF then showed up at XA:25 and wanted to know if I obtained the clearance. I replied "no", because I was told to standby for a re-route. I was watching the fuel at this time while still listening for Oceanic to call me back. The PF then told me to enter the flight plan as originally filed, and he took over watching the fuel. I advised the Captain that according to the FMS, if we took all of the fuel that he requested that we would be overweight for takeoff and Taxi. We then had a short discussion about this and the issue involved the weight of the cargo was higher than estimated on the flight plan. (Note: takeoff weight was 74,600 per the FMS). I was then told to enter the original route into the flight plan that we currently had even though I was still waiting for Oceanic to contact me with the re-route. The Captain watched me enter each fix from our original flight plan. We then closed up, and I was still waiting on the frequency for Oceanic to call me back. The PF then told me to enter the flight plan as originally filed, and he took over watching the fuel. I advised the Captain that according to the FMS, if we took all of the fuel that he requested that we would be overweight for takeoff and Taxi. We then had a short discussion about this and the issue involved the weight of the cargo was higher than estimated on the flight plan. (Note: takeoff weight was 74,600 per the FMS). I was then told to enter the original route into the flight plan that we currently had even though I was still waiting for Oceanic to contact me with the re-route. The Captain watched me enter each fix from our original flight plan. We then closed up, and I was still waiting on the frequency for Oceanic to call me back since they had last told me to standby earlier. I was then told to call Oceanic again and ask them if we could start engines. I did, but no answer. I was then directed to call the Tower to ask them. I complied, but the Tower asked us if we had the clearance and I replied no. We were advised by the Tower that he had our clearance and he said he would call Oceanic to see if he could give us our clearance. The Tower then came back and told us we could start engines, but that Oceanic had to give me our clearance. It was then decided that the CA would start engines and run the checklist because we were getting close to the XA:40 time constraint while I attempted to speak to Oceanic. CA started the engines, but I do not know if he completed the checklist. I advised the CA that I still did not have the clearance, when I was told to obtain the taxi clearance. I complied and read back taxi clearance, when I heard Oceanic call me.

I then went back heads down to obtain the amended clearance from Oceanic as CA taxi[ed] to the Runway. At this point, we were almost to the end of the Runway. I was ordered to just put the first point of the clearance into the FMS by the Captain from the reroute by Oceanic. I then said that we had a departure so I confirmed with the Tower if we should still expect the departure before I placed the first point into the FMS as directed. The Tower said yes. The Tower then said if I wanted that I could read back the clearance to the Tower to ensure it was the same thing he had. So I did, and we both had the same re-route. At this point, we are now holding short and I was advised by the CA to tell the Tower we were ready for departure. I replied to the CA that I had not even looked at the departure yet nor had we run any checklist. The CA replied he had looked at the departure and I was told to run whatever checklist I felt necessary, but we had to get airborne. I was then stopped and told again to tell Tower we are ready. I made three attempts at least to express that we were not ready because of checklist and the
departure briefing, but I was ignored and ordered to tell ATC that we were ready. The CA said again that he looked at the departure. I asked him what page was he on so I could pull it up quickly and he said he did not know. I pulled it up quickly on my iPad myself, then took a glance at my Nav Display, and completed the checklist as best as I could as we began the takeoff roll. Once airborne, the Captain immediately started shouting that the departure was incorrect. The Captain kept saying we need to turn left, but the FMS was showing a right turn. I kept saying do not turn left and to follow the departure. He kept saying this isn't right and he turned the auto throttles off. We were getting slow, when he kept saying he was going to turn left, and I said stay on the departure AND DO NOT TURN LEFT. He then selected direct to ERABI in the FMS as we were still in heading mode on runway heading whereby deleting BIVES and DISUR off of the departure. At some point, I said we need to turn right and go to ERABI. We were given a higher altitude and at some point while level at 6,000 feet, we managed to get an over speed warning indication because we were now at 340 kts and 6,000 feet.

We continued airborne. Once at cruise, the CA obtained the Oceanic clearance from me and the weather to input on his master sheet. I then asked him when he was all caught up with everything that I wanted to talk about what had just happened. About 20 minutes had gone by and we than started to discuss the issues that had just happened and what had happened earlier while flying the approach into Shannon.

It was determined at cruise that the CA was looking at the incorrect departure on his iPad. He was looking at the departure off of [a different] runway, and he never compared his plate with the FMS. Even though he told me at least three times that he had looked at this as he is taxiing onto the runway. I never [saw] him compare the FMS with his departure plate. Unless I'm asking him to verify something with me. I had also not had the opportunity to do so either because I was task saturated with many different tasks, or my request for a brief or to look at the departure was ignored. I also brought up the fact that the CA either disregards what I say, ignores me, and/or will not answer me when I make a point or ask a question. It's to the point that I am so used to this behavior that I do not really know if he is hearing me or simply ignoring me. He replied that he is going to ignore me if he thinks that what I'm saying or asking is stupid, or if he thinks I should know the answer already. I told him that this is really bad CRM. He acknowledged and seemed to understand my point. I also brought up that I tried over and over to get him to slow down and stop so we could accomplish our tasks, but he's like a bulldozer rolling all over me and not stopping. So, I asked him what I need to do the next time to make him listen to me. He advised me to maybe just remind him that he's focusing on time constraints and point to my watch, and say "we don't want [a previous incident] to happen again". He apologized to me and said he really made a huge mistake and he was glad that I would not let him turn left like he was insisting on doing so. We then talked about the over speed issue and I asked him what he was going to do. He said he did not know. I told him that he should at least talk to maintenance and tell him what happened because we busted a limitation on the plane, and he told me he would.

Both pilots should be on the same page. Fixating on time and not following SOPs should never happen. If time is going to be an issue, take and accept the delay in order to accomplish appropriate checklist, follow SOP's, brief, and review the FMS.

Recommend CRM classes and review the dangers to hazardous attitudes. Emphasis this should be a team effort and both CA and First Officer can learn from each other. The behavior of outwardly ignoring the other pilot, and disregarding any input is very serious.

In regards to the over speed issue. I do not believe that anyone was ever told that the
plane was actually in an over speed condition. Emphasis should be placed that maintenance should be notified when a limitation has been exceeded to determine if an inspection is required by maintenance before another flight is taken.

I shared my point that the lack or refusal to acknowledge or respond on his part in not allowing for proper CRM to take place. This lack of CRM is causing issues because it is getting to the point that I am ALWAYS being ignored and I do not know if the PF is hearing &/or understanding important things that I am saying or suggesting. I again stressed that this is really bad behavior, and is causing a breakdown of practicing good CRM & in my opinion poor Aeronautical Decision-Making.

**Synopsis**

G-IV First Officer reported poor CRM procedures from the Captain that resulted in possible track deviation.
Time / Day
Date: 201606
Local Time Of Day: 1201-1800

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

Environment
Light: Daylight

Aircraft
Reference: X
Aircraft Operator: Air Taxi
Make Model Name: Medium Transport, Low Wing, 2 Turbojet Eng
Crew Size: Number Of Crew: 2
Operating Under FAR Part: Part 135
Flight Plan: IFR
Flight Phase: Initial Approach
Route In Use: Oceanic

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)
ASRS Report Number: Accession Number: 1366775
Human Factors: Situational Awareness
Human Factors: Other / Unknown

Events
Anomaly: Deviation - Altitude: Excursion From Assigned Altitude
Anomaly: Deviation - Track / Heading: All Types
Anomaly: Deviation - Procedural: Published Material / Policy
Anomaly: Deviation - Procedural: Clearance
Detector: Person: Flight Crew
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
Descent below required altitude while shooting the ILS approach.

We were given a heading to intercept the localizer. The heading was at an angle that we would have crossed DERAG on the intercept. We were IMC at times. I recommended to the Captain (CA) to select green needles since we were in heading mode instead of having his FMS needle visible so he could arm LNAV to arm the LOC, but this did not happen right away. As we got closer, our clearance was on heading (can't remember) to maintain 3,000 until established, cleared for the ILS approach, report once established inbound. We were outside of DERAG, when the Pilot Flying (PF) started turning the heading bug to intercept the course inside of DERAG. Once established, the PF started descending to an unknown altitude as the altitude select was still set to 3,000 when the PF selected VS 600 fpm. As I was attempting to query the PF on why he was descending, Shannon Approach asked us about our altitude (now 2400 ft and still descending) and we were asked if we were already descending on the glideslope. I was directed to let Shannon know that we were, and I also advised them that we were established inbound. However, this was not the case, because we should have been at 3,000 feet, and allowed the GS to intercept accordingly.

Spoke to the PF once at cruise on next leg about this issue. We looked at the approach together. I brought up the fact that since I have been flying with this pilot, he always descends on an ILS on stepdown by using VS instead of allowing the GS to intercept even when there is NOT a mandatory crossing restriction. The PF had no response. The PF understood he should have been at 3,000 feet and acknowledged he made a mistake. In addition, I brought up the CRM issues that I have only most recently been experiencing with this particular pilot whereby this pilot either will not acknowledge me and/or not respond to my questions, suggestions, etc.

**Synopsis**

G-IV First Officer reported poor CRM practices of the Captain she was flying with which resulted in descent below assigned altitude during approach and a possible track deviation during departure.
**Time / Day**

Date: 201606
Local Time Of Day: 1801-2400

**Place**

Locale Reference: Airport: SAF.Airport
State Reference: NM
Altitude: MSL. Single Value: 12500

**Environment**

Flight Conditions: Mixed
Weather Elements / Visibility: Turbulence
Weather Elements / Visibility: Rain
Weather Elements / Visibility: Thunderstorm
Weather Elements / Visibility: Windshear
Light: Dusk

**Aircraft**

Reference: X
ATC / Advisory: Center: ZAB
Aircraft Operator: FBO
Make Model Name: Small Aircraft, Low Wing, 2 Eng, Retractable Gear
Crew Size: Number Of Crew: 1
Operating Under FAR Part: Part 91
Flight Plan: VFR
Mission: Ferry
Flight Phase: Descent
Route In Use: Direct
Airspace: Class E: ZAB
Airspace: Special Use: R5101

**Person**

Reference: 1
Location Of Person: Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: FBO
Function: Flight Crew: Instructor
Function: Flight Crew: Pilot Flying
Qualification: Flight Crew: Commercial
Qualification: Flight Crew: Flight Instructor
Experience: Flight Crew: Total: 1100
Experience: Flight Crew: Last 90 Days: 25
Experience: Flight Crew: Type: 13
ASRS Report Number: Accession Number: 1363465
Human Factors: Communication Breakdown
Human Factors: Confusion
Human Factors: Situational Awareness
Human Factors: Time Pressure
Human Factors: Workload
Human Factors : Distraction
Communication Breakdown .Party1 : Flight Crew
Communication Breakdown .Party2 : Flight Crew

Events
Anomaly .Airspace Violation : All Types
Anomaly .Flight Deck / Cabin / Aircraft Event : Illness
Anomaly .Deviation - Track / Heading : All Types
Anomaly .Deviation - Procedural : FAR
Anomaly .Inflight Event / Encounter : Weather / Turbulence
Anomaly .Inflight Event / Encounter : VFR In IMC
Detector .Person : Flight Crew
Detector .Person : Air Traffic Control
When Detected : In-flight
Result .Flight Crew : Requested ATC Assistance / Clarification
Result .Flight Crew : Landed As Precaution
Result .Flight Crew : Became Reoriented
Result .Flight Crew : Took Evasive Action

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

Narrative: 1

I attempted the ferry flight of a twin engine aircraft, and a student to the Santa Fe Municipal Airport. I was acting as PIC for the mission while the student was restricted to co-pilot duties having not yet passed his commercial multi-engine check ride. The student had logged 23.7 hours of training time in the twin at the time of the ferry flight. The flight was conducted under VFR with flight following. The first leg of the flight was completed with a landing without incident. The FBO was closed so the only service was fuel. No food was available. I refueled and proceeded to the Northwest my next stop. The intent was to proceed directly to Santa Fe prior to the expected buildup of thunderstorms in the vicinity of Albuquerque and Santa Fe. As we approached, the co-pilot complained of great discomfort from hunger and asked me several times to stop for something to eat. I elected to land at an intermediate airport rather than continue with a student co-pilot who was hungry and stressed. By the time we returned to the FBO, the weather had deteriorated over Albuquerque and Santa Fe to the point that I decided to wait to see if conditions improved later in the day.

Before sunset the weather conditions appeared to improve and I elected to depart for Santa Fe. We encountered bands of rain and clouds between there and Albuquerque but easily maneuvered around them. However, a large cell was encountered over the Corona VOR forcing me to deviate west and then northwest toward Albuquerque. At that time the largest cell was to our east. I chose to climb to 12,500 to ensure terrain clearance in the event of severe down drafts. About 12 Miles east of ABQ we picked up flight following from approach. I chose to fly northeast, just east of Interstate 25. At that point the cell I had earlier avoided had moved directly over Santa Fe. We were in moderate turbulence and struggling to maintain altitude. Radio communications were becoming difficult with ATC being very busy and our contact sporadic. In addition, the student was exhibiting great
stress because of the deteriorating weather. He was also exhibiting a decreasing ability to communicate or function effectively in English. I elected to [descend] and land as soon as possible and told ATC of my intentions to land at Los Alamos. I was advised that a TFR was in effect at that airport. At this time I became aware that I was becoming hypoxic with deteriorating vision and increased fatigue. I was aware that Center had tried to communicate with us but the transmission was garbled. I used my iPad sectional to locate another airport nearby and found E14 just north of Española. I could see the vicinity of E14 was clear of thunderstorm and decided to turn directly toward the airfield to avoid both terrain and thunderstorm activity. I elected not to declare an emergency with the airfield in sight and calm winds. Also, my vision improved and extreme fatigue dissipated as we descended in preparation for landing. The landing was uneventful and I was advised that I should call ABQ center. The aircraft was recovered the following day.

I made a call to Albuquerque Center and was advised that a possible deviation had occurred. I was also advised that a report would be generated and that Flight Standards would be contacting me. I notified my superiors and was interviewed at length by the Santa Fe Site Manager. My interviewer covered the entire flight from tasking to final landing. He then asked me to identify where my decision-making had led me into a situation where I felt forced to land as soon as possible in mountainous terrain, in bad weather, risking a violation of restricted airspace while possibly suffering from hypoxia. I was able to identify two primary points in the flight. The first point was the decision to proceed to Santa Fe without a solid idea of developing weather conditions. I launched with a tired and nervous student co-pilot and was also experiencing fatigue. These factors combined to cloud my judgment and caused me to make poor decisions in ever-deteriorating conditions. In retrospect, I should have elected to stay at Roswell or, at the very least, contacted my superiors for guidance. I now know I would have been advised to stay at Roswell for the night and proceed in the morning. My interviewer also made clear to me that I could have elected to turn to Roswell or land at Albuquerque at any time prior to becoming trapped North of Santa Fe. The second point was to fail to simply turn around and proceed back to Albuquerque and request vectors for an approach for landing, upon finding Santa Fe weather unacceptable. My interviewer asked me about my decision to proceed to E14 rather than toward Albuquerque. My only response is that I did not know what was behind me and I had a visual on a clear airfield. The stress of the flying situation, the perceived difficulty with communications, and the lack of support by the stressed student caused me to focus on the nearest possible out. My interviewer pointed out that the decision to proceed to Los Alamos, after finding Santa Fe unusable, was an error in judgment. I could have turned toward Albuquerque and requested vectors for an approach or made a visual approach to Double Eagle had that airfield been clear.

My interviewer's immediate response was to advise that he was recommending me for remedial training in Weather, Restricted Airspace, Crew Resource Management, inadvertent-flight-into IMC, aeromedical factors and aeronautical decision-making. He also stated that I would be restricted from ferry operations until that training was completed as well as being closely monitored on all cross-country student flights.

Conclusion: The ferry flight and possible deviation R-5101 is a vivid personal lesson on the dangers of flying under stress while experiencing a great desire to get to the destination. I also learned that the combination of deteriorating weather, possible hypoxia, fatigue, and decreased crew resource management might occur quickly and without clear indication. I understand my responsibilities and readily accept the requirement for additional training.

Synopsis
An instructor pilot ferrying a light twin to SAF unexpectedly encountered thunderstorms and, while deviating, climbed to 12,500 ft, entered restricted airspace, and inadvertently entered IMC flight.
**ACN: 1352977 (20 of 50)**

**Time / Day**
- Date: 201605
- Local Time Of Day: 1201-1800

**Place**
- Locale Reference: ATC Facility: ZZZ.ARTCC
- State Reference: US
- Altitude.MSL.Single Value: 23000

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

**Aircraft**
- Reference: X
- ATC / Advisory.Center: ZZZ
- Aircraft Operator: Air Carrier
- Make Model Name: EMB ERJ 145 ER/LR
- Crew Size.Number Of Crew: 2
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Mission: Passenger
- Nav In Use: FMS Or FMC
- Flight Phase: Climb
- Airspace.Class A: ZZZ

**Component**
- Aircraft Component: Air Conditioning and Pressurization Pack
- Aircraft Reference: X
- Problem: Malfunctioning

**Person: 1**
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function.Flight Crew: Captain
- Function.Flight Crew: Pilot Flying
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number.Accession Number: 1352977
- Human Factors: Situational Awareness
- Human Factors: Time Pressure
- Human Factors: Workload

**Person: 2**
- Reference: 2
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Observer
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Became Reoriented
Result.Flight Crew : Returned To Departure Airport
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : FLC complied w / Automation / Advisory

Assessments

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

Narrative: 1

When we showed up to the airplane there was an FAA inspector that requested to ride in the jump seat to our destination. He took our medical, and license and asked a few questions in regards to the flight. I gave him the flight time, discussed with him the MEL that was on our paper work regarding PACK 2 being inop (21-51-00-3 AIR COND PACK WITH ISIS [Integrated Standby Instrument System]) and continued to brief him in regards to him being in the jump seat. I did take out the briefing card and continued to brief him. He told us that he was very familiar with the EMB-145 and that he was qualified on the aircraft. I told him even though he was observing us that he was still an additional crew member in case of an emergency. My First Officer (FO) and I had also discussed the MEL and noted some of the threats that go along with that MEL. This was the first leg of a day trip that was assigned to us and we were just starting out our day. I had flown with my FO in the past and was happy to see a familiar face. We essentially briefed, and set up the aircraft for departure without anything out of the ordinary other than the FAA being in the jump seat. We had an on time departure, we pushed back and started engine number 2 on the push. Once taxing to the runway we started the other engine, ran the required checklists and took off. The takeoff was normal and everything seemed to be going as planned. At some point during the climb we were given instructions to climb to FL240. This was our cruise altitude due to the MEL. At about FL220 we were given a direct to our destination airport. We set that up in the FMS and at that point I started to pull up my destination charts as to try and plan ahead as much as possible. At about FL230 the FAA inspector tapped me on the shoulder and pointed at a cyan message on the EICAS and suggested to eliminate the climb. The message indicated that we had lost PACK 1 and I realized at that point we were not pressurizing anymore. Initially, I asked my FO to pull out the QRH, while at the same time I slowed our climb to 500 FPM. Somehow I had hoped that recycling the PACK it would just take care of our problem but after doing just that and no luck, I quickly realized this was going to be a huge problem. I immediately got
on the radio and requested a lower altitude and told ATC we had a pressurization problem. They gave us 10,000 feet. We immediately started down and I was trying to monitor the pressurization. I noticed it was climbing quite rapidly so I tried to increase our rate of descent and at that point I [advised ATC] with the request to go back to the departure airport. Our descent reached 5000 FPM at one point. During our descent I called the Flight Attendant and told him we had a problem pressurizing and that we were descending to a safe altitude and going back. I instructed him to prepare the cabin for arrival. During the descent my FO ran the QRH and I flew the airplane. I remember asking my FO to send a message via ACARS to company regarding our air return/emergency but he had already sent the message and was on his A game. At about 16000 feet we got the cabin alert and the cabin was at over 10,000 feet. I don't remember how fast my airspeed was but I do remember thinking I needed to drop the gear to transition from a fast descent to an emergency descent. I slowed to 250 knots, dropped the gear and transitioned into an emergency descent. We never put on our oxygen masks during the descent, but I didn't think we were at risk simply because the aircraft was already below FL180 and knew we would be leveling off soon. The cabin altitude reached 11900 if I can remember correctly, before dropping back down once we leveled off. Once level, my FO and I started discussing our overweight situation. My FO suggested turning on the APU and we did. We also started creating drag in order to burn more fuel. We were 70 miles or so from landing and needed to burn 2500 LBS. We asked ATC for a 20 mile vector. Luckily, the airport was completely VFR and we were able to quickly brief a visual to 36L. We ran all appropriate checklists and eventually were cleared for a visual approach. On an 8 mile final the FMS had us landing roughly at 43550 and we knew it would be close but felt comfortable continuing. As we got closer, at about a 4-5 mile final, I realized that we would be landing overweight by approximately 100 LBS. I briefed my FO and jump seater that we would continue to land since we were so close. On landing we were exactly 80 LBS too heavy. On the ground we simply exited the runway, and held short of the other runway until instructed to cross. Once on the other side my FO coordinated our parking gate and we went to the gate.

I'm sure there were several errors made during our flight but I felt that we dealt with the situation safely and reacted appropriately. Thankfully my FO and I had flown together in the past and it made dealing with this situation easier since we work well together.

The existing MEL was a threat since we already had one of our PACKS on MEL.

Identifying the problem and acting quickly was another threat.

Our overweight situation was another threat that we had to deal with during our return to the departure airport.

The FAA jump seater also helped to catch the altitude setting on the pressurization for landing. We had set filed destination and we needed to return it to the departure airport. Granted we were not pressurized, it was still an error on my part to not catch that.

FAA jump seater told me that while cleared to intercept the LOC I mistakenly hit the APR mode instead of the LOC. I didn't realize this until we were on the ground and he brought it up to my attention.

Again, several errors were made but I felt that the safety and integrity of the flight were never compromised.

I learned that it is vital to have a good scan in the cockpit particularly when you are
already working with something broken on the airplane. I am thankful for our training department for preparing us for this situation. I believe that even though we both made mistakes we were able to land safely back because of our good training and CRM. I felt the extra stress of having the FAA on board but at the same time I am glad that I had another pair of eyes in the flight deck to help identify the problem quickly. This goes to show that an emergency can happen anytime. Complacency is something that we have to fight every day we show up for work.

**Narrative: 2**

I learned a lot from this event. To prioritize thing[s] first, to take a deep breath and not rush things to be as much efficient as possible. Communication and CRM [are] really important. Deal with one issue at a time. I think we did a fairly good job on this event but of course could have done better and can still improve our CRM and decision making. Also of course keeping [a] scan [of] the instruments and EICAS is always very important.

**Synopsis**

EMB-145 flight crew reported the loss of pressurization during climb to FL240 with the other PACK already MEL'd.
**Time / Day**
- Date: 201604
- Local Time Of Day: 1201-1800

**Place**
- Locale Reference.Airport: ZZZZ.Airport
- State Reference: FO
- Altitude.MSL.Single Value: 5780

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

**Aircraft**
- Reference: X
- 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: Passenger
- Nav In Use: GPS
- Nav In Use: FMS Or FMC
- Flight Phase: Climb
- Route In Use: Vectors

**Component : 1**
- Aircraft Component: Nose Gear Door
- Aircraft Reference: X
- Problem: Malfunctioning

**Component : 2**
- Aircraft Component: FMS/FMC
- Problem: Design

**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: 1351803
- Human Factors: Confusion
- Human Factors: Distraction
- Human Factors: Workload
- Human Factors: Communication Breakdown
Communication Breakdown.
Party 1: Flight Crew
Party 2: ATC

Person: 2
Reference: 2
Location Of Person.
Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.
Flight Crew: First Officer
Function.
Flight Crew: Pilot Not Flying
Qualification.
Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.
Accession Number: 1351441
Human Factors: Workload
Human Factors: Distraction
Human Factors: Communication Breakdown
Human Factors: Confusion
Communication Breakdown.
Party 1: Flight Crew
Party 2: ATC

Events
Anomaly.
Aircraft Equipment Problem: Less Severe
Anomaly.
Deviation - Altitude: Overshoot
Anomaly.
Deviation - Procedural: Clearance
Anomaly.
Deviation - Procedural: Published Material / Policy
Detector.
Person: Flight Crew
When Detected: Aircraft In Service At Gate
When Detected: In-flight
Result.
General: Maintenance Action
Result.
Flight Crew: Became Reoriented
Result.
Flight Crew: Requested ATC Assistance / Clarification
Result.
Flight Crew: Took Evasive Action
Result.
Flight Crew: Returned To Clearance
Result.
Air Traffic Control: Issued New Clearance

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

Narrative: 1
Filed for a SID. Runway 23L (primary) closed. When I input Runway 23R, there were no SIDs available. Clearance Delivery assigned us the SID for 23L (the SIDs don't explicitly state "23L", but when you look at the depiction, they show the aircraft departing 23L)...I do not think there are any published SIDs for 23R, which is why it was not in our box. Pilot Monitoring (PM) told Clearance Delivery (CD) that we could not fly the SID. CD then told us again that we were cleared on the SID, and told us Departure would send us direct to ZZZ VOR after takeoff. We told CD that we would fly Runway Heading initially. Since we were not flying a SID, I selected VNAV and briefed that I would hand fly the departure.

Clearance Delivery cleared us to only FL50. The Transition Altitude was 4,500 feet. I
briefed both of those items, but didn't realize the significance of them being so close together during climbout, which may have affected the ability of the Autopilot to level off.

When we called tower, the PM again told them that we were not flying the SID. They replied for us to fly the SID. PM repeated again that we were unable, and told them we were flying Runway Heading initially. Tower told us to contact ATC/Departure at 2,000 feet.

Takeoff, climb to 2,000 feet and a turn to an assigned heading from Departure were uneventful. I was hand flying as I had briefed. I think we got past Flaps Up, when we heard a loud rumble and felt a vibration. The PO (Pilot Observing) stated that maybe the gear was slow in retracting. I reached over and selected the Gear Synoptic, and saw that the Nose Gear Doors were In Transit. At this point, I realized that we had a non-standard situation that would distract the PM. I called for Left Autopilot Command, and the PM selected it.

I was looking over towards the PM, and I heard the aural annunciation for Transition. I looked at my PFD and saw the Altimeter box highlighted. I looked over at the PM and realized he was busy, and wouldn't be selecting STD with me. I called "Transition" and pushed the button to change the Altimeter to STD. Shortly after this, I heard the Aural Warning, and saw the Altitude Warning. I looked at the altitude readout, which said 5,78x'. I immediately Disconnected the Autopilot and pitched the nose down. When established in the descent, I selected the Left Autopilot Command, and then selected FL CH. When we were level, I reselected VNAV. We did not receive any communication from ATC.

When the Warning initially sounded, the PM saw the Altitude Deviation, and then looked at the MCP confirming it was set at 5000', and asked what happened. He didn't understand how we could be on Autopilot and have flown through the MCP Altitude Target. The PO (Pilot Observer) stated that normally he would be backing me up and watching the Level Off, but he was distracted by the Gear Problem.

Gear Situation: There was no EICAS or Status Message. There was the Synoptic Display showing the NG Doors "In Transit", and a CMC Present Leg Fault relating to the Nose Gear and a Nose Gear Sensor. The PM placed the Gear Handle in the "Up" position, and the Nose Gear Doors retracted. We left the Gear Handle UP for the duration of the flight and notified Dispatch/Maintenance via ACARS.

The rest of the flight was uneventful. We landed [at our destination], using the VOR DME XXL approach. It took some time to explain the Nose Gear problem to maintenance after we blocked in.

When I fly an RNAV SID or STAR, or a complicated (non-RNAV) SID or STAR, I ALWAYS turn on the autopilot at 250'.

When we were given a level off altitude of FL50, with a Transition Level of 4500', I could have decided to turn on the Autopilot at 250', because the closeness in time/space of the Transition and the Level Off makes things more complicated. I am used to the problem of descending with the cleared level and the Transition Level being close together, but have not had much experience with the two of them being so close together on climbout. I think this may have contributed to the Altitude Deviation, as it may have disrupted the automation to switch from local Altimeter setting to STD so close to the level off altitude.
The other thing I could have done on this flight, was after our call to Departure at 2000', I could have selected STD then, which would have given the automation more time to process the change, and would also be helpful for capturing the correct altitude, especially when the local Altimeter setting was far from Standard. In addition, turning the Autopilot ON at 250' would have given the autopilot more time to process and correctly level off at FL50.

As it was, when I realized that we had a problem, I think it was a good idea to turn on the Autopilot, but then should have focused 100% of my attention on Flying the Aircraft, and let my PM and PO work on the problem. After we were level at FL50, and when I had less going on, then I could have checked back in with them.

In future, when Pilot Flying (PF), I will:
1-Turn the Autopilot ON at 250' whenever we have a "low level" level off.
2-In any abnormal situation, I will either spend all my time focusing on flying the aircraft, or I will give the aircraft to the PM, tell the PM to concentrate 100% on flying the aircraft, and I will manage the abnormal situation.

**Narrative: 2**

Prior to departure, clearance attempted to give [a SID]. They were informed unable due to restrictions in FMS system. Clearance acknowledged and said to expect radar vectors.

At the hold short, tower cleared the flight for the [SID] again and they were told unable and expecting radar vectors per clearance's instructions. It was stated to tower we plan on flying runway heading initially. Tower acknowledge and said report passing 2,000 feet. We acknowledged back.

On climb-out from Runway 23R, Pilot Flying (PF) called for flaps 10. Pilot Monitoring (PM) re-positioned the flaps and called to tower passing 2,000 feet. Tower instructed us to turn to HDG 300 and contact departure. PM read back instructions. While on the heading of 300, several events occurred quickly. Flaps 5 was called, the gear handle was placed in the OFF position, a loud rumble was heard, the PF asked for the AP to CMD, and the PM turned to the OBS in a CRM fashion to work a potential emergency.

PF called transition at the required transition altitude. Just as the PM raised the gear handle, the noise stopped and the altitude warning horn sounded. The PM and OBS saw the altitude and simultaneously the PF quickly disengaged the autopilot and corrected back to the assigned altitude of FL050. An observed maximum altitude of FL057 was observed when the climb was arrested and a correction was made. After the correction, PM reported in to departure with heading and altitude and continued the climb. There was no response from ATC.

The rest of the flight occurred uneventfully.

The autopilot was unable to handle the high rate of climb with a close transition altitude. Suggest a software revision to lessen climb rate when transition altitude is within 2,000 feet of level off altitude or allow crew more latitude on when to change the setting so as to account for sudden situations like this one.

**Synopsis**

A B747-400 was unable to accept the cleared SID because no SIDs were available in their FMC for the only operational Runway. After hand flying the departure on vectors, the nose
gear door did not close so as the First Officer dealt with the gear, the Captain overshot the 5,000 feet level off altitude assignment.
ACN: 1351162 (22 of 50)

Time / Day
Date: 201604
Local Time Of Day: 1201-1800

Place
Locale Reference. ATC Facility: ZZZ. ARTCC
State Reference: US
Altitude. MSL. Single Value: 37000

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

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

Component : 1
Aircraft Component: Pitot/Static Ice System
Aircraft Reference: X
Problem: Design
Problem: Malfunctioning

Component : 2
Aircraft Component: Airspeed Indicator
Aircraft Reference: X
Problem: Malfunctioning

Component : 3
Aircraft Component: FADEC / TCC
Aircraft Reference: X
Problem: Malfunctioning

Component : 4
Aircraft Component: Stall Warning System
Aircraft Reference: X
Problem: Malfunctioning

**Person: 1**
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number. Accession Number: 1351162
Human Factors: Troubleshooting
Human Factors: Workload
Human Factors: Confusion
Human Factors: Distraction

**Person: 2**
Reference: 2
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: First Officer
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number. Accession Number: 1351166
Human Factors: Workload
Human Factors: Distraction
Human Factors: Confusion
Human Factors: Situational Awareness

**Events**
Anomaly.Aircraft Equipment Problem: Critical
Anomaly.Inflight Event / Encounter: Weather / Turbulence
Detector.Automation: Aircraft Other Automation
Detector.Person: Flight Crew
When Detected: In-flight
Result.Flight Crew: Diverted
Result.Flight Crew: FLC complied w / Automation / Advisory
Result.Flight Crew: Landed in Emergency Condition
Result.Flight Crew: Took Evasive Action
Result.Aircraft: Equipment Problem Dissipated

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

**Narrative: 1**
While en route we were circumnavigating weather. First Officer (FO) was Pilot Flying (PF) and I the Captain was Pilot Monitoring. At this time we were IMC and receiving light to
moderate turbulence at FL370. While circumnavigating the weather we were well away from any convective activity in what we were painting with our onboard radar. We did notice some "green" returns on our deviation course, but nothing any more noticeable than that. The turbulence we received was continuous to occasional moderate turbulence at most - Flight Attendants and passengers were asked to stay seated. As we were exiting the area of turbulence I noticed the IAS was slightly decreasing with a red trend vector decreasing as well. I mentioned to the FO to add more cruise power since the trend vector was showing a decreasing value. At the time I requested this we were neither climbing nor descending. After adding power and the vector still decreasing I then informed him to set Climb power to prevent any further decrease of trend vector and airspeed. We could tell the winds were shifting and neither I nor he were sure if we were getting a slight wind shear at high altitude since the winds were changing quite a bit. At this time I requested lower altitude from ATC to help us increase airspeed. At no time did we get below Mach .70. I believe the lowest we indicated was .71 Mach.

We were given a descent from 370 to 350 and all three airspeed indicators were showing a decreasing speed with a large decreasing trend even though we were in a descent. At this point we recognized we had blocked pitot tubes. Shortly after descending and throughout the descent we received numerous caution Msgs: Mach trim, Stall fail, rudder fault and rudder limiter cautionsMsgs, "Fadec 2" status messages for engine two and engine one also posted, IAS caution, EFIS Comp Mon IAS and ALT caution messages (these are the ones I remember). I (Captain) became the PF while the FO ran the QRH procedures. (Please understand that I am trying to recall all messages and events in the best order I can. Not necessarily were they all there together. Sometimes messages appeared, disappeared, and then reappeared. We were running the QRH procedures as best we could for the appropriate messages we saw.) During the descent I was utilizing Pitch and Power settings best I could and also listening to the air noise over the windscreen to provide the safest descent profile under the circumstances. At no time did I ever feel we were too fast (barber pole) or too slow (near a stall). We [advised] ATC somewhere around FL310, if I remember correctly, and informed ATC we wanted to land in [a nearby airport] since the QRH directed us to do so and it was within close distance to land utilizing normal descent rates, plus it had a long runway which I wanted to utilize for this situation.

During the descent the FO was notifying dispatch we were landing at a divert airport. Also, some messages went away and airspeeds seemed to be normal, but then they would become erroneous again. During the descent my side seemed normal as well as the ISI and the FO's side abnormal, but at lower altitudes then the FO's airspeed became what seemed normal and concurred with the Integrated Instrument System (ISI) while mine was dropping showing near stall IAS, but the ISI, FO's IAS, and GS from the MFD were all providing data that seemed to elude we were flying safely. At this time we selected the Source selector panel ADC knob to the FO's side and left it there for the remainder of the flight.

While descending through FL250 the autopilot did a rather abrupt wing rocking motion from right to left. I clicked the autopilot off and hand flew the airplane. Sometime later we tried reengaging the autopilot, but it wouldn't engage. Approaching the airport we ensured emergency equipment was standing by as a precaution and we elected to land runway XY for the extra landing length and winds were a little bit of a crosswind, but manageable. Unfortunately we did not have a glide slope to use as a backup and since it was a single FMS head unit we could not enable "VNAV" since it seemed that used data from my side and that function was not usable. The FO then began calling out altitude and distance information to help me stay on a 3.0 degree glide path until I was able to utilize the VASI. We landed using flaps 20 (QRH directed with Rudder Limiter Fault) and taxied off the
runway to the gate without any additional problems.

There were numerous Threats in the situation. Weather, Erroneous instruments (IAS), numerous message both caution and fault messages. Fortunately we never were in an undesired aircraft state that I knew of other than trying to figure out what airspeed we were using. We also backed up ground speeds with ATC to do our best to ensure we were flying at safe speeds for the pitch and power settings used.

As in any event we can always look back and think "I could have done this or that better", hind sight is always 20/20. What was an exceptional factor to flying this airplane safely was the use of good CRM. The First Officer was exceptional in all aspects in the way he helped me and ensured I wasn't forgetting to take care of necessary steps. I am very very thankful for the training has put into this high altitude pitot tube icing training as well as teaching solid CRM fundamentals and concepts to safely fly airplanes to the best of our abilities.

**Narrative: 2**

We began deviations to the left of course to avoid the convective activity. We were cruising at Mach .78 with a normal power setting. We were in IMC and the temperature was in the mid -50 deg C's Static Air Temperature. What started as up to a 15 degree left deviation turned into a 40 degree deviation to space ourselves from the storm. We began to encounter constant light chop with an occasional moderate bump. I slowed the aircraft to Mach .75. As we made our way around the storm we began a slow turn back to the right and turned direct. While we began the turn back to the right, we both noticed a slight dip in our airspeed. I continued to add power until I reached the max cruise limit setting. I originally associated the speed change with a wind shift and that it would pick back up. While turning back to the nearby airport, we saw another storm on the radar and asked if we could deviate as necessary and ATC acknowledged.

Our airspeed continued to bleed down and the Captain commanded me to set climb power, which I complied with. Even after a minutes worth of climb power, we continued to see the downward trend in the airspeed. It was at this time I became aware of the possibility that our pitot system had froze with ice crystals. I stated this to the Captain and he agreed. All three airspeed indications were within 5-10 knots of each other and still showing a slowdown. We requested a lower altitude and were granted FL350. I did not move the thrust levers out of climb power. While descending we still had reducing airspeed trend. We requested lower again with ATC and were given FL310. I commanded the autopilot to descend at 1500 FPM and we still had a descending airspeed. The Captain noted that our GS was 500 knots and was constant. We continued our descent down and received a RUD LIMITER caution message. The Captain then assumed control of the aircraft and the radios while I started the QRH. The Captain [advised ATC]. While in the QRH for the RUD LIMITER caution, it states to land at the nearest suitable airport.

At this point my airspeed indicator began to show a slower indication than the Captain's and ISI. We received an EFIS COMP MON, STALL FAIL, & MACH TRIM caution message within a minutes time span. While running the QRH for the RUD LIMITER, I saw the captain was task saturated with flying and the radios. We were still in IMC and he was still deviating to avoid weather. I paused the QRH checklist and began to set up for the landing at the divert airport. I advised dispatch through ACARS that we were diverting due to RUD LIMITER caution and all pitot's possibly being iced over giving us erroneous airspeeds. Since we have no procedure for multiple erroneous airspeed indications, I crosschecked the ISI with both the Captains and my airspeed to see which two most agreed. It was determined that it was the Captains so I selected the Source Selector to ADC 1. While
descending from the mid to lower FL200’s, we both became aware that the ISI had now appeared to recover and was indicating an airspeed around 280 knots. The Captain began to fly the aircraft of the ISI. We broke out into VMC and we switched controls so the Captain can talk to the flight attendants and advise the passengers of the situation. After he completed that, we decided to put the source selector back to normal to see if either airspeed came back. My side was more closely resembling the ISI and now the Captain's was far off. His speed was showing just above the low speed cue. Being unsure whether the shaker/pusher would engage, he switched the stall protection off. We choose to change the source selector to ADC 2. We switched controls again so the Captain could perform the landing. During the descent the RUD LIMITER caution flipped to RUD LIMIT FAULT status message. Through the synoptic page we determined that the rudder limiter had failed and was at a limited position. I continued on with the RUD LIMITER QRH and completed it. During the descent we had a L & R FADEC FAULT 2 messages post. We landed at flaps 20deg per the QRH with no further incident. We were able to pull off the runway and continue to the gate. At some point in the descent, the autopilot disengaged and would not re-engage. The cautions as stated above would disappear and reappear multiple times in the descent. At no point did I see any ice crystals form on the windows or wipers.

Having multiple erroneous airspeed indications, in IMC, with no proper procedure to remedy it. After reviewing the events from the day prior, we could have ran the EFIS COMP MON QRH for the airspeed and altitude, but we were too task saturated at the time.

**Synopsis**

A CRJ-700 flight crew reported what appeared to be pitot icing at FL370 in IMC. The equipment affected were both airspeed/Mach systems, Integrated Standby Instruments, FADEC, RUD LIMITER, STALL Warning, MACH TRIM and EFIS COMP MON. The crew diverted to the nearby airport for an uneventful landing. Descending through FL200 in VMC partial equipment functionality returned.
ACN: 1350090 (23 of 50)

Time / Day
Date: 201604
Local Time Of Day: 0001-0600

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

Environment
Flight Conditions: VMC
Light: Night

Aircraft
Reference: X
Aircraft Operator: Air Taxi
Make Model Name: Learjet 35
Operating Under FAR Part: Part 135
Flight Plan: IFR
Mission: Cargo / Freight
Flight Phase: Initial Approach
Airspace.Class B: ZZZ

Component
Aircraft Component: Fuel Crossfeed
Aircraft Reference: X
Problem: Improperly Operated

Person: 1
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)
ASRS Report Number.Accession Number: 1350090
Human Factors: Human-Machine Interface

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: 1350534

Events
Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Ground Event / Encounter : Ground Strike - Aircraft
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Became Reoriented
Result.Aircraft : Aircraft Damaged

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

Narrative: 1

I was the Second in Command (SIC)/Pilot Monitoring for the leg. During preflight, all systems worked properly per Learjet 35 Expanded Normal Procedures and appropriate checklists. Upon departure we noticed that many of the electroluminescent backlights on panels were inoperative. This included the autopilot panel, fuel panel, two circuit breaker rows on Right Hand (RH) side of aircraft and several others. We were able to see what we needed with the "arm burner" side lights and personal flashlights. During cruise, when the PIC engaged the autopilot, he engaged altitude hold, the airplane moved in response that altitude hold was working but no light appeared. It took pressing the button twice more to get a light.

At approximately 100nm from destination, we noted ATC had not given us a descent instruction yet and concluded we would ask at 85nm. Around this time, the PIC noted a fuel imbalance of approximately 200 lbs heavy on the left side. He then turned on the left standby fuel pump and crossflow valve, both lights operated normally. At around 90nm ATC gave us a descent to 10,000 feet followed by 9,000 feet. We started a descent and descent checklist. We descended normally and somewhere above 10,000 feet the PIC disengaged autopilot and flew by hand. Throughout the descent, we both referenced the Garmin GPS multiple times to reference our descent profile planning. The GPS sits just aft of the fuel panel. The fuel panel was somewhat dark as previously mentioned. A bright standby fuel pump switch would have been very noticeable with the contrast. To our best recollection, throughout the descent neither of us saw the fuel standby pump light on.

At approximately 30nm from field I asked the PIC if he would like an Approach Checklist to which he agreed. I ran the approach checklist and used the arm burner light to check the fuel balance and quantity as we both observed. Airplane was balanced. To my best recollection, again, did not see a fuel pump light on. I again looked at the fuel panel/total to see fuel used in order to calculate a Vref speed of approximately 123 kts. We saw the airport at approximately 20nm out and were cleared for the visual approach to runway 27. We then cancelled our IFR flight plan. I switched to CTAF, turned the lights on and made a radio call inbound for downwind runway 27. On a long downwind the PIC noticed a need to hold left aileron to hold the aircraft level. I checked the aileron trim and advised him to adjust that if necessary. On downwind the PIC called for flaps 8 and I did. On a circle from downwind to base to final, as gear and flaps were extended the rolling tendency worsened. A Before Landing Checklist was completed. The approach was unstable and the PIC complained of control effectiveness. I gave a speed call out reference to Vref and told him...
to let me know if he needed me to do something extra. He again complained about the left aileron needed, and at that time I told him that a go around was an option if he didn't feel comfortable. At approximately 500ft the PIC initiated a go around and the aircraft was cleaned up per procedure. I referenced the VFR sectional to check for airspace in our immediate vicinity, and advised the PIC that airspace was clear westbound if we wanted to go troubleshoot.

He turned a left crosswind, southbound, and again I checked for airspace and told him southbound was clear to fly out and troubleshoot. He said "I just want to get this thing on the ground I can't control it...it's too hard to control." He made a continuous circle for runway 27 and called for gear down. He advised we would land with no flaps and approach at Vref+30 per the Airplane Flying Manual (AFM). Upon rollout to final approach we had 4 red PAPI lights. I advised the PIC we were Vref+30 and very low. He advanced the thrust levers to attain a better vertical profile. We approached at Vref+30 and in the instant prior to touchdown the airplane still kept attempting to roll right. The PIC applied slight asymmetrical thrust in attempt to raise the right wing. This action yawed the aircraft nose left and still tended to roll right. The PIC had almost full left aileron deflection in and the airplane touched what seemed like simultaneously on the right wingtip fuel tank and right wheel followed by the left wheel and then nose wheel. I urgently advised him we needed brakes and spoilers as the runway was 7200ft and we landed 30kts above normal speed. He hit brakes and yelled for me to deploy spoilers which I did. The airplane came to a safe speed and we exited at taxiway Foxtrot. We taxied to the FBO and shut down. After the PIC opened the door, the line technician grabbed our attention that the airplanes right tip was leaking fuel, this was the first time we noticed. The PIC noted that he now knew why the airplane was unstable and pointed to the fuel panel; this was because of fuel imbalance. To our best recollection, we both then looked at the dark fuel panel to see the left fuel pump switch on but no light. We turned off the necessary equipment and departed the airplane.

As with many events, this is no different, there is not just one factor that leads to the result. In fact, I believe several items had a hand in the result of this incident. Therefore I have several suggestions and thoughts on improving both personally and operationally as a company to ensure this type of event is never repeated. First and foremost, I believe there was a breakdown in communication among us crew during the initial fuel transfer. We were both aware the fuel pump came on, however that fact became lost in the descent and approach phase.

In the future when I transfer fuel I will ensure that it is done in a less demanding phase of flight. If it is required to be during that time, I will implement a technique to ensure it is continuously known that a transfer is in progress. As a company and flight operation, I believe we can make a standardized flow or check to ensure correct interpretation. In both cases, ensuring switch position should have a higher priority than light/annunciation illumination. In our case, both crew members believed the fuel light was not lit and therefore "out of sight, out of mind." I believe this mechanical irregularity also contributed to the incident. The lack of backlighting on the fuel panel also was a factor in this event, and provided an opportunity to overlook that area, especially when attention was required elsewhere. I also suggest a change to the checklist wording. The Cruise and Descent checklists both have wording "Fuel management." The Approach Checklist has wording "Fuel (balance & quantity)." I believe the approach checklist should also read Fuel Management for the fact that fuel balance and quantity can be checked with only the fuel gauge and selector. In a dark or poorly lit cockpit, I admit now it is easy to overlook the other switches in the fuel panel. As we learned in this flight, there may be the case where the crew is indeed moving fuel just prior to the approach checklist. Our operation has a
"flow" and canned response during "Flight Instruments" during the taxi checklist. When the pilot monitoring reads "flight instruments" the pilot flying responds by reading through each instrument in a standardized call out. I propose when "Fuel Management" is read on any checklist, there should be a similar read back call. Such as: "xxx left tip, xxx right tip, xxx left wing, xxx right wing, xxx trunk, xxx total, transferring left/right/forward/aft/none." This forces the person checking to look at balance, quantity, and switch positions. I feel that this is a fairly effective and simple way that all company flight crews can ensure proper fuel management during all phases of flight.

After our initial unstable approach and subsequent go-around, I believe there was also a breakdown in communication regarding conflict resolution. Twice, I prompted the Captain/PIC to bug out of the airspace and fly the aircraft in order to troubleshoot the issue. I firmly believe that had we as a crew flown the airplane even a few minutes more whilst troubleshooting the rolling tendency, we would have found our error, corrected, and landed without damaging the aircraft. As the aircraft was sped up and cleaned up, although not at the controls, I believe control effectiveness increased. With a right rolling tendency, we did still have enough control to make a complete left hand traffic pattern. I fully understand in that state of unknown near-loss of control, tensions are high, however time should be allotted to understand and potentially remedy the issue. I believe there should have been more cooperation and communication among us crew. In the future, I undoubtedly will speak up more and as a future captain/pilot flying assess the concerns of the other crewmember(s).

I believe this to be an unfortunate error that ultimately can be used as an assessment and tool for learning both personally and as a company flight operation. I have, without a doubt, learned from this error and breakdown of Crew Resource Management (CRM) and will immediately implement personal changes to flying and crewmember duties to ensure this does not ever happen again.

**Narrative: 2**

In our Lear 35, 80 nms out, we started our descent for landing. We preformed the "Descend Checklist" and noticed that we had a 200-300 fuel imbalance, making the left tank heavier. I elected to balance the tip tanks. The "Left Standby Pump" and "Crossflow" valve were turned on, The Standby Pump Indictor light came on. At 30 nms we did the "Approach Check" list. I physically saw and orally heard the FO do the fuel balance check, which was included as an item on the checklist. The "standby pump" light was not illuminated.

On downwind I began to notice I had to put extra ailerons inputs and re-trimming the rudder. Having seen and [heard] the FO do the checklist, our being new to this plane, the plane having been flown in 2 mouths and the increasing uncontrollability of the plane, I decided to land as soon as possible on runway 27, to avoid our window of safety closing further. Runway 27 was right below us. Our first attempt ended in a go around. On final, we had ten percent controllability.

With the second attempt by keeping a 155+ kts speed, we had 20 to 25 percent controllability. We made our final approach at 155 kts, lowered the gears and touched down on the first 500 feet. The right tip tank struck the runway due to its excess fuel load in the right tip tank. The standby pump had been missed in the "Approach" check due to the light not illuminating.

1. use an indirect alerting system: told card or checklist between the trust levers and/or
2. change the checklist from "fuel" to "7 Fuel Items" or "Fuel Panel" stressing-balance,
quantity, jet pump, standby pump, jettison, crossflow, transfer/fill switches.
3. do this on "descend, approach, and before landing" checklists

Synopsis
LR-35 flight crew reported landing with a large fuel imbalance due to the fuel crossflow valve light being inoperative. An earlier fuel cross feed had been set up to address a fuel imbalance and was never secured during the approach checklist, due to the missing light indication. The right wingtip tank was damaged during the landing.
ACN: 1349852 (24 of 50)

Time / Day
Date: 201604
Local Time Of Day: 1201-1800

Place
Locale Reference.Airport: LAX.Airport
State Reference: CA
Altitude.AGL.Single Value: 700

Environment
Light: Dusk

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

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: 1349852
Human Factors: Communication Breakdown
Human Factors: Situational Awareness
Communication Breakdown.Party1: Flight Attendant
Communication Breakdown.Party2: Flight Crew

Events
Anomaly.Flight Deck / Cabin / Aircraft Event: Passenger Misconduct
Anomaly.Deviation - Procedural: Security
Detector.Person: Flight Attendant
When Detected: In-flight
Result.General: Police / Security Involved

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

Narrative: 1
I (First Officer) was pilot monitoring on approach at about 700 feet AGL into LAX on 25L. I could hear through my headset and the flight deck door some sort of commotion that sounded like voices. I thought it was slightly unusual, but we were close to landing, [and] I wasn't sure if the flight attendants were simply doing their last minute duties before landing. On the landing rollout turn onto a high speed taxiway, we got a call from the flight attendants. My Captain and I recognized it and both agreed we were going to address it as soon as we completed our after landing duties since we were still slowing down and in a very high workload environment between the normal flows, checklist, and call to ops. Before we could complete our after landing flows, however, the flight attendants then called using the "emergency" call button.

The Captain immediately stopped the plane and informed ATC while I talked to the flight attendants. The flight attendants told us we had a belligerent passenger, who had taken her seat belt off during approach and was walking around the cabin. I relayed this information to the Captain. We tried to ascertain what the current status of the passenger was to determine if she was still a threat. The flight attendants said she had returned to her seat with her seat belt fastened.

Following the Captain's direction, I asked the flight attendant if they thought we needed a Law Enforcement Officer (LEO) to meet us at the gate, since the information we were getting appeared to indicate that the passenger had returned to her seat and fastened her seat belt and was complying. After a pause and the flight attendant's clear hesitation on making this decision, I suggested that we'd have a LEO meet us at the gate, whic the flight attendants agreed was a good decision. I called ops, and worked through arranging a LEO to meet us at the gate. Unfortunately, in the chaos ops didn't know we were on the ground in LAX because our ACARS had failed midair on that leg. This resulted in some delay getting the ground crew to the gate to marshal us in and then waiting for the LEO to meet us at the gate after we had parked. We delayed deplaning the aircraft until the LEO could escort the passenger off the plane.

I saw the passenger briefly in the jet bridge hitting the LEO while the LEO explained to her that she would be arrested [if] she didn't stop. I left to do my walk around, and when I returned, I saw her being carried away in handcuffs by two LEOs up the jet bridge.

As the incident occurred we were informed that it was alcohol-related, and the passenger was clearly intoxicated. She had been served two alcoholic beverages during the flight, and according to the flight attendants, was perfectly normal after 1, but the second resulted in her belligerent behavior.

Passengers being disruptive are a part of air travel, but there were a few lessons I learned to help make it smoother with less operational disruptions. First, explain to the flight attendants that they should let us know quickly if there's a potential problem. On final approach, one of us could conceivably have answered a call early on knowing there was simply an issue with a passenger. Then we could have called back when we had finished our initial after landing duties and better managed the workload.

While the Captain and I performed great CRM during the whole event (clearly dividing who was doing what - Captain did taxing and communicating with ATC while I talked with the flight attendants and coordinated with ops), things changed when our first form of communication with the flight attendants was after they had pushed the emergency call button. The Captain and I both feared when we saw that light go on that we might have been on fire or some other emergency requiring evacuation onto the taxiway. The Captain later informed the flight attendants that we were going to get to the situation as quickly as
it was safe to do so, but the emergency call button might not have been necessary since at the time they called the passenger was in her seat with her seat belt fastened.

Finally, I believe one of the important things for the flight attendants to learn is how much we pilots rely on them to paint a picture of what is happening in the cabin in a situation like this. Initially when they called up, it sounded like it was a minor issue that was under control and wouldn't require any special assistance, and it took a long time to come to the conclusion to pull the trigger on having security meet us at the gate. When we exited the flight deck at the gate, the Captain and I agreed that there was no doubt we needed security to meet us (and the Captain commented that if she'd been displaying that behavior when she boarded the flight, she would have still been in [departure airport] at the gate), as even though she was in her seat, she still was not complying with instructions and posing a threat to those around her (as evidenced by her repeatedly hitting the calm LEO while in the jet bridge).

Having gotten this information better communicated to us would have allowed us to get to the gate quicker since we were stopped on the taxiway during the whole conversation with the flight attendants. While in this incident it did not make a difference, a different situation might result in a passenger being more physically aggressive, making a quick decision allow for a sooner end to the scenario with less damage or injury to passengers and crew. And while not as important, a quicker decision would have also mitigated some of the delay that this incident caused to the remaining flights of the day.

**Synopsis**

Air Carrier First Officer reported that an unruly passenger disrupted the cabin shortly before landing.
Time / Day
Date: 201604
Local Time Of Day: 0601-1200

Place
Locale Reference: ATC Facility: C90.TRACON
State Reference: IL

Environment
Flight Conditions: VMC
Light: Daylight

Aircraft
Reference: X
ATC / Advisory.TRACON: C90
Aircraft Operator: Air Carrier
Make Model Name: Medium Large Transport
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Climb
Airspace.Class B: ORD

Person: 1
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: First Officer
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1349404
Human Factors: Confusion
Human Factors: Distraction
Human Factors: Situational Awareness
Human Factors: 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 Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1349403
After initial climb we were on an assigned heading and told to contact departure. When we did they gave us a climb to a higher altitude and direct to PMPKN intersection. I was hand flying and my captain selected the fix and moved it in the FMS I confirmed it and said confirmed execute, nav mode please. We began a turn to the course following the flight director. Both of us thought that this looked like a drastic course change and was not what we expected as the first several fixes on the cleared course should have made a fairly straight south to north line, however this was showing us going directly west practically then returning to a point to our north.

I started to range out my MFD to find where the software was trying to take us and as soon as I got one click out (which still wasn't far enough to see the fix on my screen) ATC said "Aircraft X turn right immediately to a heading of 360." My captain spun the heading bug to 360 and I made an immediate turn to that heading. ATC queried us as to the fix we were going to and it was discovered that the fix had been incorrectly entered in the FMS as PUMKN instead of PMPKN, when my Captain entered it in the FMS off of the PDC. We both reviewed the clearance as entered in the FMS prior to closing the door, but I let my captain down when he was reading the clearance and I was looking at the fixes in the FMS they all looked correct as far as what I was hearing, but I failed to remember the correct spelling of this fix and did not cross check it vs the printed PDC.

Thus a breakdown in my CRM and monitoring skills. ATC-confirmed the correct spelling and its location in relation to our heading and once we entered it correctly and confirmed the correct spelling, location, etc. then we were once again cleared direct to PMPKN and then handed off to the next controller. At no time was there a TCAS proximal traffic, alert, or warning. I am not sure how close that we were to any other traffic, but it didn't appear that we had gotten very close or closed on anyone at a very high rate, no traffic was observable ahead of us when we were issued the turn to the north.
We both reviewed the clearance as entered in the FMS prior to closing the door, but I let my Captain down when he was reading the clearance and I was looking at the fixes in the FMS they all looked correct as far as what I was hearing, but I failed to remember the correct spelling of this fix and did not cross check it vs the printed PDC. Thus a breakdown in my CRM and monitoring skills. Contributing factors were definitely overconfidence in the familiarity that my Captain and I have with this routing. I know the order of the fixes by heart, thus when he was confirming them their order sounded exactly as I was expecting, and unfortunately I did not apply enough scrutiny or attention to detail when confirming this or actually reading the spelling more purposefully and confirming the spelling was correct.

Application of more scrutiny etc. as mentioned in the contributing factors section. Also I asked my captain after this occurred if he had confirmed the MFD data and he said that it showed us landing with about 2200 pounds of fuel so he thought that it looked ok. I did not this done, however I think it would be a good idea to do this as well as confirming the mileage vs the release planned mileage as the incorrect fix was nearly to the western side of Iowa. These things are things I failed to notice as well and even after we turned toward the fix I did not think to look at how far it was to that fix, if I had it would have probably been a strong sign that it was the incorrect fix.

**Narrative: 2**

We were in our climbout of the Chicago O'Hare airport on heading vectors from departure. I was non flying pilot. Departure gave us direct to PMPKN, and I pulled up the fix in the FMS, set it as direct, verified with FO (First Officer), and executed. The plane started a left turn in the wrong direction as we were heading towards an incorrect fix that was in the box spelled PUMKN. Departure immediately gave us a new heading, and I realized the mistake. I verified the correct fix spelling, put it in the box and confirmed with departure direct to that fix. Altitudes and speeds were all abided by, and no other aircraft were in our immediate vicinity.

I loaded the FMS with flight plan and performance info, and had to add additional fixes to the canned plan. While doing this, the flight attendant came up to ask me to call ops for some Como items. I was typing in the names of the fixes while she talking, and accidentally misspelled the fix PMPKN as PUMKN. I did not realize my mistake at this point, nor did I know there was a fix in the area with the PUMKN misspelling. When the FO returned from walk around we reviewed flight plan, briefed, and performed all normal preflight duties. Neither of us caught the misspelling mistake, and unfortunately as a result had a turn in the wrong direction.

I was distracted while loading the PDC info into the FMS, and believe this was a contributing factor, I also realize now that I should have scaled out the FMS after all info was in to make sure it all looked correct. I also should have had my FO look at the flight plan without me showing what I did.

I have learned a few lessons in retrospect of how to prevent a future similar mistake. First, I hold the PDC in one of my hands and carefully look at the spelling, instead of having it against the dash, further away. Secondly, after inputting all of the info, zooming out on the FMS map and making sure it all makes sense. Another good practice will be to have the FO look at everything without my input initially to make sure it all makes sense, and then discuss details. Lastly, I will also compare against fuel planning, to help find possible distance/fuel remaining discrepancies.
Synopsis

Co-pilot and Captain reported of a mistake with similar spelled intersections. Pilots entered incorrect intersection into FMS and did not check with the PDC for correct spelling. Aircraft turned away from intended route when it went to the misspelled intersection.
Upon arriving at the airport 2 hours early I pulled up the paperwork for the flight and saw that the plane had an inoperable APU. I also noticed we were going to continue to DEN with the same aircraft. We were scheduled for a 10:48 hours duty day with all things going smoothly. I texted the Captain with my concerns about flying two legs with an inoperative
APU and that I wasn't comfortable with it. I finished my breakfast and walked to ops to meet the Cap. While in ops the Cap received a call and hung up and said he wasn't sure who it was but they asked if he was flying with a new guy and to convince him to take the plane. I asked for the number and called back to see who it was and he said it was the Duty Manager, so I told him I was the first officer and that I would be filing a report, at which point he asked what my safety concerns were and I said I'm filing a report and goodbye. He called the Cap back soon after and said that the first officer doesn't get a vote and to convince him to take the plane. The Cap was later paged in ops and took a call from Operations and was told the plane was loaded and ready to go at which point the Cap said the plane was refused. He called dispatch to confirm the refusal and dispatch said the Duty Manager called and told him we were taking the plane? At some point while sitting in ops someone approached me in a very aggressive manner and said "Are you [the First Officer]? At which point I stood up and held out my hand to professionally introduce myself and he refused to shake my hand. He was extremely agitated. It was the assistant chief pilot, at which point the Chief Pilot (CPO) walked out of his office and quickly intervened by calling him into his office. After he talked to the assistant chief pilot the CPO called the Cap into his office for a conversation of which I was not privy to. I am extremely upset with this entire fiasco and felt pressured to change my position. As a first officer I felt extremely insulted and intimidated by this entire event and sometimes wonder what CRM is all about? If this wasn't pilot pushing I don't know what is. I think the fact that I am a first officer had something to do with it, as though I am not a part of the decision making process.

**Synopsis**

A320 First Officer arrived early for a two leg trip and discovered that the APU is MEL'd. He informed the Captain of his findings in the hope that the aircraft would be refused, which eventually occurred. This caused a row with the Duty Manager.
**Time / Day**

Date: 201604  
Local Time Of Day: 1201-1800

**Place**

Locale Reference.Airport: MQJ.Airport  
State Reference: IN  
Altitude.AGL.Single Value: 0

**Environment**

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

**Aircraft : 1**

Reference: X  
ATC / Advisory.CTAF: MQJ  
Aircraft Operator: FBO  
Make Model Name: SR20  
Crew Size.Number Of Crew: 2  
Operating Under FAR Part: Part 91  
Flight Plan: IFR  
Mission: Training  
Flight Phase: Taxi

**Aircraft : 2**

Reference: Y  
ATC / Advisory.CTAF: MQJ  
Make Model Name: Skyhawk 172/Cutlass 172  
Crew Size.Number Of Crew: 1  
Operating Under FAR Part: Part 91  
Mission: Personal  
Flight Phase: Final Approach  
Airspace.Class G: MQJ

**Person**

Reference: 1  
Location Of Person.Aircraft: X  
Location In Aircraft: Flight Deck  
Reporter Organization: FBO  
Function.Flight Crew: Instructor  
Qualification.Flight Crew: Multiengine  
Qualification.Flight Crew: Commercial  
Qualification.Flight Crew: Flight Instructor  
Qualification.Flight Crew: Instrument  
Experience.Flight Crew.Total: 1003  
Experience.Flight Crew.Last 90 Days: 45  
Experience.Flight Crew.Type: 356  
ASRS Report Number.Accession Number: 1348880
Human Factors : Situational Awareness
Human Factors : Distraction

Events
Anomaly.ATC Issue : All Types
Anomaly.Conflict : Ground Conflict, Less Severe
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew
When Detected : Taxi
Result.Flight Crew : Took Evasive Action

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

Narrative: 1

My student and I were holding short of runway 25 at MQJ, picking up our IFR release through clearance delivery. The clearance was given for immediate departure using an unfamiliar obstacle departure procedure. The void time for the clearance was less than five minutes. This caused us to rush to find the procedure and continue onto the runway for departure. We taxied forward toward the runway while tuning the CTAF frequency to make the takeoff call. As we taxied out, an aircraft that was on final and not seen by us landed in front of us. The aircraft crossed our path in front of us and did not overfly us. We stopped immediately before entering the takeoff portion of the runway.

As PIC, I checked the approach and departure course briefly before rolling forward, but due to the proximity of the aircraft on final, the windshield/door frame blocked it from view. We opted to not takeoff and cancel our release to debrief with the arriving aircraft. The pilot of the aircraft on final advised us that he observed us approaching the runway and found that there was adequate spacing to continue to land and not conduct a go-around. This situation is a result of insufficient clearing of approach course. I believe that extremely short void times contribute to rushed procedures and could lead to smellier situations in the future with other pilots. Pilots are forced rush to gather the required data and get the aircraft airborne quickly if to make their void time. The void times add unnecessary pressure to a phase of flight that must be conducted extremely carefully. An increase in duration until clearance void times would allow pilots to conduct better CRM/SPRM and improve situational awareness.

Synopsis
SR20 instructor pilot reported feeling rushed by an ATC clearance with a short void time and missed seeing a C172 on short final at an uncontrolled airport. He felt that the short void time created an unnecessary hazard.
ACN: 1348729 (28 of 50)

Time / Day
Date: 201604
Local Time Of Day: 0601-1200

Place
Locale Reference.Airport: ZZZZ.Airport
State Reference: FO
Altitude.MSL.Single Value: 18000

Environment
Flight Conditions: VMC
Light: Daylight

Aircraft
Reference: X
ATC / Advisory.Center: ZZZZ
Aircraft Operator: Air Carrier
Make Model Name: B787 Dreamliner Undifferentiated or Other Model
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Climb

Component
Aircraft Component: Galley Furnishing
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
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Total: 11221
Experience.Flight Crew.Last 90 Days: 125
Experience.Flight Crew.Type: 2095
ASRS Report Number.Accession Number: 1348729
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)
Experience: Flight Crew: Total: 3851
Experience: Flight Crew: Last 90 Days: 130
Experience: Flight Crew: Type: 156
ASRS Report Number: Accession Number: 1349292

Events
Anomaly: Aircraft Equipment Problem: Less Severe
Anomaly: Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Detector: Person: Flight Attendant
When Detected: In-flight
Result: General: Maintenance Action
Result: Flight Crew: Returned To Departure Airport
Result: Flight Crew: Landed As Precaution

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

Narrative: 1
On the climb out of ZZZZ the FA's called and said there was a burning smell in the back of the AC. They also reported seeing smoke. The Captain asked the other IRO to go back and assess the situation. Approximately 5 minutes later he calls the flight deck and said there was a burning smell but he suspected it was an oven and was not concerned. The captain asked me to go back and see what I thought. When I got to the back of the jet I could smell a burning smell as well. I did not see any smoke but the FA's said they did and used the [urgent] words with me. They were concerned, did not feel safe and wanted to return. I called the captain on the interphone and told him what I had observed, smelled as well as what the FA's had voiced to me as far as their concern. He said we would troubleshoot and continue on. When I told the FA's this they were not happy and started calling the Captain and again telling him they were concerned, did not feel safe, and wanted to return. He told them the same thing that he told me.

When I returned to the flight deck I asked the Captain what he thought about returning to ZZZZ. He told me he could "find nothing wrong with his airplane." At this point I was not comfortable continuing on a 13 hour ETOPS flight with an unknown burning smell in the back of the airplane. The decision was then made to contact Maintenance Control and get their opinion on the next course of action. They suspected what we did that it could be a galley oven malfunction but could not be 100% sure that was the problem. They agreed that the safest course of action would be to return. At this point the decision was made to return. Next, we began the diversion process and ran all appropriate checklists and followed all diversion procedures. We were going to land overweight so we had to also jettison approximately 100,000 lbs of fuel. We had a problem with the auto fuel balance system and ran the appropriate checklist for that as well. We ended up making it back safely with no injuries or substantial damage to the airplane. The mechanics suspected it was a heating element malfunction in the aft galley oven but had not concluded that with 100% certainty when we left the airplane and headed back to our hotel.

Narrative: 2
During this flight I was the flying pilot (FP). During departure for an ETOPS flight, while transitioning from climb to cruise, the cabin called the flight deck to report an electrical issue with an oven in the aft galley. The report from the flight attendant was that when the oven #7 was switched on there was a malfunction, FAIL was on the status message on the face of the oven and there was an "electrical smell" in the galley. The flight attendant reported seeing a brief moment of smoke. The purser responded to the area and removed power to oven #7 by pulling the CB. There was a brief activation of the smoke warning system with a tone and flashing lights. An IRO was sent by the captain to assist the flight attendants in evaluating the issue. With the full flight crew and purser, a sat phone call was initiated with dispatch and Maintenance Control. All information listed above was discussed. The purser also reported that 5 of the flight attendants did not feel comfortable to continue and felt there was a continued safety issue because of the "ozone smell" in the galley area. Maintenance Control recommended a return. The captain, using great CRM, listened to everyone’s concerns and thoughts, along with dispatch and Maintenance Control made the decision to return. Because the aircraft was overweight for landing, a full jettison was accomplished: for a total of 100,000 pounds jettisoned and the flight returned to the departure airport where a normal approach and landing was accomplished. Fire equipment followed aircraft once on the ground during taxi and reported no abnormalities.

**Synopsis**

B787 First Officers were informed by the cabin crew that there was smoke and fumes in the aft galley apparently from a failed oven. The oven was switched off and the circuit breaker was pulled, but the flight attendants wanted to return to the departure airport. However, the Captain believed the problem was solved. Maintenance Control was contacted and after some deliberation the flight returned to the departure airport.
 When we landed [the] Captain came over the PA to let all of the crew and passengers that we were 10-15 minutes early. He told the passengers that if they wanted to get up and move about the cabin, stretch their legs, use the lavatories, do what they needed to do they could get up. A lot of passengers in the cabin got up out of their seats. Took their luggage out of the overhead bins and used the lavatories. The bins were open the aisle
was blocked by bags. I made an announcement to let everyone know they should stay seated if they didn't need to use the lavatories and keep all luggage stowed so when it is time to taxi to the gate [we'll be] ready.

Then I called the cockpit and spoke with [the] Captain and told him maybe that wasn't such a good idea. We will need a few minutes to get all passengers seated and make sure the cabin is secure. He said okay. Then 7 minutes later he made an announcement that our gate was open and for everyone to take their seats. We made an announcement for everyone to take their seats. Make sure bags were stowed and setbacks and tray tables were in their upright position. When we were doing our checks the phone chimed.

I went to go answer it and when I got to the phone we were already moving. My flying partner told the cockpit we were getting checks done and were almost ready. The Captain's decision and lack of effective CRM resulted in luggage and passengers blocking exits and aisles which would have delayed or prevented an effective evacuation in an emergency.

The Captain's decision and lack of CRM also impeded, delayed, and prevented our ability to monitor and ensure a safe cabin during active taxi, a critical phase of flight. The Captain's decision, although fully his, allowed customers to create an environment in direct conflict with FARs, company policy, and established safety practices. The Captain's communication with the crew was condescending, unprofessional, and created a work environment that was unsafe for crew and passengers.

**Synopsis**

B737-800 Flight Attendant reported being concerned about the safety implications of the Captain’s decision to allow passengers in the aisle while they were waiting for a gate.
ACN: 1345428 (30 of 50)

Time / Day
Date: 201604
Local Time Of Day: 0001-0600

Place
Locale Reference.Airport: EWR.Airport
State Reference: NJ
Altitude.AGL.Single Value: 300

Environment
Flight Conditions: VMC
Weather Elements / Visibility: Turbulence
Weather Elements / Visibility: Rain

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

Person: 1
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Pilot Not Flying
Function.Flight Crew: First Officer
Experience.Flight Crew.Type: 171
ASRS Report Number.Accession Number: 1345428
Human Factors: Fatigue
Human Factors: Workload

Person: 2
Reference: 2
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Pilot Flying
Function.Flight Crew: Captain
Experience.Flight Crew.Last 90 Days: 200
Experience.Flight Crew.Type: 927
ASRS Report Number.Accession Number: 1345462
Human Factors : Workload
Human Factors : Fatigue

Events
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Executed Go Around / Missed Approach
Result.Flight Crew : Diverted

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

Narrative: 1
We were aware of forecasts for extreme winds in EWR at the time of our arrival, and had coordinated with dispatch for an alternate with forecast winds that we felt gave us the strongest diversion option if landing at EWR was not possible. On arrival into EWR, the wind was gusting at over 40 knots and favoring the shorter runway 29. We used the RNAV approach, which got quite rough below 2,000 feet. Additionally, the window between our gust protection speed and our max flap speed was very narrow. Within about the final 800 feet of descent, maintaining runway alignment became increasingly difficult, and maintaining speed within tolerance proved impossible, at which point we executed a go-around. Given the difficulty of the previous approach at such a low altitude, and our having flown all night, we felt that attempting another approach was not the safest option, and opted to divert to ZZZ. Someway into the diversion, dispatch contacted us to request we change our diversion airport to ZZZ1. The combination of the go-around and the two diversions, followed by another fairly high-wind gust approach to landing into ZZZ1 was quite labor-intensive, and through the process, we found ourselves making a number of small mistakes with automation management, CRM, etc.

When we landed, we were advised that the company was planning on having us refuel and operate the aircraft on to EWR. Upon weighing the conditions in EWR against our own physical state, and the mental fatigue of the preceding hour of flight, we felt that it was not possible for us to provide an acceptable margin of safety for the continuing flight to EWR, at which point we advised the company of our need to remove ourselves from that flight segment.

Narrative: 2
Flew RNAV approach to RWY 29 in high wind, low visibility, and moderate turbulence. I fought the entire way down with ref speed close to flap speed, flaps blowing up several times, and moderate turbulence. At approximately 100 feet while the aircraft was in the correct position I was unable to stabilize the airspeed enough to continue to touchdown and so went around. The go around was not the result of not being configured, or being in a bad position.

I reasoned that a second approach would end with the same wind conditions so elected to divert. During the go around and divert the First Officer and I fought to keep the aircraft in the correct modes, with turbulence causing the autopilot to revert to Control Wheel Steering (CWS) mode several times. We first completed all necessary items to divert to
ZZZ, our flight plan choice. Then on advice of Dispatch we did it all again to divert to ZZZ1. During this we made several errors due to stress/fatigue including typing in an incorrect fix and initially turning in the wrong direction catching it before the turn was complete. While the weather was better the landing also included 40 plus knot winds. After completing our assigned flight to a miss, and a second intense flight we felt mentally and physically exhausted and did not feel that we were capable of safely operating a third leg.

Synopsis

B737 flight crew reporting diverting to an alternate after executing a go-around at EWR due to high winds, turbulence, and an unstable approach.
**ACN: 1340458 (31 of 50)**

**Time / Day**
- Date: 201603
- Local Time Of Day: 1801-2400

**Place**
- Locale Reference, ATC Facility: ZZZ.ARTCC
- State Reference: US
- Altitude: MSL, Single Value: 27000

**Environment**
- Flight Conditions: VMC
- Weather Elements / Visibility: Turbulence

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

**Person: 1**
- Reference: 1
- Location Of Person, Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function, Flight Crew: First Officer
- Function, Flight Crew: Pilot Flying
- Qualification, Flight Crew: Air Transport Pilot (ATP)
- Experience, Flight Crew, Last 90 Days: 111
- Experience, Flight Crew, Total: 3866
- ASRS Report Number, Accession Number: 1340458
- 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: Captain
- Function, Flight Crew: Pilot Not Flying
- Qualification, Flight Crew: Air Transport Pilot (ATP)
- Experience, Flight Crew, Total: 15002
- Experience, Flight Crew, Last 90 Days: 45
Events
Anomaly.Flight Deck / Cabin / Aircraft Event : Illness
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Physical Injury / Incapacitation
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Landed in Emergency Condition
Result.Air Traffic Control : Provided Assistance

Assessments
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1
We leveled off at FL270, cruising at Mach .794 with the autopilot off. It was smooth. It was a clear night. After we leveled off, the Captain made his PA announcement to the passengers and turned the Fasten Seat Belt (FSB) off.

Center gave us a "Pilot Discretion" to FL240. At that moment we encountered what we presumed to be a momentary pocket of Moderate turbulence. I believe the aircraft banked approximately 25 - 30 degrees to the right, and the altitude fluctuated from maybe 100 feet up to between 60 and 160 feet down. I leveled the wings and was right back at altitude not thinking anything about it, as it smoothed out as quickly as it came.

This was the second flight of the day. The Captain went to the briefing room, I went to the gate. The plane was on the ground, but not at the gate. I used my IPAD to receive and review the flight papers, reviewed WSI (Weather Services International) and loaded the flight plan into Jeppesen FD-PRO. The dispatch weather in the flight papers showed no indication of a turbulent ride, and both airports and the route were actually and forecasted VMC conditions upon planned arrival time. On WSI, after loading the route, I received the WSI briefing. Then I reviewed the WSI Radar picture, FPGs, SIGMETs, Radar Summary and the Rapid Precision Mesoscale (RPM) Forecast Turbulence. The RPM Turbulence forecast showed an area of turbulence at FL270 well south of our route. All indications from WSI, DX weather, and the absence of PIREPS along our route of flight indicated to me a nice flight. Our preflight briefing in the cockpit corroborated what we both reviewed while apart.

As the Pilot flying, the takeoff out of ZZZ was VMC, and the climb all the way to F270 was smooth. We were planned with a CI 155 and above 10000 MSL accelerated to 335 knots. I was hand flying the aircraft.

Turbulence was momentary. We both thought instantly that it was a wake of an aircraft. I do not recall seeing anything on TCAS and I saw nothing in the sky. The captain inquired me if I was going to start down as he was putting FL240 into the MCP, I stated that it was smooth and that I would wait, and in that moment we encountered another pocket of Moderate turbulence and told him we are starting down. The Captain turned the FSB sign on again and mentioned to check seatbelts. All this happened within 10-15 seconds.
At that same instance, I happened to be monitoring the service interphone and I heard a Flight Attendant (FA), ask "if there is any doctor onboard to raise their hand because we have a severely injured FA on board." The captain was letting Center know that we were leaving FL270 and reported the turbulence as Moderate to severe. In this same moment, I engaged the "B" Autopilot and "LVL CHG" foreseeing what is about to happen and told the captain we have a severely injured FA in the back. He assigned me the aircraft and the radios and stated that we will [advise ATC]. I suggested we report the turbulence as severe and then [advise ATC] which he did to ZZZ Center.

All of this took place in less than a minute. It all happened extremely fast and we were back in smooth air out of FL267 on the way down to FL240. I believe present speed was Mach .794 and the aircraft went to Control Wheel Steering (CWS) Pitch, I believe because we were near the barber pole. I overrode the CWS, causing the Autopilot to disconnect and simultaneously pulled the thrust levers back, targeting for a 280 KIAS descent, reengaged the autopilot with a "VS" pitch mode of something greater than 1500 ft/min rate of descent.

Center asked for the status of the FA and our intentions. The Captain and I discussed continuing to ZZZ looking at the distance to the airport from the fix page and it was 105 NM. Exercising CRM, I entered an alternate airport into the fix page and we were about 160 NM away. I agreed with his decision and stated to Center that we are continuing to ZZZ and to have paramedics and ambulance standing by, because we have a severely injured FA onboard.

The captain informed me that he was going to call dispatch and that he will be off, and I said to call him using "call me MD".

We were handed off to the next controller, and upon checking in I confirmed with him that he knew we were an emergency aircraft with a severely injured FA onboard. I did let the Captain know that I plan on max speed all the way to ZZZ. We were informed by the lead FA that the injured FA will need to go to the hospital right away. I relayed this to Center. Because of her injuries and under our emergency authority, we did not comply with the FAR restriction of 250 KIAS below 10000 MSL. We were cleared to 11000 MSL than to 4000 MSL. With approach control, we were asked if we want straight in to the runway. I asked for the winds, "210/6". I said yes. We were cleared discretion to 2000 MSL and pulled the runway data via ACARS. When the Captain was done with his communications I informed him of being cleared straight in and to reference the ACARS printer for the landing data. We briefed for the ILS, and ran the approach descent and approach checklists. The ILS was not operational, but we used FMC map mode and performed a VMC landing in VMC conditions. Approach lights and PAPI were operational.

The ambulance and police were standing by the Gate upon landing. I believe there were 3 additional passengers who also required medical attention according to the FA's during debrief.

**Narrative: 2**

[Report narrative contained no additional information.]

**Synopsis**

During flight a B737 encountered severe clear air turbulence which caused an injury to a Flight Attendant. The flight crew advised ATC and landed at the destination airport.
ACN: 1339202 (32 of 50)

Time / Day
Date: 201603
Local Time Of Day: 0001-0600

Place
Locale Reference.Airport: BWI.Airport
State Reference: MD

Environment
Flight Conditions: VMC
Light: Night

Aircraft
Reference: X
Aircraft Operator: Air Carrier
Make Model Name: Commercial Fixed Wing
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Nav In Use: FMS Or FMC
Flight Phase: Descent
Route In Use.STAR: Anthm2

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Pilot Flying
Function.Flight Crew: Captain
Experience.Flight Crew.Total: 11899
Experience.Flight Crew.Last 90 Days: 200
Experience.Flight Crew.Type: 4648
ASRS Report Number.Accession Number: 1339202
Human Factors: Workload

Events
Anomaly.ATC Issue: All Types
Anomaly.Deviation - Procedural: Published Material / Policy
Anomaly.Deviation - Procedural: Clearance
Detector.Person: Flight Crew
When Detected: In-flight
Result.Flight Crew: FLC Overrode Automation

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

**Narrative: 1**

Based on a past constructive phone conversation with our ATC Liaison Chairman, listening to an argument between a pilot and Houston air traffic controller pertaining to a descend via clearance plus having just flown the ANTHM2 RNAV arrival into BWI, it has finally prompted [me] to write this [report].

I find it fascinating in our industry how change causes the pendulum to always swing from one extreme to another thus constantly unbalancing the equation. The sole purpose of this [report] is not to look at any one specific SID or STAR but to raise awareness from a process and global perspective. In this instance I would recommend viewing the complex nature of the ANTHM 2 RNAV arrival BWI as an example.

It appears much of the focus during the implementation phase of RNAV procedures has been on automation and efficiency with possibly some of the weight being lifted from the ATC folks. However, from a pilot's perspective, the result has been a heavier burden and workload in the cockpit. The lateral guidance associated with the SIDS and STARS appears to be a positive improvement, but on the other hand, the vertical and speed portion of the procedure is dysfunctional in many cases.

From a safety and process perspective, every altitude restriction and speed change has to be perceived as a threat. Having been a past Safety representative, our task was to minimize the threat environment and mitigate risk, not to increase it exponentially. The design and development of the RNAV procedures is heavily dependent on automation, which in some cases fails to meet the criteria, requiring pilot direct intervention.

For example, at times the FMGC will plan to cross a required fix 1,000 [to] 2,000 feet high, leaving it in the hands of the pilots to identify and correct the error prior to failure. In many cases, there is much confusion amongst the pilots and controllers once any parameter associated with a descend via clearance has been modified, thus once again creating another type of threat.

Unfortunately our world is dynamic but the design of these procedures is typically best built for standard conditions. Coming from a person who is extremely process oriented, I would classify the RNAV SID's and especially STAR's to be over designed. I realize there has been a lot invested into these procedures and they are here to stay, but please take a moment to honestly look at some of the more complex STAR's and count the number of threats, keeping in mind the high velocity of the aircraft and the mental gymnastics we do on a routine basis to meet the assigned parameters. Just because the aircraft FMGC is programed to descend via an automated vertical flight path, doesn't provide the pilots with immunity, which suggests simpler is better!

In referencing our operating priorities, this is a complete process failure. The operating priorities are inversely applied. For example, the SIDS [and] STARS do benefit efficiency from what I have been told, however, definitely limit our ability to affect On-time performance, reduce passenger comfort with the constant use of speed brakes, plus frequent pitch changes and most of all, sacrifices the almighty safety aspect just based on threat environment alone.

Besides issues associated with actually flying the RNAV procedures, charting is not standardized, thus creating another classification of threat. The shear mass of information
we must cross check or enter from the charts leaves room for error.

Technology is a wonderful thing, but only when used within its proper capacity! In this case, I would strongly suggest rebalancing the equation. If SAFETY is truly our top priority as an airline and more importantly as an industry, then this issue needs to be addressed in a proactive manner! Don’t forget the old adage, FLY THE AIRPLANE!!!!!

Thanks for your time and consideration! Hopefully these comments will stimulate a thought process and gain some traction towards re-analyzing our RNAV threat environment, as we shouldn't have to apply the CRM/ Threat and Error Management (TEM) Model on a descend via clearance.

**Synopsis**

A pilot makes commentary as to the challenges with RNAV descents for aircrews.
ACN: 1338714 (33 of 50)

Time / Day
Date: 201603
Local Time Of Day: 0601-1200

Place
Locale Reference.Airport: ATL.Airport
State Reference: GA
Altitude.AGL.Single Value: 0

Environment
Flight Conditions: VMC
Light: Daylight

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

Person: 1
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days: 156
Experience.Flight Crew.Type: 11000
ASRS Report Number.Accession Number: 1338714
Human Factors: Confusion
Human Factors: Situational Awareness
Human Factors: Time Pressure
Human Factors: Communication Breakdown

Person: 2
Reference: 2
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: First Officer
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days: 190
Experience. Flight Crew. Type: 3200
ASRS Report Number. Accession Number: 1339033
Human Factors: Time Pressure
Human Factors: Situational Awareness
Human Factors: Communication Breakdown
Human Factors: Confusion

**Events**

- Anomaly. ATC Issue: All Types
- Anomaly. Deviation - Procedural: Clearance
- Anomaly. Ground Incursion: Taxiway
- Detector. Person: Air Traffic Control
- When Detected: Taxi
- Result. Air Traffic Control: Issued New Clearance

**Assessments**

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

**Narrative: 1**

Confusion on taxi clearance with Ground Control led to wrong execution of desired taxi instructions. F/O contributed by confusing Taxiway F and E with each other on readback to Ground Control. Ground Control exacerbated the confusion by non-standard terminology. Ground was referring to F5 as Ramp 5 Taxiway and F4 as Ramp 4. This may be clear to aircrews who are very familiar with Atlanta. Ground Control was very quick in reading taxi instruction, and very quick in passive aggressive comments to several aircrews taxing out. This set a very hostile atmosphere between Ground Control and taxiing aircrews. Not good for CRM. Sometimes slow is fast on giving taxi instructions to aircrews and giving them time to respond and clarify.

I should have refused to taxi until Ground could take a deep breath and verify what he wanted us to do. Ground Control needs to keep comments professional and concise. Lecturing aircrews during congested radio communications does no good for anyone.

**Narrative: 2**

While holding short of Taxiway F, I called ATC just as another aircraft finished their readback. The frequency was very congested, and the Captain and I had already noticed the Controller was being condescending, and kind of rude, to the other people on the frequency. After I finished my taxi request, he responded by saying, "how about if aircraft wait for other aircraft to quit talking before they call ATC." I waited until there was a break in calls and called again. This time the Controller said "standby." After a minute or two, the Controller called us back and said "taxi to Runway 8R, right turn on Foxtrot, left at Ramp 5, Left on E follow [aircraft] at Ramp 4." I read back the instructions. I started by saying "(call sign) taxi to Runway 8R" but apparently swapped Taxiway E and F and instead of Ramp 5, said Foxtrot 5, as clarification to what Ramp 5 meant, since Ramp 5 is to the right, and the taxiway to the left is named F5.

The Ground Controller responded by saying "It helps if the aircraft responding uses their call sign in the readback and that was all wrong." He repeated his instructions again several times and I read them back several times and was trying to figure out what he wanted as he was being very short and using a lot of non-standard phraseology, such as Ramp 4 and Ramp 5 for the Taxiways F4 and F5. After my final readback, the Controller
said what we thought was "just taxi via Ramp 4." In retrospect I believe he was saying hold short of Ramp 4 and wanted us to turn right on Foxtrot, left on F5 (which he continued to call Ramp 5) left on E and hold short of F4. The Captain started to taxi on F4 to join E to Runway 8R. The Controller was talking to other aircraft complaining more about their readbacks as well. After we were almost at F2 he came back again and said that our taxi was all wrong and that we needed to turn left at F2, join F and taxi behind the MD80 (that had apparently come out of the same ramp spot we did) and "follow that aircraft you almost cut off." After that we followed the other aircraft to the runway uneventfully and the rest of the flight was without incident.

**Synopsis**

Air Carrier Flight crew reported a breakdown in communication during taxi out at ATL.
ACN: 1335881 (34 of 50)

Time / Day

Date: 201602
Local Time Of Day: 1801-2400

Place

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

Environment

Light: Dusk

Aircraft

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

Person

Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: General Seating Area
Cabin Activity: Boarding
Reporter Organization: Air Carrier
ASRS Report Number.Accession Number: 1335881
Human Factors: Time Pressure
Human Factors: Communication Breakdown
Communication Breakdown.Party1: Flight Attendant
Communication Breakdown.Party2: Ground Personnel

Events

Anomaly.Deviation - Procedural: Published Material / Policy
Anomaly.Deviation - Procedural: FAR
Detector.Person: Flight Attendant
Were Passengers Involved In Event: Y
When Detected: Pre-flight
Result.General: None Reported / Taken

Assessments

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

Narrative: 1
This was our last flight of our trip and the inbound was delayed. We were all waiting at the gate. We saw a mutual friend of ours who was jump seating on our flight. As the passengers were deplaning we started to get our bags ready and the gate agent announces over the intercom for us to "report to the gate". We were walking in uniform down the jet bridge. The other crew was leaving in a timely manner. The cleaners were not off yet and the gate agent starts boarding while we are still standing in the jet bridge. We get on the plane and the cleaner would not move to let us put our bags away, mine were still in the FWD doorway blocking the door. I start to preflight without putting bags away and I mentioned to the gate agent, if she could please not board without our permission. The gate agent says in front of the line of passengers "I'm trying to expedite the boarding process on such a short flight since you guys were late". Our FO (First Officer) then said, "you cannot board without our permission we have to make sure our safety procedures are done". The gate agent mumbled to the passengers who could clearly see we were not ready and were very kind to us. After boarding while waiting for the bag slip the other FA (Flight Attendant) made a comment to the gate agent "that it wasn't very nice to make a comment like that in front of passengers and if she could ask before boarding?" The response was "good comment, I may take into consideration" and started laughing and walked away to talk with the other gate agent. She had paged us when we were right in front of her and she was aware of us, and started pushing the lady in the wheel chair right behind us as we entered the jet bridge and asked us if we were ready to board when we hadn't gotten on the plane yet. CRM between gate agents and flight crew requires proper communication and respect by the entire team. I would like to add our crew were all on the same page and our FO was respectfully helping us communicate to the gate agent.

**Synopsis**

Airline Flight Attendant reported having a gate agent commence passenger boarding before the required preflight safety checks were complete.
**ACN: 1334273 (35 of 50)**

**Time / Day**
- Date: 201602
- Local Time Of Day: 0601-1200

**Place**
- Locale Reference.Airport: PHX.Airport
- State Reference: AZ
- Altitude.MSL.Single Value: 2000

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

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

**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: 55
- ASRS Report Number.Accession Number: 1334273
- Human Factors: Communication Breakdown
- Human Factors: Time Pressure
- Communication Breakdown.Party1: Flight Crew

**Events**
- Anomaly.ATC Issue: 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

The areas of concern contained within this report are the abnormal maneuvering to landing on final approach and the lack of response from the other crew member upon the call to go-around. I am a new pilot with the airline and this trip was my third pairing after the completion of my initial operating experience. The pairing assigned to us was a 1-day trip. In our preflight discussions I conveyed that to the captain and told him that because I was low time I was not allowed to fly the return flight to ZZZ and we agreed that I would fly the first leg of the pairing. On the arrival, approach control told us to expect runway 8, which we had been expecting, had briefed and loaded into the FMC. A few short minutes later we were switched to expect runway 7L. At this time we were outside of the SNRRA intersection. The CA acknowledged and began to change the runway and re-load the arrival, however, did not re-load the transition from Blythe (BLH) intersection because it was already behind us. The arrival displayed active waypoint of SPINK directly to HYDRR intersection, omitting the altitude restriction of SNRRA at or below FL220 when he asked me if I agreed with what he had loaded. I initially said yes, because of my expectation bias, and then immediately realized that it had deleted the restriction at SNRRA. I voiced this to the captain, we reset MCP altitude to 220, used level change and our own calculations to meet the restriction while I reloaded the appropriate transition and reselected VNAV to fly the remainder of the arrival. As a result of this error we had a steeper descent path to make the remainder of the 'at or above/at or below' crossing restrictions for the remainder of the arrival. We complied with all restrictions, but were at the higher altitudes of most of the restrictions.

Past HYDRR intersection, approach control switched us back to runway 8 and I reloaded the approach. We were broken off the arrival before TEICH intersection and given vectors to the final approach course, maintain 8,000 feet. We were vectored onto the approach outside of JAMIL intersection and were left high so I began to slow to configuration speeds so that I may deploy flaps to aid in our descent once cleared to a lower altitude. We called the field in sight and were cleared for the approach. The controller realized that we were left high on the approach and we were queried if we were going to be able to make the descent from that point. I don't recall exactly what altitude/distance we were at when we were asked, but we were still outside of JAMIL intersection. The captain replied yes. I was confident in his experience for that acknowledgement. I had never experienced the capabilities of what the aircraft performance was capable of in a situation like this one. I started to configure immediately. I continued a shallow descent, one that would still allow for deceleration and for me to configure and reached gear down, flaps 15 configuration prior to WAZUP (FAF) but still very high on the glide path. The captain told me that I would have to raise the nose to arrest the descent, configure further and then the rate of descent would be such that would allow for an adequate descent to re-intercept the glide path on approach.

As we got closer both the captain and I saw that we were still going to be very high on the glide path. He told me to "kick in a little rudder and drop the wings" into a slip to further decrease lift on the aircraft. I told him I was uncomfortable doing that, and he suggested it a second time. At that point, I felt I wouldn't be able to re-intercept the glide path. I felt that possibly the captain had more skill or knowledge of the aircraft and asked him if he wanted to take the controls to which he replied yes. We had a positive exchange of controls. He raised the nose, commanded flaps 30, then flaps 40. We hadn't briefed a flaps
40 landing and we didn't have the speeds selected for that setting. When I asked him if he really wanted flaps 40, he said yes. I selected Flaps 40 and expected him to call for me to adjust his REF speed, which he did not. To the best of my knowledge at this point we were just passing WAZUP intersection. Before the flaps even began transit to Flaps 40 position he put the aircraft into a slip to the right. At first, I couldn't believe it was actually happening. I told him immediately that I was uncomfortable with the situation, which he dismissed saying 'it will be fine'. He continued further and noticed in a short instant that the winds had changed on him, so he then put the aircraft into a slip to the left. At this point every sense about me and experience being a pilot was alarmed and I called GO AROUND. He dismissed me again and continued, which I was equally shocked about. I then said, "I am really uncomfortable with this, GO AROUND". And he dismissed me a third time. I took a mental snap shot of where exactly we were, to the best of my memory, 2.5 mile final, still in the slip, descending at rate that was excess of a normal descent rate. He continued to the runway and made a successful landing.

I was shocked that he blatantly disregarded my input and realized at that moment that these are the situations that we cannot accept or allow to continue. After we parked at the gate and I collected my thoughts, I had a conversation with him and expressed my concerns professionally and factually. He again dismissed my concerns saying that we did nothing wrong, that we met all stabilized approach criteria and that sometimes training doesn't give us the appropriate tools to operate on the line. I still couldn't believe what he was saying. As a final talking point I asked him why he didn't respond to my go around call. His reason was because I didn't call a parameter (i.e. Go around, airspeed) and that he didn't want to do a complex missed approach (We were cleared for the visual. It is a tower directed go-around) and add 20 minutes of flying time on to our flight. I am disappointed in the lack of professionalism that was displayed, the compromise to safety that was easily avoidable and very correctable and the invisible CRM that the approach terminated with.

Synopsis

B737 First Officer reported that while high on a visual final approach the Captain assumed aircraft control, configured to full flaps, gear down, and put the aircraft into a sideslip to lose more altitude. Being uncomfortable with the high sink rate at low altitude, the First Officer called for a go-around which the Captain ignored and landed the plane.
ACN: 1333803 (36 of 50)

Time / Day
Date: 201602
Local Time Of Day: 1201-1800

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

Environment
Flight Conditions: IMC
Weather Elements / Visibility: Cloudy
Weather Elements / Visibility: Rain
Weather Elements / Visibility: Snow
Light: Daylight

Aircraft
Reference: X
ATC / Advisory.Ground: ZZZ
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: Taxi
Flight Phase: Takeoff
Flight Phase: Parked

Person: 1
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Check Pilot
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1333803

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: 1333242
This report is being filed to help other crews not make the possible grave mistakes I observed by a crew which I was assigned to line check. Upon meeting the crew in the terminal I informed them that a line check was assigned to me for this flight. During the pre-brief to the crew, I informed them I was assigned the task by our company of testing a new line check form on the iPad and I would be utilizing my iPad a lot during the flight and to not think that anything they were doing was wrong. Unfortunately, it turns out, the crew was noncompliant on so many issues I was task saturated trying to keep up with scribbled notes and using this new line check form.

I will try to duplicate what happened to the best of my knowledge. While standing in the cockpit doorway I was observing the FO and Captain performing their preflight duties. The Captains flows from Originating Receiving to Before Start below the line were all mixed and it was quite evident he was unsure of the correct way to perform these tasks. As for the FO, I noticed the ATIS report on the MCDU reporting all surfaces were contaminated and braking action advisories were in effect. It was very obvious the condition outside being IMC, light rain/mist and slush/snow plowed all over. I watched as the FO programmed the weight and balance takeoff conditions page. The setup was to request "wet," not contaminated data, asking for flex numbers, not no flex numbers and the load portion of the weight & balance did not include myself in the jump seat. Some of these items unfortunately are a common occurrence and I tend to let the crews work through their duties so they hopefully will trap these errors before I say something. The flight pushed back with these errors still in place. The crew was cleared to start engines during the disconnect from the tug and the FO asked the Captain if he wanted engine #2 started...
and he said "NO", we will taxi out on just number one. NOTE-EDCT (Expected Departure Clearance Time) was approximately 5 minutes! I advised the crew they had a few serious items that needing fixing prior to departure or I would not allow the takeoff. I told them to proceed as they would as if I was not present with the hopes they would discover and trap the mistakes during taxi, briefings, or a checklist. The ramp area was wet with slush & snow plowed to the sides, but as we approached an area of contamination, I had to speak up and have the crew start engine #2. The crew looked at checklists, looked at every display, button, etc. in the cockpit and still were unable to trap their programming mistakes. The Captain said to me "we have no idea what is wrong, please tell us." Due to time constraints, being late and having an EDCT time, I guided the crew to fixing their mistakes to allow for a safe departure and still keep the airline running. At this point, their takeoff weight, their takeoff speeds, & their thrust setting were now correct. Approaching Runway XX the controller gave the crew the current winds. The controller cleared the flight for takeoff but the crew still had some engine warmup time reaming and advised the controller they needed another minute or two. The controller stated, "you are still cleared for takeoff, just advise when you're rolling." When the Captain taxied onto the runway and began his takeoff, he performed a normal takeoff which per the SOP and FOM, he should have performed as a maximum thrust takeoff.

As we were climbing out an aircraft was being worked for Runway YY; we departed Runway XX. I thought about this and what the controller told the crew before departure about the winds. Although being completely task saturated trying to keep up with notes on all the mistakes this crew was making and using this new line check form, I noted the winds I heard on my note pad. We were in sterile cockpit as I was making sense of the airplane landing Runway XX and the controller wanting us off Runway YY, along with the wind report. Once we passed 10,000 feet I asked the crew if they remembered what the wind was from the controller. They weren't exactly sure. I had the winds written on my papers as I noted above, all scribbled with other notes and I requested the FO to go into the MCDU to the performance takeoff page. I had the FO enter the exact runway heading and the reported wind. The MCDU returned a message of "tailwind limit exceeded." My intuition during climb was correct, this crew didn't even consider the winds on takeoff. Now, the crew realized they had exceeded a limit in our SOP of a maximum tailwind component of 10 knots. The above calculation exceeded the SOP limit by 3 knots. Now, not only did they depart exceeding the limit, they did so on a contaminated runway.

During the debrief at the gate, they did say they kind of thought the way the controller reported the winds made them think something was weird. The captain said he had knowledge of the airplane being worked for Runway YY and knew something must be wrong yet decided to go anyway. I advised the crew that both pilots were being de-qualified. Neither one of them were surprised and owned up to all the mistakes. Both crew members have a very poor foundation of knowledge of our airlines policies and procedures. I also talked with the crew noting that if I had not been on the jump seat, they would have single engine taxied on a contaminated surface, they would have reduced power on a contaminated runway, they would have departed with incorrect takeoff data and because of me not figuring out until airborne about the tailwind, they still would have taken off with the wrong takeoff type and with the tailwind. I would hate to think of the possible outcome of this flight without my intervention. This crews` lack of procedural knowledge and lack of CRM are what ultimately led to this train wreck of a flight. There were many other SOP/FOM mistakes on this line check not noted here, but this is not a line check form.

Better CRM and crews need to stay sharp in our manuals not just for ground school or sim check.
Narrative: 2
[Report narrative contained no additional information.]

Narrative: 3
[Report narrative contained no additional information.]

Synopsis
ERJ-175 Check Airman reported numerous SOP, FOM, and FAR violations during an unsatisfactory line check.
**Time / Day**
- Date: 201602
- Local Time Of Day: 1801-2400

**Place**
- Locale Reference.Airport: IAD.Airport
  - State Reference: DC
  - Altitude.AGL.Single Value: 1000

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

**Aircraft**
- Reference: X
- ATC / Advisory.Tower: IAD
- Aircraft Operator: Air Carrier
- Make Model Name: B737-800
- Crew Size.Number Of Crew: 2
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Flight Phase: Initial Approach
- Airspace.Class B: IAD

**Component**
- Aircraft Component: Aerofoil Ice System
- Aircraft Reference: X
- Problem: Improperly Operated

**Person : 1**
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function.Flight Crew: First Officer
- Function.Flight Crew: Pilot Not Flying
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number.Accession Number: 1333548
- Human Factors: Communication Breakdown
- Human Factors: Distraction
- Communication Breakdown.Party1: Flight Crew

**Person : 2**
- Reference: 2
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
On approach into IAD Runway 19L the flaps were still in transit to the final flap setting of 40 degrees at 1,000 feet Above Field Elevation (AFL) and we elected to continue the approach. I was Pilot Monitoring (PM) and the Captain was Pilot Flying (PF). We had an over enthusiastic jumpseater who continually was offering us flying instructions. Enroute to IAD, ATIS was reporting freezing rain and light freezing rain with Mu readings of the low thirties to the mid-twenties for the landing Runway 19C, with reports of poor braking action. The weather at our original alternate deteriorated and the dispatcher changed our alternate. [The new alternate] was forecast for possible snow at arrival time.

We briefed a flap 40 landing. During radar vectors to final, Approach Control informed us 19C was closed and 19L was open, requiring us to set up an approach for 19L, re-brief and re-check landing data for that runway. A preceding aircraft reported fair braking on Runway 19L. Prior to the glide path interception point, IAD Tower cleared us to land, but was now reporting a tailwind. Prior weather reports did not contain a tailwind. We checked the penalty for the tailwind, found we were within limits and selected max autobrakes. The last-minute tailwind report definitely rushed things.

The landing was at the 1,000 foot markers and we stopped the aircraft. The Captain and I
debrieved the event thoroughly and decided to file ASAP reports because we believe in the importance of stabilized approaches and wanted to be proactive. Reflecting on this I would call for a go-around if not completely configured for the approach. Additionally jumpseaters should be just that, an extra set of eyes, not flight instructors.

**Narrative: 2**

My decision to deviate from procedure was based on a couple of factors. First, the braking action report on 19L was significantly better than 19C. My concern was that a go-around and re-sequencing would put us back on the approach after the runway had only gotten worse from the light freezing rain. While we had sufficient fuel to make it to our alternates, both were forecasting snow for an arrival time. Great Lakes cities can experience sudden heavy snow with poor visibility and slippery conditions. Finally, the aircraft was on course and glide path, with a normal sink rate. The landing was at the 1,000 foot markers and we stopped the aircraft with plenty of runway remaining. My first officer and I debriefed the event thoroughly and decided to file reports because we believe in the importance of stabilized approaches and wanted to be proactive. I am fortunate that the flight was with an experienced FO.

Finally, I’d like to say that I do not believe that pilots are at liberty to pick and choose what elements of a stabilized approach are required. It was a difficult decision and a lesson for me. Looking back, I would recommend a go-around if not completely stabilized for the approach. One last point, we had a jumpseat rider that was a distraction in the flight, however it is my responsibility to manage the situation.

My recommendation is to not deviate from Company's stable approach requirements. It's a professional letdown for me to say I flew an unstable approach and it won't happen again.

**Narrative: 3**

I was jumpseating on a B737 to IAD after finishing a 3-day trip. I am a current and qualified B737 FO. I am inputting this report due to the fact that I talked to the pilots below 10,000 feet. The weather at Dulles was freezing rain/freezing drizzle. The pilots were very busy (at times were operating in the yellow) and as such missed some things that I felt were due partially to CRM issues and most importantly the weather. I remember on a few occasions the crew missed radio calls and I mentioned, "I think that was for us". Two of the things that I remember were we had descended through the weather with engine anti-icing on then came out of the weather. The temperature increased above 10 degrees and the message "Thermal Anti-Ice (TAI) on above 10 degrees" came on (we were in the clear at the time). I pointed this out to the crew. The Captain shut it off, but said, "I was leaving it on due to we were going back into the weather in a bit". Which he did put back on prior to entry. I felt the crew was behind trying to get the airplane configured. I do not remember if they were fully configured by 1,000 feet. Though I do not remember ever thinking that we needed to go around. The braking action was reported as fair. I think the winds were gusty with a crosswind. The Captain had brakes 3. I asked if they wanted MAX brake. I believe the Captain then selected MAX brake. At no time did I feel that I was distracting nor did anyone tell me that once we parked at the gate. As I was getting out of the jump seat I thanked the crew for the ride and I complimented the Captain on the landing and he said, "Thanks for your help" At no time did I feel that my comments below 10,000 were anything but safety related.

**Synopsis**
B737-800 flight crew describe passing 1,000 feet AGL on final with the flaps still in transit to 40 degrees. They cite distractions from weather, last minute runway change and comments from a jumpseating First Officer.
**Time / Day**

Date: 201502
Local Time Of Day: 0601-1200

**Place**
Locale Reference.Airport: PDX.Airport
State Reference: OR
Altitude.AGL.Single Value: 0

**Environment**
Flight Conditions: Marginal
Weather Elements / Visibility: Rain
Weather Elements / Visibility. Visibility: 10
Light: Daylight
Ceiling. Single Value: 1000

**Aircraft**
Reference: X
ATC / Advisory. Tower: PDX
Aircraft Operator: Corporate
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: Taxi
Route In Use: Vectors
Route In Use.SID: MINNE 5

**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
Experience. Flight Crew. Total: 4700
Experience. Flight Crew. Last 90 Days: 40
Experience. Flight Crew. Type: 175
ASRS Report Number. Accession Number: 1333069
Human Factors: Time Pressure
Human Factors: Communication Breakdown
Human Factors: Confusion
Communication Breakdown. Party1: Flight Crew
Communication Breakdown. Party2: ATC
Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew
When Detected : Taxi
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Provided Assistance
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

I filed the MINNE 5 Departure HISKU Transition. When I received the clearance from PDX clearance delivery frequency, I was assigned the Portland 1 Departure, then as filed. This is somewhat common at PDX so I didn’t question the issuance of a different SID than filed. Everything was normal until we were cleared for takeoff on Runway 28R. The Tower told us to fly the MINNE 5 Departure and cleared us for takeoff and to not delay since there was an aircraft of short final. My first officer stated that we were issued the Portland 1 Departure and requested a radar vector on the departure, otherwise we would have to reset everything in the flight management system, re-brief the departure, and run additional checklists. The Tower Controller agreed and we began the takeoff roll with a clearance to fly runway heading. Very shortly after departure (about 500 feet AGL) we were recleared as follows: “cleared direct PEGTY and the remainder of the MINNE 5 Departure. Climb and maintain 7000.” We were able to safely manage the FMS and get everything reset, but we were busy and somewhat distracted. At no point did I feel safety was compromised, but the workload increased significantly. In the future I would like to taxi clear of the runway and get things sorted out before taking flight. I feel the controller was caught off guard and then felt pressure to get us airborne due to the landing aircraft. This was the first flight of the day for our crew and we both had more than 24 hours rest. Fatigue was not a factor. We utilized good crew resource management to handle the event and had a thorough debrief afterward. The event will be documented within our company safety management system for analysis.

Synopsis

Corporate flight crew reported an increased workload on departure when they received a different SID clearance from Tower than what was received from Clearance Delivery.
Time / Day
Date : 201602
Local Time Of Day : 1201-1800

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

Environment
Flight Conditions : VMC
Light : Daylight

Aircraft
Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : Dash 8-100
Crew Size. Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Cruise
Airspace.Class E : ZZZ

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

Person
Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 4500
ASRS Report Number. Accession Number : 1332206
Human Factors : Workload
Human Factors : Situational Awareness
Human Factors : Troubleshooting

Events
Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result: General: Maintenance Action
Result: Flight Crew: FLC complied w/ Automation / Advisory
Result: Flight Crew: Took Evasive Action
Result: Flight Crew: Landed in Emergency Condition

Assessments
Contributing Factors / Situations: Aircraft
Primary Problem: Aircraft

Narrative: 1
We had to deice prior to takeoff and checked all flight control movements twice before takeoff. At beginning of cruise portion of flight, two amber caution and the amber master caution annunciators illuminated: roll splr inbd hyd (Spoiler Inboard Hydraulics) and roll splr oubd hyd (Spoiler Outboard Hydraulics). We completed associated spoiler failure checklist, including confirming of all spoilers retracted at PFCS (Primary Flight Control System) indicator, etc. The PF (Pilot Flying), here the Captain continued to hand fly aircraft (as our autopilot was MEL'd for all legs). We evaluated all facts, discussed all of our options, and [advised center of our flight control situation]. We informed them that we were not requiring any assistance (upon landing or elsewhere).

Capt. talked to dispatch and MX (Maintenance), while I hand flew aircraft. Capt., dispatch and I all agreed that ZZZ with their long runways etc. was best place to land. I informed our FA (Flight Attendant) that we were planning on a normal, uneventful landing, with no delays. ATC issued RWY 27L and we executed a visual approach to 27L. Normal landing and taxi. We thanked ATC for all of their help. At gate MX write up completed. The smooth outcome can be contributed to very good CRM exhibited today.

Two roll splr caution and master caution annunciators illuminated in flight: roll splr inbd hyd and roll splr oubd hyd.

Synopsis
During flight a DHC-8-100 Master Caution and annunciators alerted ROLL SPLR INBD HYD and ROLL SPLR OUBD HYD. The QRH was completed and the flight continued to the filed destination.
**ACN: 1330765** (40 of 50)

**Time / Day**

Date: 201602  
Local Time Of Day: 1801-2400

**Place**

Locale Reference: Airport: HOU.Airport  
State Reference: TX  
Altitude.MSL.Single Value: 7400

**Environment**

Flight Conditions: VMC  
Light: Night

**Aircraft**

Reference: X  
ATC / Advisory: TRACON: I90  
Aircraft Operator: Fractional  
Make Model Name: Light Transport, Low Wing, 2 Turbojet Eng  
Crew Size.Number Of Crew: 2  
Operating Under FAR Part: Part 135  
Flight Plan: IFR  
Mission: Passenger  
Nav In Use: FMS Or FMC  
Nav In Use: GPS  
Flight Phase: Initial Approach  
Route In Use.STAR: BAYYY 2  
Airspace.Class B: IAH

**Component**

Aircraft Component: FMS/FMC  
Aircraft Reference: X  
Problem: Design  
Problem: Improperly Operated

**Person**

Reference: 1  
Location Of Person.Aircraft: X  
Location In Aircraft: Flight Deck  
Reporter Organization: Fractional  
Function.Flight Crew: Captain  
Function.Flight Crew: Pilot Not Flying  
Qualification.Flight Crew: Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number: 1330765  
Human Factors: Communication Breakdown  
Human Factors: Distraction  
Human Factors: Time Pressure  
Human Factors: Training / Qualification  
Human Factors: Workload  
Human Factors: Confusion
Communication Breakdown. Party 1: Flight Crew
Communication Breakdown. Party 2: Flight Crew
Communication Breakdown. Party 2: ATC

Events

Anomaly. ATC Issue: All Types
Anomaly. Deviation - Altitude: Excursion From Assigned Altitude
Anomaly. Deviation - Track / Heading: All Types
Anomaly. Deviation - Procedural: Published Material / Policy
Anomaly. Deviation - Procedural: Clearance
Detector. Person: Flight Crew
Detector. Person: Air Traffic Control
When Detected: In-flight
Result. Flight Crew: Returned To Clearance
Result. Flight Crew: Requested ATC Assistance / Clarification
Result. Flight Crew: FLC complied w / Automation / Advisory
Result. Flight Crew: Became Reoriented
Result. Air Traffic Control: Issued New Clearance

Assessments

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

Narrative: 1

It is important to note this is my best recollection of events during a very busy time in the cockpit. We were cleared for the Pucks Two Arrival for HOU, landing runway 31 (winds strongly favored this runway at departure). Descending via the arrival in VNAV, speeds and descent rate stabilized, located between SLYCE and GEAR, controller informs us that HOU has switched to runway 4 and asked us if we had the BAYYY2 RNAV arrival. My NFP acknowledged that we did, and the controller asked us to fly it. Knowing the pitfalls of this kind of change, I immediately told the PNF not to accept that until we had programmed it and briefed it. He proceeded to attempt to load it in the FMS while I continued to fly, and at the same time told the controller we’d need a minute. He entered the BAYYY in the FMS, or so he thought. Meanwhile the controller asked us again if we were able to fly the BAYYY. At this point tensions are high in the cockpit - this was in no way anticipated.

I had put the BAYYY arrival chart on my PFD to see if it was similar and where we might be on it. I realized that the fixes I saw didn't match what was in the FMS, so I suggested that he may have programmed the wrong arrival. As the PNF is new to the airplane he was confused as to what was happening, we asked for a heading and altitude from the controller and switched controls to him so that I could take a look. I found that he had entered the wrong arrival, so I fixed that, then proceeded to brief the fixes and all of that and between crossings and speeds. Controller asks again if we are ready during the middle of the process, and I pointed out the first couple of fixes to my partner on the chart, including the crossing at what was the next fix (FRDDY), he said ok, and we told the controller we could take it.

In all of the confusion, we had then engaged the new arrival in the FMS but had the FCM still selected in the heading and had, of course, gone off of the new arrival. I am unclear
as I was very busy (overloaded really) when we reset the altitude to 6000 from 13000 assigned but we did so to descend via the arrival. The controller mentioned about that time that we appeared to be off of the arrival - I think his assumption was that because the track of the arrivals are similar at that point that we could reengage and be on the new arrival. Also, I had not had time to program all of the crossing altitudes or to make sure we understood all of the speeds. That was a mistake. I had briefed my partner (PF) that we needed to make the next fix, FRDDY, between 10,000 and 8000. He said he understood that.

At this point I looked up to see that we were fast approaching FRDDY, and, after I had told the PF that we needed to be at FRDDY between 10,000 and 8,000, saw that he was descending through 7600 about 3 miles from FRDDY. I quickly pointed this out, and he, clearly flustered, disconnected the autopilot and began to ease the plane back to 8000. He later admitted that he had the wrong arrival chart up and had briefly lost SA. At this point the controller, as I recall, told us to just maintain 6000, then changed it to maintain 7000. We were also still working our way back to the course, we were south of it. I made a mental note, as did my partner, that ATC never recleared us to a point on the new arrival. I guess the assumption on ATC's part was that we just work our way back onto the profile as if nothing had happened. That may be part of the solution to this - as we discussed in our debrief - to re-clear us to a point down the road on the new arrival with a crossing altitude and speed.

At this point I told the controller "look, you have to understand when you guys do this, the box dumps the entire arrival, the crossings, everything. We have to reprogram it." I didn't even mention rebriefing it - akin to reintegrating the crew. The controller said he did understand but didn't control the runway change at HOU. We rejoined the full profile by FIGGG and flew the rest uneventfully, albeit flustered. That was a mess there is no way to prepare for.

I think it goes without saying that these new, complex RNAV arrivals require a thorough briefing and careful programming well before initiating the procedure. Sudden changes throw all of that CRM out of the window. The Garmin 3000 at this time does not put in any crossing altitudes but the lowest at each required fix in the current software load. This may not be practical in an arrival change if we are much higher. For ATC to change the entire procedure or transition as the airplane is committed to a speed, crossing, and descent trajectory at high speed, and the crew is in situation awareness in the current arrival just for their own convenience is unacceptable. To then expect that the crew reprogram, rebrief, and accept a new arrival or transition in this situation under intense time pressure (real or perceived) shows a fundamental lack of understanding on their part to the intricacies of flying these procedures from a cockpit and human factors perspective. Until we have procedures in place to limit ATC from doing this randomly anywhere on the procedure and training for the crews in how to deal with these sudden and wholesale changes while flying complex RNAV procedures, I will no longer accept a change on these arrivals from this point forward. ATC will have to issue altitudes, speeds, and vectors. In our debrief we agreed on this.

**Synopsis**

Business jet Captain explained the confusion and workload following a late HOU runway change which necessitated an arrival change from the PUCKS 2 to BAYYY 2 RNAV Arrival.
ACN: 1328709 (41 of 50)

Time / Day
- Date: 201602
- Local Time Of Day: 0001-0600

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

Environment
- Flight Conditions: VMC
- Light: Night

Aircraft
- Reference: X
- ATC / Advisory: Tower: ZZZ
- Aircraft Operator: Air Carrier
- Make Model Name: Widebody, Low Wing, 4 Turbojet Eng
- Crew Size: Number Of Crew: 4
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Mission: Passenger
- Nav In Use: FMS Or FMC
- Flight Phase: Final 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: First Officer
- Function: Flight Crew: Pilot Not Flying
- Qualification: Flight Crew: Air Transport Pilot (ATP)
- Experience: Flight Crew: Total: 16000
- Experience: Flight Crew: Last 90 Days: 250
- Experience: Flight Crew: Type: 7500
- ASRS Report Number: Accession Number: 1328709
- Human Factors: Communication Breakdown
- Communication Breakdown: Party1: Flight Crew
- Communication Breakdown: Party2: Flight Crew

Events
- Anomaly: Deviation - Procedural: Published Material / Policy
- Anomaly: Inflight Event / Encounter: CFTT / CFIT
- Detector: Person: Flight Crew
- Detector: Person: Air Traffic Control
- When Detected: In-flight
- Result: Flight Crew: FLC complied w / Automation / Advisory
Result. Flight Crew: Became Reoriented
Result. Air Traffic Control: Issued Advisory / Alert

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

Narrative: 1
This is no surprise......2 reports in 2 legs. The commonality is the Captain's deviation from SOPs and his weird idiosyncrasies. Everything he did was a distraction and different than what's normal. Both the working bunkie and I were talking, after the flight was over, about how all our attention was paid in watching him and trying to figure out what he was doing. I always look outside but was taken out of my game because of his behavior. At that stage, he had the automation hooked up but improperly.

He had only LOC armed, not APP despite us being cleared for a visual. I had set the altitude for the marker. He then requested touchdown zone to be set. He was late on calling for the gear, said he didn't want the speed brakes armed etc. It was one abnormal thing after another and two of us had 100% attention on him. The non-working bunkie was doing nothing, nor did he have his head set on to listen to tower. That's when we got low and tower announced a low altitude warning.

Synopsis
Air carrier First Officer reported experiencing CRM issues became low on final approach with a low altitude warning from ATC.
Time / Day
Date: 201601
Local Time Of Day: 0601-1200

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

Environment
Flight Conditions: IMC
Light: Daylight

Aircraft
Reference: X
ATC / Advisory.Tower: ZZZ
Aircraft Operator: Military
Make Model Name: T6A Texan II / Harvard II (Raytheon)
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 91
Flight Plan: IFR
Mission: Training
Flight Phase: Final Approach
Airspace.Class D: ZZZ

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Military
Function.Flight Crew: Instructor
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Flight Instructor
Qualification.Flight Crew: Commercial
Qualification.Flight Crew: Instrument
Experience.Flight Crew.Total: 1500
ASRS Report Number.Accession Number: 1325584
Human Factors: Workload
Human Factors: Training / Qualification
Human Factors: Communication Breakdown
Human Factors: Situational Awareness
Communication Breakdown.Party1: Flight Crew
Communication Breakdown.Party2: Flight Crew

Events
Anomaly.Deviation - Speed: All Types
Anomaly.Deviation - Procedural: Published Material / Policy
Anomaly.Inflight Event / Encounter: CFTT / CFIT
Detector.Person: Flight Crew
When Detected: In-flight
Result. Flight Crew: Took Evasive Action
Result. Air Traffic Control: Issued Advisory / Alert

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

Narrative: 1
Non IFR rated student was at controls, flying the ILS glide path via a simulated PAR given from instructor. Student became disoriented but did not speak up, aircraft speed increased to a near "gear over speed", instructor reduced power and raised nose in order to prevent the over speed. Student still had controls but again did not speak up that he was disoriented. Controls were taken by instructor when aircraft was no longer established on ILS. The decision to execute a missed approach was made simultaneously with radio call from tower advising of low altitude. Missed approach procedures were immediately executed without further incident. Aircraft landed safely on next approach.

Lessons Learned: Do not conduct difficult training in IMC, as all attention is needed to fly the actual instrument approach without increased burden. As an instructor, I became task saturated with the training and near gear over speed and am thankful from the call from tower. In addition, a CRM discussion between pilots was conducted after the flight. "If you feel disoriented while at the controls, speak up immediately and transfer aircraft control to the pilot not flying, if able."

Synopsis
A military flight instructor providing instrument instruction in a Texan II reported a controlled flight toward terrain event with a near gear overspeed when the student became overwhelmed in instrument conditions.
ACN: 1324856 (43 of 50)

Time / Day
Date: 201601
Local Time Of Day: 0601-1200

Place
Locale Reference. Airport: DEN. Airport
State Reference: CO
Altitude.MSL.Single Value: 29600

Environment
Flight Conditions: VMC

Aircraft
Reference: X
ATC / Advisory.Center: ZDV
Aircraft Operator: Air Carrier
Make Model Name: A319
Crew Size. Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Nav In Use: FMS Or FMC
Flight Phase: Descent
Route In Use.STAR: JAGGR 3
Airspace.Class A: ZDV

Person: 1
Reference: 1
Location Of Person. Aircraft: X
Location In Aircraft: Flight Deck
Reportor Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Total: 9706
Experience.Flight Crew.Last 90 Days: 168
Experience.Flight Crew.Type: 5608
ASRS Report Number. Accession Number: 1324856
Human Factors: Workload
Human Factors: Situational Awareness

Person: 2
Reference: 2
Location Of Person. Aircraft: X
Location In Aircraft: Flight Deck
Reportor Organization: Air Carrier
Function.Flight Crew: First Officer
Function.Flight Crew: Pilot Flying
Experience.Flight Crew.Total: 10064
Experience.Flight Crew.Last 90 Days: 163
Experience. Flight Crew. Type: 4639
ASRS Report Number. Accession Number: 1324580
Human Factors: Situational Awareness

Events
Anomaly. ATC Issue: All Types
Anomaly. Deviation - Altitude: Overshoot
Anomaly. Deviation - Altitude: Crossing Restriction Not Met
Anomaly. Deviation - Procedural: Published Material / Policy
Anomaly. Deviation - Procedural: Clearance
Detector. Person: Flight Crew
When Detected: In-flight
Result. Flight Crew: Returned To Clearance
Result. Flight Crew: Became Reoriented

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

Narrative: 1
Aircraft was descending to FL300 approximately 30 miles from JAGGR intersection. ATC issued a four part clearance, "descend via the JAGGR 3 arrival, except maintain 290 knots until DANDD, then resume published speeds, Denver Altimeter --.--". First Officer (FO) as the pilot flying began adjusting the FMC to adjust the speeds, while I set the bottom altitude 11,000. Apparently, the FMA was ALT* versus ALT when this happened, as the airplane continued descending very slowly to 29,600. The FO immediately caught the error (JAGGR is at or above FL300) and I requested and received a clearance direct CLPTN voiding the next two altitude restrictions. I take complete responsibility for the mistake in handling 4 issues instead of verifying the aircraft was flying the correct altitude.

I offer these observations on the current RNAV SID/STAR procedures:

1) The RNAV procedures are in direct conflict with our 4 operating priorities.
   a) Not as safe, as we are spending copious amounts of time making sure of all the restrictions instead of flying the plane.
   b) Uncomfortable for our passengers, as we speed up and slow down to meet these tight restrictions.
   c) Not allowing us to be on time, as we fly these published speeds whether there are other planes in the vicinity or which direction we are landing.
   d) Inefficient, as we use power and speed brakes to meet restrictions that are simply too demanding.

2) The RNAV procedures force considerable threats from a CRM/TEM perspective.
   a) Each fix with an altitude or speed restriction is a "threat" to the crew.
   b) We combat the threat by preparing for it (verifying each restriction independently).
   c) Inevitably, we "repair" some threats by changing descent modes, adding power, or using speed brakes to get back on the profile.
   d) Finally, occasionally we find ourselves heading toward a UAS, as this report points out.
The Final points to consider in the danger of these procedures are the "newer" clearances we are receiving. The "Maintain" clearance. As opposed to the old "Climb and maintain" clearance, we are starting to hear "Maintain" clearances, which are not inherently logical (how can I maintain an altitude I'm not yet at?)

The "Climb via the SID" clearance issued after departure, which may require us to go "heads down" to search multiple pages of SID instructions, to find the top altitude hidden in small font somewhere on the chart. Perhaps each SID/STAR should display the Top/Bottom altitude on the top of the chart in BOLD numbers?

The true solution may come from the past, where for example DEN had the "profile descent". This allowed for a crossing 35 miles out between 17,000 and 23,000 which allowed all aircraft types to comply with this one restriction, then descend to one altitude prior to arrival (safe, comfortable, on time, and efficient). Also, PLEASE consider ATC clearances of "climb via SID, top altitude XXXXX", or "Climb unrestricted and maintain XXXXX". Safety should not be a matter of semantics.

**Narrative: 2**

[Report narrative contained no additional information.]

**Synopsis**

A319 flight crew reported RNAV arrival procedures, using the JAGGR STAR at DEN as an example, are increasing workload and asserted they are "not as safe" as previous descent procedures.
**Time / Day**
- Date : 201512
- Local Time Of Day : 1201-1800

**Place**
- Locale Reference.Airport : MAF.Airport
- State Reference : TX
- Altitude.MSL.Single Value : 1300

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

**Aircraft**
- Reference : X
- Aircraft Operator : Personal
- Make Model Name : Commercial Fixed Wing
- Crew Size.Number Of Crew : 2
- Flight Plan : IFR
- Mission : Passenger
- Flight Phase : Initial Approach
- Airspace.Class C : MAF

**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
- Experience.Flight Crew.Last 90 Days : 191
- ASRS Report Number.Accession Number : 1322023
- Human Factors : Communication Breakdown
- Human Factors : Situational Awareness
- Human Factors : Distraction
- Communication Breakdown.Party1 : Flight Crew

**Events**
- 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
- Detector.Person : Air Traffic Control
- When Detected : In-flight
- Result.Flight Crew : Executed Go Around / Missed Approach
Result. Flight Crew: Became Reoriented
Result. Air Traffic Control: Issued Advisory / Alert

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

Narrative: 1
The first attempt to land at MAF was unsuccessful due to fog, and the flight returned to [departure airport]. The flight then changed Captains, and was re-dispatched to MAF. The Captain was on his second day of being junior assigned, and was pulled off his deadhead aircraft home, to do the turn to MAF. He was understandably upset. The second Captain was having problems hearing the First Officer (FO) thru the [comms], since there was no "hot MIC" function on this [aircraft]. Unfortunately this was not identified until the return trip. The Captain missed several CRM calls from the FO, on climbout, and the FO assumed it was due to his emotional state, but is was also due to the [comm issue]. Upon approach to MAF, Approach Control vectored the flight to a position north of MAF, and asked if they had the field in sight. MAF had recently had a snow and frost event, and the Crew was having problems identifying the field. Everything looked white. The Captain responded that they had it, the FO concurred and began to maneuver for landing. At approximately 1,300 feet AGL, both pilots noted that the runway did not line up with the nav aids and verbalized that, "this doesn't look right." At that time MAF Tower informed the Crew that they were lined up on the wrong airfield. A go-around was conducted, the flight maneuvered for the proper airfield, and landed uneventfully.

Hot MICs should be installed on all aircraft.

Synopsis
Air Carrier First Officer reported lining up for the wrong airport in a ground white-out condition. Poor internal cockpit communications was a factor.
ACN: 1321481 (45 of 50)

**Time / Day**
- Date: 201512
- Local Time Of Day: 0601-1200

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

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

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

**Component**
- Aircraft Component: Flap/Slat Control System
- Aircraft Reference: X
- Problem: Failed

**Person**
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function.Flight Crew: Captain
- Function.Flight Crew: Pilot Not Flying
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- Experience.Flight Crew.Last 90 Days: 179
- Experience.Flight Crew.Type: 8607
- ASRS Report Number.Accession Number: 1321481
- Human Factors: Situational Awareness

**Events**
- Anomaly.Aircraft Equipment Problem: Critical
- Anomaly.Inflight Event / Encounter: Unstabilized Approach
- Detector.Person: Flight Crew
- Were Passengers Involved In Event: N
When Detected : In-flight
Result.Flight Crew : Landed As Precaution
Result.Flight Crew : Returned To Departure Airport
Result.Flight Crew : Landed in Emergency Condition

Assessments
Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

After takeoff, the FO who was flying, seemed to be having trouble stabilizing the aircraft in roll. He kept working with the aileron and rudder trim. We elected to stop climbing upon reaching 15000 feet in order to analyze the problem. If the rudder and aileron trim were set back to "0" you had to hold the control wheel right wing down at 5 units according to the control wheel scale. If you let go, the aircraft rolled left at about 10 degrees per second. I elected to go into the cabin and see what I could see and the only thing I saw was the right spoiler slightly lifted as I expected. I did not look to see if all the trailing edges were even as the flap indicator showed full up and even pointers. After considerable difficulty of getting and maintaining communication with commercial radio were established. After discussing the problem with maintenance control, we elected to [advise ATC] and return to ZZZ as the best course of action. I told the flight attendants I had expected a normal landing and no evacuation. I informed the passengers we were returning to ZZZ and that they would see fire trucks and that was normal in the interest of extra precaution. After we began extending flaps for landing, the roll tendency diminished until reaching flaps 30. At which the FO said it seemed as though the aircraft wanted to roll to the right a little. We landed overweight with a smooth touchdown. After we got to the gate, a mechanic came to the flight deck and said that they had found the problem, the right inboard trailing edge flap had a broken actuator and was extended. All flight deck indicators indicated normal and proper indications at all times.

Since the flap pointers were perfectly even, displaying full up, flap asymmetry just did not occur to us. There were no indications of any problem except the pronounced uncommanded roll. I told the FO that I wanted to go back and look at the wing. He opposed going into the cabin citing security concerns. He suggested having a flight attendant look. Personally, I felt like I would not get good information from a flight attendant in this situation. I called the FAs and they reported everything seemed normal to them. When I asked for someone to go look at the wing, they only handed the phone from one to another. So I told the FO I was going to go back and look and he concurred. Since the flap indicator was showing even needles and full up, I believe I had a preconceived expectation that the flaps were not the problem so I did not check them. I only looked at the spoilers mainly and they looked as expected. All it did was to further place in my mind that it was not a flap, slat or spoiler problem. I was hoping maintenance control would have another idea, however it seemed maintenance control was more interested in trying to get us to just use a combination of aileron and rudder trim to get the aircraft on down the road. After listening to him for a while and complying with his request, it became clear to me that his viewpoint was that this was a minor issue. I felt like the dispatcher did grasp the situation. We [advised ATC] and returned to ZZZ which were not far from. The FO was the PF and he did an excellent job throughout the flight and in all aspects of CRM.

Synopsis
B737 Captain reported being unable to stabilize the aircraft on its roll axis. Setting the aileron and rudder trim to zero, the pilot flying had to hold the control wheel right wing down five units, according to the control wheel scale, to stabilize the aircraft. After landing Maintenance informed the crew of the right inboard flap actuator being broken.


**Time / Day**

Date: 201512
Local Time Of Day: 1801-2400

**Place**

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

**Environment**

Flight Conditions: VMC
Light: Night

**Aircraft**

Reference: X
ATC / Advisory: Tower: ZZZ
Aircraft Operator: Air Carrier
Make Model Name: EMB ERJ 145 ER/LR
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Climb
Airspace.Class B: ZZZ

**Component**

Aircraft Component: Elevator Trim System
Aircraft Reference: X
Problem: Failed

**Person**

Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Pilot Flying
Function.Flight Crew: First Officer
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1320513
Human Factors: Workload

**Events**

Anomaly.Aircraft Equipment Problem: Critical
Anomaly.Deviation - Procedural: Published Material / Policy
Detector.Person: Flight Crew
When Detected: In-flight
Result.Flight Crew: Landed in Emergency Condition
Assessments
Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1
We had a maintenance delay for wing anti-ice failure in flight on our previous leg. While the maintenance personnel had the logbook and were completing the write-up for the anti-ice fix, I checked my pitch trim and received a MAIN PTRIM INOP EICAS message. I notified the maintenance crew, and they performed a reset (later determined to be a "partial" reset). I tested my pitch trim, and it worked. They returned the logbook, we boarded, and took off. Right away on the initial climb, I realized I was unable to trim. At about 500 feet, we got a MAIN PTRIM INOP EICAS message. We continued to climb and follow the departure. I pulled back power partially, but the trim was stuck at about 7 up. The Captain (CA) tried the backup trim, but it failed as well. At some point shortly after, we were able to use the backup trim partially again and were able to trim to 6 up and eventually 5 up on landing. The CA [requested priority handling] and requested a return. He took the aircraft. We attempted to run the checklist, but given the workload and situation (the CA at points had to use considerable strength to maintain altitude), we agreed to forgo the checklist to get on the ground ASAP. We got landing data for flaps 45, but on final we decided to land with flaps 22 since the aircraft was easily controllable in that configuration. Also being familiar with the airport, we knew that flaps 22 would be acceptable. We didn't get new landing data for flaps 22 since we were on short final, but we did increase Vref and Vapp by 5 knots. We landed and returned to the gate. Also, because of the workload, the FA was notified, but neither the CA or I spoke to the passengers until we were on the ground. On the taxi in, I notified Operations and maintenance personnel and quickly returned to the plane. We deplaned the passengers, and Maintenance performed a "full" reset and declared the aircraft good to go. The CA and I agreed that we were uncomfortable flying the aircraft despite the reset, and eventually we were given a new aircraft and continued on to [destination] without incident.

Obviously having little control over pitch trim is an undesired aircraft state. The threats included: night conditions, heavily saturated airspace (we got a TA at one point) and poorly trained maintenance personnel. The errors included: not speaking to the passengers during the [event], not completing the QRH, not sending landing data for flaps 22.

The CA and I exited the cockpit when the maintenance crew performed the initial reset on the pitch trim. I wasn't watching, but the CA was, and he said he didn't think the maintenance crew did the reset correctly. He said they didn't seem to know what they were doing (a backup maintenance person had to be called), and they didn't reset any circuit breakers behind the CA seat, which the CA said he thought was normal protocol. Because the trim worked and the maintenance crew said everything was good after the reset, we continued. So, I would like to see better trained maintenance personnel.

All things considered, the CA and I had good CRM, we were familiar with airport and the aircraft, and we had good situational awareness. Largely because of all these things, we were able to land safely despite the emergency.

Synopsis
Embraer Regional Jet crew has a main pitch trim failure on departure. Crew returns to departure airport with reduced flap setting.
ACN: 1319929 (47 of 50)

**Time / Day**
- Date: 201512
- Local Time Of Day: 0001-0600

**Place**
- Locale Reference.Airport: JFK.Airport
- State Reference: NY

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

**Aircraft**
- Reference: X
- ATC / Advisory.TRACON: N90
- Aircraft Operator: Air Carrier
- Make Model Name: A330
- Crew Size.Number Of Crew: 3
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Mission: Passenger
- Nav In Use: FMS Or FMC
- Flight Phase: Climb
- Airspace.Class B: NYC

**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: First Officer
- Function.Flight Crew: Pilot Not Flying
- Function.Flight Crew: Relief Pilot
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number.Accession Number: 1319929
- Human Factors: Distraction
- Human Factors: Other / Unknown
- Human Factors: Situational Awareness

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

Captain loaded flight plan into flight management system. Captain included Runway 31L with JFK2 departure. After clearance/PDC was received, the first officer changed the departure from JFK2 to SKORR THREE per the pre departure clearance. First officer failed to include RNGRR transition. On climb-out the captain flew the aircraft per the SKORR THREE, but shortly after turning left towards SKORR the first officer, with the captain's consent, removed the discontinuity between SKORR and GAYEL. As a result, the FMS commanded the flight directors to turn right towards GAYEL and the captain flew the aircraft accordingly. Captain asked the first officer to ask ATC for direct routing further down our flight plan and once queried by the first officer, ATC instructed an immediate left turn to a heading of 210 deg. We received radar vectors from that point to join our original flight plan.

The international relief officer noticed that a deviation was occurring as soon as the first officer removed the discontinuity between SKORR and GAYEL from the flight plan. The relief officer advised the captain that he needed to fly over SKORR, but the right turn was
already underway and continued for a few seconds. ATC thereafter requested a left turn to a heading of 210 deg. This instruction was immediately complied with by the flying pilot, whereupon ATC then issued a contact phone number regarding said deviation.

Captain loaded FMS prior to receiving PDC. Once the PDC was received the first officer made the changes as referenced above to the SKORR THREE. The first officer was confused as to whether the SID included a transition and queried the captain and relief officer. At the time, there were numerous distractions on the flight deck including maintenance personnel, a jump seater, and lead gate agent. As a result of these distractions the transition was ultimately not loaded into the FMS. While the first officer conducted his own route legs verification, neither the captain nor the relief officer participated resulting in the omission of the RNgRR transition.

This deviation was the result of a breakdown in CRM amongst the flight crew. The multiple distractions mentioned above combined with the crew's general concern regarding the captain's wellbeing and led to an environment where standard operating procedures were overlooked. This deviation began prior to push and was the result of multiple nonessential events that distracted the flight crew during important preflight operations. The deviation and CRM breakdown would not have occurred had all questions regarding the captain's wellbeing been resolved prior to his boarding of the aircraft.

**Narrative: 2**

Initially I loaded the flight plan & ATC PDC Clearance into the FMS SKORR 3 RNAV Departure RNgRR transition. I flew the departure & at approximately 400 feet called for the "Auto Pilot One" to be engaged per company policy with RNAV Departures. At that very moment instead of engaging the auto pilot the First Officer (FO) went to his FMS & deleted the transition at the request of the IRO. This left the aircraft FMS headed towards "GAYEL" intersection which would have taken us right into La Guardia's airspace. Having good situational awareness & having flown out of Kennedy airport for 22 years including being based there. I immediately realized this could cause a traffic conflict in a "New York Minute". The flight director was telling me to turn right, but I knew I needed to turn left to prevent the potential of a conflict with La Guardia. So I ignored the flight director & turned left to intercept the 039 degree radial to SKORR intersection. The FO & IRO were bickering amongst themselves & I was essentially single pilot with a 3 man crew. I asked the FO to request a vector to intercept 039 radial from departure control & they assigned us 210 heading. I received a number to call Center later, which I did. I fell on my sword & he reviewed the info & flight path & agreed with me that no conflict "no issue". They just wanted to hear our side of the story.

I didn't brief the FO & IRO as thoroughly as I usually do, relative to other cockpit distractions between mainly the IRO & the flight attendants. No legs verification occurred after the departure was updated by me, as this would have brought the FO IRO into the loop with departure change. We were originally assigned the Kennedy two departure or maybe that is what was on the flight plan I can't remember for sure, but I know it was a last minute change.

As I mentioned earlier a more thorough briefing would have helped. Also perhaps the IRO not confusing the first officer with a lot of talking at 400 feet. The IRO had minimum experience levels in the A330. He still does not have a basic understanding of how the FMS works. I could work on my CRM & I will. But, looking back now, I kind of feel like I was all alone out there, with a first officer that is willing to learn & does a decent job, but an IRO who really needs some work in the basic knowledge department & likes to talk a lot.
**Narrative: 3**

Flight deviated from the published departure procedure from Runway 31L at Kennedy International. During preflight preparations the flight crew allowed a breakdown of CRM on the flight deck due to a conflict between the Captain and the flight attendants. After resolving the conflict per FOM guidelines and affirming fitness to fly, it was determined that the flight could be conducted safely. However, this conflict combined with non-typical distractions took the crew out of the sequence of normal operations. Initially, the Captain loaded the FMS with the Kennedy Two Departure from Runway 31L. The first waypoint on the flight plan was GAYEL Intersection. The clearance was received via PDC and all three pilots reviewed and acknowledged it. The clearance included the SKORR Three RNAV Departure with the RNGGR transition. The FO advised the Captain that the departure was different from what the Captain had entered into the FMS. Not noticing the RNGGR transition, the FO entered "No Transition." The crew agreed that "No Transition" was appropriate, yet the crew was distracted by other factors that prevented them from focusing full attention to new departure procedure. The Captain flew the departure, initially following the procedure with a heading of 315 degrees and a turn to intercept the course 239 degrees to SKORR. But when the FO deleted the discontinuity, the waypoints sequenced to GAYEL. The Captain initially followed the Flight Director to the right but immediately asked the FO to request vectors for the course back to SKORR. The FO made the request and ATC commanded at tight left turn to a heading of 210 followed by a sequence of headings. ATC questioned which departure we were assigned and provided a phone number to call upon landing.

The flight crew allowed for a breakdown in CRM and didn't rely on SOP to restore the normal cockpit environment. The departure briefing wasn't as thorough and standard as this Captain's briefings performed on previous flights together, due to the conflicts and distractions during preflight. No legs verification occurred after the change in departure procedure. The FO didn't follow SOP by deleting a discontinuity from the flight plan at a critical phase of flight.

No matter how distracted we became as a flight crew, slowing things down and following the SOP would have restored CRM to the cockpit. Standard briefings help prevent errors from occurring. SOP needs to be followed regardless of schedule and distractions.

**Synopsis**

A330 Flight Crew reported a track deviation during SKORR3 RNAV departure from JFK. Distractions in the cockpit resulted in the SKORR3 being entered in the FMC without the RNGGR transition and was not detected until airborne. When the route discontinuity was cleared a turn direct to GAYEL was commenced before correcting back to SKORR.
ACN: 1319617 (48 of 50)

Time / Day
Date: 201511
Local Time Of Day: 0001-0600

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

Aircraft
Reference: X
ATC / Advisory.Center: MHTG
Aircraft Operator: Air Carrier
Make Model Name: B737 Undifferentiated or Other Model
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Nav In Use: FMS Or FMC
Flight Phase: Climb
Route In Use.SID: POAS4

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Type: 1916
ASRS Report Number.Accession Number: 1319617
Human Factors: Situational Awareness

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

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

Narrative: 1
I have departed MROC from runway 7 on 2 different occasions and believe the Safety Alert concerning the POAS4 departure on the 10-7 and the Engine failure procedure needs to be addressed. This safety alert should apply to all departures from Runway 07 which turn back to the TIO VOR. The Take Off (T/O) data message seems to be in direct conflict with this alert. The T/O data message calls for 1100 AGL power reduction, 2 engine acceleration, and engine out acceleration. Our flight path resulted in a flight path right up to the R-113 of TIO. During both occasions the safety alert was briefed and a plan of action was developed. We briefed that we would fly V2 +20 with a minimum of 25 degrees AOB until the turn was completed, however the actual results differed momentarily from our briefs.

On the first occasion, although the T/O Data said to accelerate at 4130 MSL (1100 AGL) we elected a [noise abatement] departure. This let us maintain V2 +20 until 6330 feet MSL (3000 feet AFE). VNAV commanded a speed increase to CMS [clean maneuvering speed]. Passing this altitude without our turn to the TIO VOR being completed. After a brief acceleration, LVL CHG was selected with V2+20 set for the speed. Our course path had us right on the R-113.

The second occasion our plan was to use V2+20 in the L2 page with VNAV selected and maintain this speed until inbound to the TIO VOR. However, VNAV commanded FLAP 1 maneuvering speed of 190 knots instead of our V2+20 of 182 knots. Had we flown 190 speed it would have taken us south of the 113 radial. It took some CRM to get the First Officer to use at least 25 AOB while below the flaps 1 maneuvering speed. Again our track took us right to the R-113 because a minimum of 25 degrees AOB wasn't maintained through the entire turn. I believe the 10-7 alert should suggest VNAV off on the departure with LNAV selected until the turn starts and the HDG select to the TIO VOR to ensure not going south of the R-113. Also a note referencing that V2+20 will be below a flap 1 maneuvering speed and it is protected for AOB of over 25 degrees.

With this all in mind, the engine failure procedure calls for an 1100 feet AGL. I believe the aircraft will accelerate before the turn is complete if Clean Maneuvering Speed is called for at the 1100 feet AGL. The T/O data calls for an 1100 feet AGL acceleration. If the 113 radial is critical, the turn needs to be completed prior to accelerating to CMS (this is not mentioned on the procedure). It needs an acceleration to V2+15 or V2+20 at a certain time since the aircraft will be at V2 if the engine failure occurs prior to rotation. Maintain minimum AOB of 25 degrees at V2+15 or V2+20 until inbound to the TIO VOR. Additionally, remarks from engine failure procedures from the FM should be referenced.

**Synopsis**

B737 Captain found that it was very difficult to avoid crossing the TIO R-113 during departures from Runway 7 at MROC and believed that company procedures should be modified to address the problem.
ACN: 1318107 (49 of 50)

**Time / Day**
- Date: 201512
- Local Time Of Day: 0601-1200

**Place**
- Locale Reference: ATC Facility: D10.TRCON
- State Reference: TX
- Altitude.MSL.Single Value: 13520

**Environment**
- Flight Conditions: VMC

**Aircraft**
- Reference: X
- Make Model Name: Airbus Industrie Undifferentiated or Other Model
- Crew Size.Number Of Crew: 2
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Mission: Passenger
- Flight Phase: Descent
- Route In Use: Direct
- Route In Use.STAR: KLNDR2
- Airspace.Class E: D10

**Component**
- Aircraft Component: FMS/FMC
- Aircraft Reference: X
- Problem: Malfunctioning

**Person : 1**
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function.Flight Crew: Captain
- Function.Flight Crew: Pilot Not Flying
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number.Accession Number: 1318107
- Human Factors: Confusion

**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
Strange readouts on the #1 and #2 MCDU's. For instance, the #1 MCDU and #2 MCDU were showing the same altitude and speed targets at crossing fixes, but #1 showed amber while #2 showed magenta. First Officer (FO) was by far the more experienced in the Airbus and was flying. Cleared out of FL250 direct KLNDR and to descend via the rest of the KLNDR2. 11,000 set in the altitude selector. Managed descent. Although both Primary Flight Displays (PFD) were showing on glide path (green dot), it was obvious that the aircraft would be too high at WARDZ. FO intervened with speed brakes, and neither of us understood why the aircraft was responding by adding power [Crew Resource Management]. The altitude restriction was between 11,000 feet and 13,000 feet. Crossed at 13,520 feet.

Must be an Airbus idiosyncrasy. I only have around 40 hours P.I.C. Do not recall ever seeing a zig zag arrow during any part of the arrival (arrow that indicates beginning of glide path). Aircraft had ALTCRZ (something I regularly check for) when at cruise altitude (FL320) so it must have been descent mode at the proper time.

I've not seen this issue before so quite honestly, the best suggestion is review [Crew Resource Management]...only by intervention were we able to avoid an even larger excursion.
Airbus flight crew reported they failed to make a crossing restriction when MCDU’s 1 and 2 disagreed on projected vertical path performance.
**ACN: 1316475 (50 of 50)**

**Time / Day**
- Date: 201512

**Place**
- Locale Reference: JFK.Airport
- State Reference: NY
- Altitude.MSL.Single Value: 600

**Environment**
- Weather Elements / Visibility: Cloudy

**Aircraft**
- Reference: X
- ATC / Advisory: Tower: JFK
- Aircraft Operator: Air Carrier
- Make Model Name: Regional Jet 900 (CRJ900)
- Crew Size.Number Of Crew: 2
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Nav In Use: GPS
- Nav In Use: FMS Or FMC
- Flight Phase: Final Approach
- Airspace.Class B: JFK

**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
- ASRS Report Number: Accession Number: 1316475
- Human Factors: Confusion
- Human Factors: Distraction
- Human Factors: Situational Awareness
- Human Factors: Communication Breakdown
- Communication Breakdown.Party1: Flight Crew

**Person: 2**
- Reference: 2
- Location Of Person: Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function.Flight Crew: First Officer
- Function.Flight Crew: Pilot Flying
- ASRS Report Number: Accession Number: 1316483
- Human Factors: Situational Awareness
- Human Factors: Distraction
Human Factors : Communication Breakdown
Human Factors : Confusion
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Flight Crew

Events
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Person : Flight Crew
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Overcame Equipment Problem

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

Narrative: 1
The "MDA" was set in the altitude preselect instead of the "stepdown altitude". We were flying to JFK as Co-Captains. My roll was PIC and the other pilot roll was SIC. On this leg, I was the nonflying pilot and the SIC was the flying pilot. The weather at JFK was marginal VFR. ATC was using the ILS 4R and the RNAV GPS Y 4L approach. We were assigned the RNAV GPS Y 4L approach. Throughout our flight, I was privately admiring the proficiency, professionalism and airmanship of my Co-captain. He was doing an excellent job in the performance of his duties and his conduct of CRM. We conducted the CANPA procedure. As we approached the REPRE stepdown fix, the SIC called for the MDA altitude instead of the stepdown altitude. Since we were in VMC conditions, I set the MDA in the altitude preselect without verbal question. I do remember thinking, for just a flash of a second, "Oh, he's having me set MDA, and he's going to mentally adjust the descent rate for KRSTL (the final approach fix)". I then proceeded to observe the VMC conditions outside the airplane, especially noting the surface winds and the whitecaps on the ocean surface, and updated the SIC of my observations.

During our descent, we received the 1,000 foot call out from the radar altimeter and then the gear warning horn. We noted that as being out of the ordinary and lowered the gear. Shortly thereafter, we received the low altitude alert from JFK tower. I advised the SIC that we were too low, at MDA and just approaching KRSTL (the final approach fix). About the same time, there was an autopilot trim caution message which the SIC corrected by disengaging the autopilot and retrimming the airplane. Being in VMC we remained at that altitude and continued for an otherwise uneventful landing.

Evans though both pilots were completely engaged in the approach and procedure, the assumption was, by both pilots, that the descent would be adjusted for the proper altitude at KRSTL (the final approach fix). Both pilots missed it. If the flying pilot would have called for the stepdown altitude instead of the MDA, "AND", if the monitoring pilot would have insisted on, or corrected, the altitude selection for the stepdown altitude, the whole altitude deviation situation would have been avoided.

Narrative: 2
Distraction caused by the PITCH TRIM caution message on approach.

While Descending on the RNAV GPS Y to 4L, we began our descent from REPRE at 2,000 feet. And outside of the final approach fix KRSTL we descended below the clouds and proceeded visually to 4L. Shortly after breaking out of the clouds we received a PITCH TRIM Caution message, and with the caution message I noticed the aircraft begin to pitch up. I turned off the autopilot and got the trim under control. The aircraft was always stable. However due to the distraction we noticed that we had descended below 1,500 before KRSTL. We were on the visual approach, so we corrected for the descent using the PAPI. We didn't descend below our minimums at anytime until we established the aircraft on the PAPI. We landed without incident and proceeded to the gate.

**Synopsis**

During the JFK RNAV (GPS) Y RWY 4L, a CRJ900 crew descended below the minimum altitude at the FAF and received a low altitude alert from JFK Tower.