

**ASRS Database Report Set**

**Air Carrier (FAR 121) Flight Crew Fatigue Reports**

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Report Set Description .....A sampling of reports referencing air carrier (FAR 121) flight crew fatigue issues and duty periods.

Update Number .....32

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

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

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

National Aeronautics and  
Space Administration

**Ames Research Center**  
Moffett Field, CA 94035-1000



TH: 262-7

**MEMORANDUM FOR: Recipients of Aviation Safety Reporting System Data**

**SUBJECT: Data Derived from ASRS Reports**

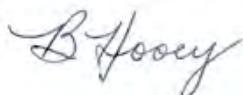
The attached material is furnished pursuant to a request for data from the NASA Aviation Safety Reporting System (ASRS). Recipients of this material are reminded when evaluating these data of the following points.

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

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

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

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

  
Becky L. Hooey, Director  
NASA Aviation Safety Reporting System

## CAVEAT REGARDING USE OF ASRS DATA

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

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

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

# **Report Synopses**

ACN: 2093166 (1 of 50)

### Synopsis

Air carrier Captain reported receiving a terrain alert during descent on visual approach. Captain climbed to safe altitude and continued approach.

ACN: 2083422 (2 of 50)

### Synopsis

B777 flight crew and Dispatcher reported failure of the SATCOM system and loss of engine oil quantity resulted in a diversion.

ACN: 2078449 (3 of 50)

### Synopsis

Air carrier flight crew reported a terrain obstacle alert while descending on the initial approach at night on a visual approach. The crew leveled out, then stabilized late on the approach, and continued the visual approach to landing.

ACN: 2078444 (4 of 50)

### Synopsis

Air carrier pilot crew reported a track deviation, clearance deviation, caution terrain warning and improper loading of the SID in the FMC. The pilots both reported several runway changes and fatigue as contributing.

ACN: 2076486 (5 of 50)

### Synopsis

An Air Carrier Flight Crew reported they descended below glide path on approach and received a low altitude warning from ATC.

ACN: 2069056 (6 of 50)

### Synopsis

Air carrier Captain reported low altitude alert on approach. Flight crew corrected and continued approach.

ACN: 2061250 *(7 of 50)*

### Synopsis

Air carrier pilot reported during push back the tug slid temporarily out of control on an icy ramp. Later on at the deicer pad a deicing truck collided with the aircraft.

ACN: 2060416 *(8 of 50)*

### Synopsis

Embraer 175 crew reported an unstabilized approach at night with below glide slope warnings. The Captain made pitch corrections, then landed safely.

ACN: 2032850 *(9 of 50)*

### Synopsis

B737 Captain reported during departure the pilot flying exceeded allowable bank angle triggering a bank angle warning. Flight crew returned to normal bank.

ACN: 2032683 *(10 of 50)*

### Synopsis

Air carrier B777 flight crew reported lack of response from flying pilot on unstable approach resulted in Pilot Monitoring taking control of the aircraft for a go around and subsequent landing.

ACN: 2029683 *(11 of 50)*

### Synopsis

Airbus 319 Captain reported a malfunction of the parking brake during taxi. The aircraft failed to stop when the parking brake was set. The Captain returned to the gate and the aircraft was taken out of service.

ACN: 2025353 *(12 of 50)*

### Synopsis

Air carrier flight crew reported unreliable airspeed indicator during descent in severe weather. Diverted to alternate airport in VMC and landed uneventfully.

ACN: 2017012 *(13 of 50)*

### Synopsis

CRJ-900 air carrier crew reported a terrain obstacle alert on a visual approach at night when they descended to FAF altitude on a non-published portion of the approach. The flight crew climbed to correct altitude and continued the approach to a landing.

ACN: 2014154 *(14 of 50)*

### Synopsis

B737 flight crew reported experiencing an abrupt pitch down event when engaging the autopilot system, resulting in an immediate return to the departure airport.

ACN: 2008451 *(15 of 50)*

### Synopsis

B737-700 flight crew reported improper clean up sequence during departure climb resulting in momentary aircraft performance issues.

ACN: 2006676 *(16 of 50)*

### Synopsis

Air carrier flight crew reported flying an unstabilized approach on a charted visual approach and elected to continue to land rather than go around.

ACN: 2002849 *(17 of 50)*

### Synopsis

B787 flight crew reported calling out for fatigue after loss of oil pressure in the right engine. The flight crew performed an in flight shut down of the affected engine and diverted to make a precautionary landing.

ACN: 1999496 *(18 of 50)*

## Synopsis

A320 Captain reported a loss of directional control resulted in a rejected takeoff. The flight crew elected to return to the gate for maintenance action and to deplane several passengers who did not want to continue on the flight.

ACN: 1983222 *(19 of 50)*

## Synopsis

B737 Flight Crew reported a suspected Fuel Leak after takeoff. The Flight Crew ran the QRH and checklists and then requested vectors to return to the departure airport. The suspected Fuel Leak continued to worsen, so the Flight Crew requested priority handling and performed an in flight shut down. When complying with the inflight shutdown QRH, it was discovered that the Cross Feed Valve was still open. The flight crew continued to perform an air turn back and precautionary landing at departure airport.

ACN: 1972074 *(20 of 50)*

## Synopsis

B737 flight crew reported after takeoff the elevator control system felt stiff. The pilots elected to divert to a nearby airport for maintenance action. An overweight landing was successfully accomplished.

ACN: 1971851 *(21 of 50)*

## Synopsis

B767 Captain reported uncommanded aircraft movement during push back not noticed by flight crew until advised by ground crew. Captain set the parking brake to stop aircraft movement.

ACN: 1967403 *(22 of 50)*

## Synopsis

Air carrier First Officers reported difficulty locating the correct taxiway to the runway at RCA airport. The pilots stated their EFB does not contain complete airport information, and cited poor taxiway lighting, initial confusing marshaller signals and inadequate help from ATC as additional contributing factors.

ACN: 1966915 *(23 of 50)*

## Synopsis

EMB-170 Flight Crew reported a wind shear event during final approach in turbulent conditions. The Flight Crew executed a successful wind shear recovery procedure which caused momentary airspeed and altitude deviations.

ACN: 1964518 *(24 of 50)*

## Synopsis

B737-700 flight crew reported being issued a line up and wait clearance from the Tower Controller while another air carrier was on short final for the same runway. The flight crew continued across the runway per ATC instructions and the other air carrier executed a go-around.

ACN: 1960483 *(25 of 50)*

## Synopsis

Air Carrier flight crew reported an unstable approach accompanied by a terrain proximity alert during the missed approach. The pilots reported distractions, fatigue and poor weather as contributing to the event.

ACN: 1956915 *(26 of 50)*

## Synopsis

An Air Carrier Captain reported while descending on an approach they received a Ground Proximity Warning and climbed back to the appropriate altitude.

ACN: 1949576 *(27 of 50)*

## Synopsis

EMB175 Flight Crew reported autoflight improperly set resulted in higher rate of descent and a low altitude alert on approach.

ACN: 1948969 *(28 of 50)*

## Synopsis

Air Carrier Captain reported he failed to amend the flight release for added Hazmat prior to departure.

ACN: 1946064 *(29 of 50)*

### Synopsis

A321 pilot reported unstabilized approach.

ACN: 1945726 *(30 of 50)*

### Synopsis

Air carrier flight crew reported critical ground conflict during taxi out for departure, requiring braking to avoid a collision.

ACN: 1942817 *(31 of 50)*

### Synopsis

CRJ-700 flight crew reported receiving an obstacle alert during a night visual approach. After responding accordingly to the alert, the flight crew followed the company approach guidance to a safe landing.

ACN: 1938052 *(32 of 50)*

### Synopsis

Air Carrier flight crew reported receiving an ATC low altitude alert during approach. The flight crew immediately climbed to assigned altitude and continued the approach.

ACN: 1932078 *(33 of 50)*

### Synopsis

Air carrier flight crew reported heavy braking was required to avoid a collision with a truck on their runway at MSLP. The Tower Controller had instructed the truck to exit the runway but the truck failed to do so.

ACN: 1932036 *(34 of 50)*

### Synopsis

B737-700 flight crew reported a track deviation occurred while returning to departure airport following a fuel imbalance issue.

ACN: 1931686 *(35 of 50)*

### Synopsis

B737-700 First Officer reported the flight took off with the pneumatic bleed valves closed, resulting in failure to pressurize. The crew noticed and corrected the error.

ACN: 1928964 *(36 of 50)*

### Synopsis

B737-800 flight crew reported they failed to shut down both engines during their shutdown flow. The crew stated distraction caused by a conflict with a tug contributed to the event. Fatigue was also cited as a factor.

ACN: 1916238 *(37 of 50)*

### Synopsis

CRJ200 flight crew reported multiple issues resulted in an unstable approach that would have required a go around. Instead, the crew continued the landing and were stable by 500 ft AGL.

ACN: 1916153 *(38 of 50)*

### Synopsis

B767 Captain reported numerous delays were caused by mechanical, communications and ground weather. The flight eventually cancelled and the Captain called out fatigued due to the situation.

ACN: 1915224 *(39 of 50)*

### Synopsis

Air carrier Captain and First Officer reported a failure to use SOPs during push back and brake release. The Captain and First Officer failed to communicate and released brakes while the ground crew was still under the aircraft. There were no injuries or equipment contact.

ACN: 1915174 (40 of 50)

### Synopsis

Air Carrier Captain reported a fume event during gate preflight. After assisting maintenance with the engine run ups and maintenance checks which resulted in no improvements the flight was cancelled.

ACN: 1909487 (41 of 50)

### Synopsis

Flight Crew reported a rejected take off was caused by Engine #2 EGT exceedance and returned to the gate for maintenance action.

ACN: 1909015 (42 of 50)

### Synopsis

EMB ERJ 170/175 First Officer reported the failure of MAU 2B in cruise. The Flight Crew made a precautionary landing at destination airport and the aircraft was towed to the gate.

ACN: 1907448 (43 of 50)

### Synopsis

B737 Captain reported as they taxied onto the runway for departure the Captain noticed the First Officer set the flaps to the wrong position and a complete Before Take Off briefing had not been accomplished. The Captain reported the First Officer made many mistakes and lacked proficiency due to being a new student who had not flown for a long period of time.

ACN: 1907134 (44 of 50)

### Synopsis

A321 Captain reported returning to departure airport after the #2 engine overheated in initial climb.

ACN: 1903368 (45 of 50)

### Synopsis

Air carrier flight crew reported the Captain had to suddenly brake to avoid another taxiing aircraft which passed in front of them.

ACN: 1903211 *(46 of 50)*

### Synopsis

First Officer reported a near impact with an adjacent aircraft during pushback after the tug's tow bar snapped.

ACN: 1901910 *(47 of 50)*

### Synopsis

Air carrier Captain reported extreme fatigue due to the company's scheduling and personal activities. The Captain called in fatigued to the company and was removed from flying duties.

ACN: 1900157 *(48 of 50)*

### Synopsis

Air carrier flight crew reported conducting a Category II approach to a runway that was not 5G AMOC approved. The pilots reported fatigue as a probable cause for the error.

ACN: 1895846 *(49 of 50)*

### Synopsis

CRJ900 First Officer reported incorrectly extending flaps instead of the landing gear as well as encountering issues with the EFB software making checklist usage difficult. Corrections were made to the aircraft's configuration prior to 1,000 ft. and a normal landing was completed.

ACN: 1893402 *(50 of 50)*

### Synopsis

B737 MAX 9 flight crew reported being new to this generation aircraft type resulted in landing past touchdown zone.

# **Report Narratives**

ACN: 2093166 (1 of 50)

## Time / Day

Date : 202403  
Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ROA.Airport  
State Reference : VA  
Altitude.MSL.Single Value : 4000

## Aircraft

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

## Person

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Captain  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
Experience.Flight Crew.Type : 3000  
ASRS Report Number.Accession Number : 2093166  
Human Factors : Communication Breakdown  
Human Factors : Fatigue  
Human Factors : Human-Machine Interface  
Human Factors : Situational Awareness  
Human Factors : Training / Qualification  
Human Factors : Distraction  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Inflight Event / Encounter : CFTT / CFIT  
Detector.Automation : Aircraft Terrain Warning  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action  
Result.Flight Crew : Became Reoriented

## Assessments

Contributing Factors / Situations : Environment - Non Weather Related

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

## Narrative: 1

On approach into ROA, while turning base to final for a visual to runway 24, we got a Terrain Terrain aural (in full VMC) while descending out of 4,000 feet to intercept the inbound approach course. I Captain/ pilot flying had briefed in my briefing prior to descent about the company pages note saying not to descend below the lowest ATC cleared altitude until on a published portion of the approach. Due to operational complexity and (in looking back) a pretty fatiguing reserve schedule, I managed to forget to apply that note completely. Tower cleared us for 34, we said we needed 24 for performance reasons. They then cleared us to 5,000 feet and cleared us for the visual. They asked where we were going to turn base for planning for other traffic inbound. We told them we would be turning between HIBAN and PROSE, based on terrain considerations. I should've chosen to intercept outside PROSE based on the company note. I selected 4000 in the alt preselect based on discussion of terrain clearance and NOTAMS with my FO. I set 3700 in the altitude preselect for the inbound intercept and selected 300 fpm for my intercept turn on. Approaching the ridge just prior to course intercept we got Terrain Terrain. I clicked off the autopilot and climbed, FO and I acknowledged that in full VMC we had clearance on the terrain. Turning inbound for the intercept, I asked the FO (PM) to reengage the autopilot. I started down at 800 FPM, and we had to level off momentarily to miss 3 thermalling eagles on final, then I pitched over to get back on profile (acknowledging the change verbally). I touched down on-speed, just past the 1000 footers. I briefed the company notes (terrain considerations, not descending below cleared ATC mins-with care to discuss considerations at HIBAN and WUDAG) on the descent. WUDAG wasn't even on the approach so I added it in as a fix with a 1 mile ring to pay attention to crossing restriction. I did not apply the note correctly in spite of briefing it out loud. FO did not help me remember this either-we were both busy getting newest ATIS, rejecting the initial landing clearance, planning the visual. I was on day 4/4 on my 12th revision to my trip. I was tired, but I'm always tired on day 4, and do not believe I was more tired than normal (still believe that). Think it just got lost in the many changes we were handling on an approach into a new airport for me (FO had been in many times before). I did my math wrong for intercept, and its my responsibility to get that correct. Me thinking that I was cleared for the approach and able to do my own descent planning ran counter to the company note. FO did not contradict me/remember the company notes when I said where I planned to come in for the intercept. It would be helpful to add this to section Y as well, it was section X (and I briefed it), but really its on both of us that it was briefed and not applied correctly.

## Synopsis

Air carrier Captain reported receiving a terrain alert during descent on visual approach. Captain climbed to safe altitude and continued approach.

ACN: 2083422 (2 of 50)

## Time / Day

Date : 202402

Local Time Of Day : 1201-1800

## Place

Locale Reference.ATC Facility : ZZZZ.ARTCC

State Reference : FO

## Environment

Flight Conditions : VMC

## Aircraft

Reference : X

ATC / Advisory.Center : ZZZZ

Aircraft Operator : Air Carrier

Make Model Name : B777-200

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Cargo / Freight / Delivery

Flight Phase : Cruise

Route In Use : Vectors

## Component : 1

Aircraft Component : Communication Systems

Aircraft Reference : X

Problem : Failed

## Component : 2

Aircraft Component : Lubrication Oil

Problem : Failed

## Person : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : First Officer

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

ASRS Report Number.Accession Number : 2083422

Human Factors : Fatigue

Human Factors : Human-Machine Interface

Human Factors : Time Pressure

Human Factors : Troubleshooting

Human Factors : Workload

Human Factors : Communication Breakdown

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

### Person : 2

Location Of Person : Company  
Reporter Organization : Air Carrier  
Function.Dispatch : Dispatcher  
ASRS Report Number.Accession Number : 2083426

### Person : 3

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : Captain  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 2083425  
Human Factors : Workload  
Human Factors : Troubleshooting  
Human Factors : Human-Machine Interface  
Human Factors : Fatigue  
Human Factors : Communication Breakdown  
Human Factors : Time Pressure  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Other

### Events

Anomaly.Aircraft Equipment Problem : Critical  
Detector.Automation : Aircraft Other Automation  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.General : Maintenance Action  
Result.Flight Crew : Landed in Emergency Condition  
Result.Flight Crew : Diverted

### Assessments

Contributing Factors / Situations : Aircraft  
Primary Problem : Aircraft

### Narrative: 1

Aircraft X ZZZZ divert sequence of events: XA:16 block out, XA:32 takeoff, XD:38 oil quantity notification. Oil pressure deteriorated over 30 - 40 minutes. XE:38 approximate fuel jettison. XF:16 block in at ZZZZ. Captain's leg from ZZZZ1 to ZZZZ2. At about XD:38, the secondary engine display popped up on the MFD (Multi-function Flight Display). I first noticed that the right oil quantity was highlighted in a white box showing 3 while the left engine oil quantity showed 18. Oil temp and oil pressure were normal at this time. The crew discussed that this may be a sensor issue with no secondary indications and that we should call Maintenance Control. The crew attempted to make multiple satellite calls. None of the SATCOM calls would go through. Each time the display would read SAT-1 /2 FAIL: CONNECTION. We did not get any EICAS for SATVOICE LOST on any of the attempted

SATCOM calls. While the crew monitored the secondary engine display indications, right oil quantity continued to drop to 0. About 5 minutes after secondary engine display right oil quantity displayed 0, right engine oil pressure started decreasing. First indication, was the right engine oil pressure was 57 psi, while left engine oil pressure was 69 psi. The crew continued to try SATCOM calls to Dispatch and Maintenance Control while they tried to troubleshoot SATCOM with no indication of a malfunction displayed in the EICAS. The crew considered making a phone patch to Dispatch, but the crew could not find HF coverage of this area in the FOM. The crew started discussing divert options in this area. At this point the aircraft was approaching ZZZZ from the southeast. We had just passed a few countries, both which were declined by the crew as good options for a divert. We discussed pressing across [a body of water] to reach a more suitable divert closer to our destination with better security outlook, but with the engine oil pressure decreasing, we felt it was not the best option. We discussed possibly holding over ZZZZ. The crew also identified the potential requirement to jettison gas to normal landing weight prior to a divert into ZZZZ. The crew opened the Loss of Oil Pressure Right Non-normal Checklist to review it in case we had to perform a precautionary shutdown. In an attempt to maintain the right engine oil pressure as long as possible, the Captain elected to exercise Captain's authority and disconnected the right autothrottle and slightly reduced the power to see if the right engine oil pressure would stabilize and stop decreasing. The right engine oil pressure continued to decrease over a period of approximately 30 minutes from 57 psi to 52 psi to 44 psi to 40 psi to 34 psi to 25 psi to 19 psi. Each time the oil pressure would decrease, then stabilize and increase slightly for a couple minutes, then it would decrease again. The crew directed the Jumpseat Loadmaster to the back of the airplane to visually inspect the engine nacelle for visual evidence of the leak. He was not able to visually confirm evidence of an engine oil leak on the right engine. The Captain transferred aircraft control to me while she troubleshooted the SATCOM radios, looked for HF phone patch options, and conducted the radio relay with Aircraft Y. After the crew attempted several more SATCOM calls, the crew contacted Aircraft Y that was slightly ahead of us on a similar route to request a relay to Dispatch via their SATCOM. Aircraft Y relayed our situation of loss of engine oil quantity and decreasing engine oil pressure on the right engine, and intentions to likely divert into ZZZZ to Dispatch, and solicited Dispatch recommendations. We received a response back from Aircraft Y that Dispatch's recommendation was also a divert to ZZZZ. By this point, the aircraft was beginning to coast out over the [body of water]. The crew decided to turn back for a divert into ZZZZ. The Captain had to [advise ATC] to ZZZZ in order to break into very busy radio chatter in order to get ZZZZ Control's attention and receive priority handling. Once the crew turned back toward ZZZZ, ATC cleared them direct to ZZZ [VOR]. With the FO (First Officer) as the pilot flying and the Captain pilot monitoring and the right engine oil pressure in the yellow at 19 - 17 psi, the crew performed the Loss of Oil Pressure Right Checklist as a precautionary shutdown even though there was no EICAS warning. The crew completed the checklist and executed the VNAV Engine Out page and requested a drift-down descent to FL240. The crew also diverted the FMS to ZZZZ. The crew set up the aircraft to jettison fuel to the normal landing weight, approximately 23 - 25K, and received approval from ZZZZ to jettison fuel from ZZZ [VOR]. ATC then changed the approval to jettison fuel from ZZZ [VOR] at approximately FL220. The fuel dumping took about 5 - 6 minutes, and the crew completed the Fuel Jettison Checklist. The Captain requested vectors for the ILS XXC at ZZZZ, and we were told to expect that. ATC at ZZZZ responded that we would be given vectors for ILS XXL. The Captain set up the FMS, briefed the approach, and flaps 20 autoland for ILS XXL at ZZZZ. The Captain briefed via the QRH, including the non-normal landing data. While on vectors, the Captain [requested priority handling] and requested fire truck support on landing. The Captain took the controls back and flew the vectors for the ILS XXL approach. The crew received numerous heading changes and step-downs during vectors for the approach. The crew completed the Approach, and Before Landing

Checklists while on vectors. The Captain executed an uneventful single-engine autoland to Runway XXL at ZZZZ. The wind was 280 at 9 kt. on landing. The Captain cleared the runway at high speed Taxiway 1. After the uneventful landing and roll-out, taxied to the assigned Gate XX. After the crew shut down the remaining engine at the gate and opened the crew door, chaos ensued with [people] and representatives asking numerous questions ranging from what happened and why we were there to what kind of cargo we were carrying. The Captain got on the phone with the Duty Officer to let the company know what had happened since we're unable to make contact via SATCOM, which still was not working on the ground. The Captain was giving the DO (Duty Officer) a situational report as well as determining our reporting requirements. Someone from the ground personnel requested that a crewmember come outside to look at the main gear. Upon arriving at the left main gear, the #5 main gear was smoking. I immediately cleared the area to the side of the gear and requested the authorities contact the fire trucks to respond. I directed that the Fire Department set up cooling fans on the smoking gear. As I went down to find the #5 brake was smoking, the EICAS for brake temperatures annunciated in the flight deck. The Captain sent a representative down to ensure everyone was clear of the hot brakes. The Captain came down, while on the phone with the DO, to check that aircraft was chocked so she could release the brakes. The Fire Department asked us if they could put water on the brakes to cool them. After consulting with Maintenance Control to confirm, we communicated that was not advisable. Two cooling fans were focused on the hot brakes, but the fuse plug melted on #5. The questions from the authorities continued with significant language barriers, i.e., the meaning of corrosive and hazardous cargo, as well as requests for overfly permits, cargo airbills, etc. Calls continued to the DO, Dispatch, and Maintenance Control as we waited for the brakes to cool. Upon completion of answering most of the questions, the Captain powered down the airplane and we deplaned approximately 3 hours after landing. The crew went through Immigration, Customs, and out to the hotel. We met the Company Representative at the hotel. Crew debriefed after checking into the hotel. Cause: The malfunction was a mechanical failure, but both the Captain and I were fatigued due to trip revisions and swapping from night schedule to day schedule with two back-to-back min crew rest periods prior to the flight. Suggestions: The mechanical issue may or may not be preventable based upon what is determined to be the cause of the oil leak. The eventual outcome of a successful divert and single-engine landing was due to experienced pilots working together as team to bring the airplane in safely. Good crew coordination skills and training helped bring a successful result. Malfunctions like this without the ability to coordinate with Dispatch due to communication failure of the SATCOM require the teamwork of two experienced pilots to bring it to a successful conclusion.

#### Narrative: 2

Aircraft right engine oil showing 0 and pressure was decreasing. Crew [advised ATC] but did not take priority. Dumped 25K of fuel... diverted to ZZZZ. I was advised by the crew that [they advised ATC] and dumped fuel only after landing when Captain called Maintenance Control first.

#### Narrative: 3

At XD:38, in cruise FL280, the secondary engine display automatically appeared on the MFD (Multi-Function Display). The FO (First Officer) noticed the right engine oil quantity indication was showing white box "3," which is an extremely low oil quantity. No EICAS indications and oil temperature and pressure were both indicating normal. The FO and I discussed that in light of the lack of other abnormal indications, it might just be a sensor issue. Decided to call Dispatch just in case it wasn't a sensor indication in order to get Maintenance patched in for a preliminary plan, so attempted a SATCOM call. Despite

multiple SATCOM attempts to Dispatch and then Maintenance Control on both SATCOM 1 and 2, was unable to make a successful phone call due to "Fail: Connection" message on SATCOM page. No SATCOM or DATALINK EICAS alerts were displayed. The oil quantity continued to drop to 0 on the secondary engine page. After about 5 minutes of right oil quantity continuing to decrease to 0, the right oil pressure started falling on the secondary engine display. More SATCOM calls to Dispatch and Maintenance Control were attempted, but all attempts were unsuccessful. I then attempted to troubleshoot the SATCOM problem using QRH and the COMM suite "MASTER, MANAGER, SATCOM" but no abnormalities were noted, including NO "no SATCOM link" messages. However, a "SATCOM established" message did exist. As a last ditch attempt to reach the company, I looked for a frequency for an HF phone patch to Dispatch, but none were listed for [the area]. Found plenty for [other areas], but unable to find an applicable frequency in either the manual or the FOM for our area. Discussed possible divert options in the region with the FO (First Officer). When the oil quantity dropped, we were approaching ZZZZ. We actually discussed holding over ZZZZ for a possible divert, but decided to continue our route and continued monitoring and evaluating the situation in case we could make it to our destination or find a more suitable divert airfield. [A few places] were all briefly considered. However in a divert situation, we felt if we could get the airplane to [the location] that would be our best option. In case we needed to shut down the engine, I asked the FO to locate, review, and we discussed the "ENG OIL PRESS R" non-normal ECL - electronic checklist. After some thought and discussion, I decided to exercise Captain's authority in an attempt to stabilize the dropping oil pressure by reducing the thrust on the right engine. The first two steps on the aforementioned checklist are "A/T ARM switch, affected side, confirm OFF" and "thrust lever, affected side, confirm idle." Using the prescribed procedure I selected the R ATS OFF, and reduced thrust marginally on the R engine, not to idle at this time. Fortunately we had a Loadmaster jumpseating with us and I summoned him to the cockpit, explained the situation, and asked if he would go back into the cargo area and see if he could visually identify evidence of an oil leak anywhere on the right cowling or wing. He did not see any evidence of an oil leak from the overwing windows. Meanwhile, I continued to periodically reduce the thrust on the right engine closer to idle in an attempt to slow the oil pressure drop, as the pressure periodically would stabilize a few minutes and then continue a further decrease. This was over 30 - 40 minutes. As things were starting to get critical, in accordance with the FOM recommendation, I chose to transfer aircraft control to the FO. After several more failed SATCOM attempts, FO suggested asking Aircraft Y, who departed ZZZZ1 about 15 minutes in front of us, if they could do a SATCOM relay to Dispatch, to which they agreed. I relayed that we had a 0 oil quantity indication and dropping oil pressure and was considering diverting to ZZZZ. After a few minutes, we received response back from Dispatch via Aircraft Y relay that a divert to ZZZZ was "Dispatch's recommendation." By now we were just about coasting out over [a body of water], with the oil pressure continuing to drop. Attempted to contact ZZZZ Control, who never responded to our calls due to frequency congestion until I called with a [request for priority handling]. I then requested and received a divert to ZZZZ. We were then cleared direct ZZZ [VOR] with a left turn and were about 65 miles north. Once established, we performed a precautionary right engine shutdown using the "ENG OIL PRESS R" non-normal ECL. Oil pressure was in the caution band at 19 psi and the lowest I recall was 17 psi before shutdown. I diverted the FMS to ZZZZ, executed the VNAV engine out page, requested a descent to FL240 - we were cruising at FL280 - and we evaluated the need for a fuel jettison. We determined that we needed to dump approximately 25,000 lb. of fuel to reduce to MAX LNDG GROSS WEIGHT. I then asked ATC permission for a fuel jettison and they directed us to the ZZZ1 [VOR]. ATC then revised their clearance and asked us to intercept the ZZZ [VOR] for the fuel dump. We estimated it would be 7 minutes or so to dump the 25,000 lb. of fuel to get to max gross landing weight. I executed the "FUEL JETTISON" non-normal ECL utilizing the "FUEL TO REMAIN" is acceptable option. The fuel

jettison was completed after 5 or 6 minutes while were descending via ATC instructions from FL240 to FL200. I requested an ILS for Runway XXC, but was told to expect Runway XXL for our landing runway, which was equally as long as [Runway] XXC. I inserted the ILS XXL in the FMS, briefed a flaps 20 - also discussed flaps 30 - autoland and possible go-around, and reviewed the QRH landing data as directed by the previous QRH checklist. I called for the Checklist and took back control of the aircraft as pilot flying, with the FO as pilot monitoring. In the terminal area, we [advised ATC] and requested the assistance of fire trucks on landing. ATC gave us multiple vectors of 10 degrees left and step-down altitudes. Performed normal checklists and callouts as appropriate for the approach, confirmed the runway in sight, and the airplane performed a single engine autoland with CAT III FLARE and ROLLOUT PFD (Primary Flight Display) indications. Airfield wind was 280/9. After landing, disconnected ABS and AFS (Automatic Flight System) and cleared the runway at the exit high speed taxiway. We had a very long taxi over to Gate XX from [Runway] XXL. After being marshaled into the stand, we shut down the left operating engine and performed the doors procedure and Shutdown Checklist and left the APU running as no ground power was available. Immediately after [Door] 1L was open, a number of people came onboard from our handler per Dispatch, as well as others. We were immediate barraged with questions about DGs (Dangerous Goods), overflight clearance, what kind of cargo we were carrying, whether it was a military flight, and so on. Basically utter chaos. I immediately called the DO (Duty Officer) to give and receive a representative and ensure we complied with the Company's required reports. The DO immediately patched a 777 Chief Pilot on the line. While I was fielding questions from them and from the handlers, someone from outside came to ask the FO to go outside and look at the brakes. The #5 brake was smoking and he immediately cleared the area and asked for the fire trucks to be called. He then returned to the cockpit and asked me to come outside and assess the situation and by then, EICAS was indicating a hot brake at 5.5 BTI on the GEAR synoptic page. I was still on the phone, so went outside while on the phone and saw a smoking brake on #5 wheel, while being queried by the 777 Chief Pilot about whether or not an EICAS had appeared before we shut down the engine. I went downstairs to ensure there were chocks installed - no one ever told us they were in place - and returned to the cockpit and released the parking brake. The FO came back and relayed the fire department was asking about using water on the hot brake. I immediately called Maintenance Control to query and was advised conditioned air and or fans were recommended, no water, which I relayed to the FO and the fire department. At some point even though they had two small fans on the brakes, the #5 tire fuse plug melted. After more phone calls to Maintenance Control, Dispatch, and DO, we came up with a plan for write-ups, required reports, securing the airplane, and staying in ZZZZ. I secured the airplane using the "Electrical Power Down" Checklist in the QRH. After securing the aircraft door, I ensured the stairs were removed and the handling agent assured me they would provide security as directed by Dispatch and Corporate Security. Company security, as well as the DO, Dispatch, and Maintenance Control were all completely fantastic. However, Flight Management's interest in getting immediate statements on what happened has been most frustrating as I've had multiple follow-ups with the DO and Maintenance Control to ensure all the write-ups were correct and all the required reports have been accomplished. I hadn't even had a free moment to fully process the event nor debrief with the FO, who did a fantastic job! Cause: Mechanical failure. Also, while fatigue did NOT cause this event, both the FO and I were extremely tired after multiple trip revisions followed by two consecutive minimum crew rests after completely swapping of our schedule in relation to our body clocks from the original planned fight time of the ZZZZ3 - ZZZZ1 preceding live leg. Fatigue contributed to a more methodical, prudent, and thorough analysis of the situation and the actual execution of the divert because we wanted to ensure we had fully considered all options. Mentally, as the situation unfolded while I obviously accepted and understood the situation, it was surreal that it was really happening. Fortunately, training

and experience helped us execute to the highest level with a successful outcome. Suggestions: This is why we spend time in the simulator and why there are two professional pilots on the flight deck. Everything built by humans has a chance of failure. Fortunately, such failures rarely happen. But when it does, nothing can replace training and experience. We used excellent leadership, teamwork, use of resources, pacing, and situational awareness/decision making skills. In regards to the hot brake, perhaps I should have used more reverse on the left engine. However, I was concerned about the asymmetrical thrust, and stopping distance was not an issue. The long taxi time with multiple stops didn't help the brake situation. Because of the right crosswind on landing, the airplane did touch down on the left main truck in a slight crab due to the crosswind, which may have been a contributing factor. The best way to make events like this successful is continued professionalism, training, study, and experience. With all the talk of reduced crew operations, I frankly couldn't imagine handling a scenario like this on my own if only one pilot were on the flight deck. The situation was extremely demanding despite the length of time we had to assess and execute the situation.

## Synopsis

B777 flight crew and Dispatcher reported failure of the SATCOM system and loss of engine oil quantity resulted in a diversion.

ACN: 2078449 (3 of 50)

## Time / Day

Date : 202309  
Local Time Of Day : 0001-0600

## Place

Locale Reference.Airport : CLE.Airport  
State Reference : OH  
Altitude.MSL.Single Value : 400

## Environment

Flight Conditions : VMC  
Light : Night  
Ceiling : CLR

## Aircraft

Reference : X  
ATC / Advisory.Tower : CLE  
Aircraft Operator : Air Carrier  
Make Model Name : Commercial Fixed Wing  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Passenger  
Flight Phase : Initial Approach  
Route In Use : Visual Approach

## Person : 1

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Not Flying  
Function.Flight Crew : First Officer  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
ASRS Report Number.Accession Number : 2078449  
Human Factors : Communication Breakdown  
Human Factors : Fatigue  
Human Factors : Situational Awareness  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Person : 2

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

Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
ASRS Report Number.Accession Number : 2078469  
Human Factors : Situational Awareness  
Human Factors : Communication Breakdown  
Human Factors : Fatigue  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Inflight Event / Encounter : Unstabilized Approach  
Anomaly.Inflight Event / Encounter : CFTT / CFIT  
Detector.Automation : Aircraft Other Automation  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Chart Or Publication  
Contributing Factors / Situations : Environment - Non Weather Related  
Contributing Factors / Situations : Software and Automation  
Contributing Factors / Situations : Procedure  
Contributing Factors / Situations : Human Factors  
Primary Problem : Procedure

## Narrative: 1

After a long day of delays into and out of ZZZ, we were on approach at approximately XA00am for runway 6L into CLE. PIC was PF and I was PM. PF loaded and briefed the ILS 6L. I recall when PF briefed company page taking note of the second caution about unusually low fix altitudes as he read it as I had never seen that before. This was my first flight into CLE with about 160 hours in the plane mostly in the northeast. About 20 nm east of the field approach cleared us for the visual approach to 6L. PF turned us onto a downwind and continued a descent to 3000 that had been previously set from a clearance. He activated vectors to final and began calling for flaps 1, then flaps 2. PF turned right base and in the turn bugged 2000 for the FAF BOEEE and began a descent in FLCH while calling for flaps 3. While manipulating the flaps approach handed me off to tower and I made the appropriate radio calls. While talking to ATC, I believe the combination of the moment resulting from the flaps 3 change while FLCH descent was beginning led to more of a descent rate than expected. PF noticed this, and I believe selected FPA (Flight Path Angle) to adjust descent but the combination of descent rate and proximity to a tower led to an obstacle alert. There are numerous towers around that area. Looking at the track, we were actually on track to intercept around FUZED which has a segment leading up to it with an MSA of 3800 ft. and after a segment with MSA of 2900 ft. due to a tower around FUZED at 1649 ft. which is likely the tower eliciting the caution. I don't think either of us realized we were that far out due to the FMS having vectors to final loaded and degradation in our situational awareness. Once I audibly called "tower straight ahead" and pointed PF disconnected autopilot, reduced the descent rate, leveled off around 2300-2400, and turned further right away from the tower and to intercept final approach course while calling for gear down, flaps 5, speed Vapp, and landing checklist. Tower also at that time offered 6R instead of 6L and PF requested we accept. I queried if PF wanted me to load anything in and he said he was okay to fly visual. As we approached final approach

course I confirmed he was landing on 6R as I was concerned workload and lack of an approach could lead to further problems. He confirmed, and then asked me to load it in for him which I quickly did for lateral and vertical guidance. We were initially around I think a 1 1/4 dots low on GS once loaded in and upon looking outside had I believe 3 red on the VGSI. I called out "low" and PF responded "correcting," and quickly did so requiring no further action. We were configured at 1000 ft. and stable at 500 ft. without any excessive inputs but due to task saturation of loading the approach late I was distracted and missed the 1000 ft. call out and I think due to fatigue made the 500 ft. stable call out late (~400) but was monitoring the approach closely at that point as I recognized our slips in situational awareness on the approach and was ready to call go around if PF had not corrected and maintained lateral and vertical guidance. Suggestions: I need to constantly be vigilant assessing my fitness for duty and not allow external factors to impact my decision. Again, I did think I was FFD (fit for duty) at outset, but in hindsight maybe I wasn't. I am still learning at what point I need to call it. I need to grow in my confidence in speaking up, and challenge any decisions being made or actions requested of me that I think increase risk. I need to be more vigilant reviewing approach charts at unfamiliar airports, and take more time to understand why for example a caution note may be in the company pages. While the caution didn't directly speak to this situation, it could have clued me into looking more closely. Operations might consider adding to the caution note something regarding multiple intermediate segments in unusually close proximity to FAF with significantly higher MSAs due to towers in the area. Scheduling might consider the long-term ramifications of excessive hold times and issues with hotels, and implementing alternate strategies to ensure lower wait times and better assistance to crews during IROPS (Irregular Operations). Again, my responsibility to assess FFD and not let this influence me, but can still subconsciously impact decision making I think.

## Narrative: 2

It was XA00 am and we were on approach into Cleveland cleared visual 6L. We were pretty tired due to the delays and both the FO (First Officer) and I agreed we were tired but focused on the approach. We were on a base to final turn just outside the final approach fix. When we received our visual clearance, we were at 3000 ft. The chart page states that we needed to configure early due to the low terrain. We were at flaps 2 at started descending 2000 ft. As stated we were outside the final approach fix which is at 2000 ft. I selected flaps 3 gear down. At this time the plane started to descend pretty steeply. I TCS'd it and increased power while trying to select altitude to level off. That is when we got a prox terrain caution. I immediately kicked off the autopilot and leveled off and increased power. There didn't seem to be a tower or anything out there that triggered it but we leveled off. ATC didn't say anything either. We think it had to do with the excessive descent rate that triggered the caution as the plane started a pretty steep descent. We continued the approach and received a side step to 6r. The flight concluded without any issues. Looking back the fix before the final showed 2300 ft. We were an out 2500 ft when the caution went off. Looking back, we could have stayed higher on the approach, however I was focused on configuring and making sure we were stable as it was a tight intercept. Fatigue was definitely a large factor to this. As stated we fixed the issue and maintained a safe and stable approach. Next time I will configure once we're established on the approach.

## Synopsis

Air carrier flight crew reported a terrain obstacle alert while descending on the initial approach at night on a visual approach. The crew leveled out, then stabilized late on the approach, and continued the visual approach to landing.

ACN: 2078444 (4 of 50)

## Time / Day

Date : 202309

Local Time Of Day : 1801-2400

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 400

## Environment

Weather Elements / Visibility : Icing

Light : Night

## Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Air Carrier

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

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Nav In Use : GPS

Flight Phase : Climb

Route In Use.SID : ZZZZZ

Airspace.Class B : ZZZ

## Person : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Flying

Function.Flight Crew : First Officer

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

ASRS Report Number.Accession Number : 2078444

Human Factors : Distraction

Human Factors : Fatigue

Human Factors : Time Pressure

Human Factors : Workload

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : Flight Crew

## Person : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier  
Function.Flight Crew : Captain  
Function.Flight Crew : Pilot Not Flying  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
ASRS Report Number.Accession Number : 2078471  
Human Factors : Workload  
Human Factors : Troubleshooting  
Human Factors : Time Pressure  
Human Factors : Physiological - Other  
Human Factors : Fatigue  
Human Factors : Distraction  
Human Factors : Communication Breakdown  
Human Factors : Situational Awareness  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Flight Deck / Cabin / Aircraft Event : Other / Unknown  
Anomaly.Deviation - Track / Heading : All Types  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Deviation / Discrepancy - Procedural : Clearance  
Anomaly.Inflight Event / Encounter : CFTT / CFIT  
Detector.Automation : Aircraft Terrain Warning  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Requested ATC Assistance / Clarification  
Result.Flight Crew : Overrode Automation  
Result.Flight Crew : Became Reoriented  
Result.Air Traffic Control : Issued New Clearance  
Result.Air Traffic Control : Provided Assistance

## Assessments

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

## Narrative: 1

It was the go home leg of a three day trip. I was PF and originally entered the flight plan departing runway XXR and the ZZZZZZ departure. As we taxied to the runway we were cleared to runway XXL instead as a new ATIS was released and construction work began on XXR. While the CA taxied I updated the departure to runway XXL, but in a rush to reset the flight plan I did not re-enter the ZZZZZZ RNAV SID. Once reaching XXL we were cleared for takeoff. On climb out I called FMS NAV at 400 feet and instead of indicating a left turn to 139 degrees the flight director started indicated a right turn direct towards ZZZZZZ intersection farther along our cleared route. As the FD started indicating the right turn we had a brief terrain caution alert and we realized our mistake. The CA advised ATC immediately and they gave us a vector to correct the situation. Fortunately there was no conflicting traffic, we were light and had setup a no flex takeoff making for a rapid climb. Suggestions: Don't ever let yourself feel rushed. Always confirm your flight partner acknowledges changes made in the MCDU. Don't be afraid to call out fatigued.

## Narrative: 2

Departing ZZZ at night, we expected [Runway] XXR for departure, but on taxi out changed to XXL because of construction. I was taxiing and heads up because of the multiple runway crossings while FO changed the runway in the MCDU. I saw XXL as the runway but did not check to see that the SID was still there. It must not have been inputted again. We ran the change items and were ready to line up and wait immediately. During takeoff I was pilot monitoring. The FO called "FMS NAV" at the appropriate time and I selected NAV, however the SID (ZZZZZ off XXL) was not in the box. It should have been a left turn but our course was pointed towards ZZZZZ which was right. The FO began a right turn. I realized something was wrong but not what. I said fly straight and then turn left while I was trying to put the ZZZZZ [SID] in the box. I then checked on with departure and told them we made a mistake but were in a left turn. They gave us a 090 heading to fly and then direct to ZZZZZ1. ATC asked us if we needed assistance. I explained that the SID dropped out and we turned the wrong way. At some point during the confusion we got a GPWS terrain caution "terrain terrain" along with a "appch 2 not avail" EICAS message. It stopped before we could respond, I think as we were turning back left. I don't know how close we were to buildings or terrain. The flight continued without further incident. I need to make sure during a runway change on taxi out that the SID is still entered in the mcdu. It is easy to forget to input again when changing runways, and easy to forget to verify when I'm busy taxiing. Contributing to this was my fatigue. The night before I was reassigned to a deadhead that arrived in ZZZ1 at XA: 30AM. I was sent to 2 different hotels that did not actually have rooms for me, then scheduling told me to take a rideshare to a hotel 25 minutes away and that I had to put it on my own credit card. I did not get into bed until after XD:30AM. I thought I got enough rest but I was most likely stressed and fatigued. In hindsight it might have been prudent for me to call in fatigued.

## Synopsis

Air carrier pilot crew reported a track deviation, clearance deviation, caution terrain warning and improper loading of the SID in the FMC. The pilots both reported several runway changes and fatigue as contributing.

ACN: 2076486 (5 of 50)

## Time / Day

Date : 202401  
Local Time Of Day : 1801-2400

## Place

Locale Reference.Airport : ZZZ.Airport  
State Reference : US  
Altitude.MSL.Single Value : 1700

## Environment

Flight Conditions : VMC  
Light : Night

## Aircraft

Reference : X  
ATC / Advisory.TRACON : ZZZ  
Aircraft Operator : Air Carrier  
Make Model Name : EMB ERJ 170/175 ER/LR  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Passenger  
Flight Phase : Initial Approach  
Airspace.Class C : ZZZ

## Person : 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 : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
ASRS Report Number.Accession Number : 2076486  
Human Factors : Workload  
Human Factors : Human-Machine Interface  
Human Factors : Fatigue  
Human Factors : Situational Awareness  
Human Factors : Confusion  
Human Factors : Distraction

## Person : 2

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

Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 2076487  
Human Factors : Human-Machine Interface  
Human Factors : Fatigue  
Human Factors : Situational Awareness

## Events

Anomaly.Deviation - Altitude : Crossing Restriction Not Met  
Anomaly.Deviation - Altitude : Overshoot  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Deviation / Discrepancy - Procedural : Clearance  
Anomaly.Inflight Event / Encounter : CFTT / CFIT  
Detector.Person : Air Traffic Control  
When Detected : In-flight  
Result.Flight Crew : FLC complied w / Automation / Advisory  
Result.Flight Crew : Requested ATC Assistance / Clarification  
Result.Flight Crew : Became Reoriented  
Result.Air Traffic Control : Issued New Clearance  
Result.Air Traffic Control : Provided Assistance

## Assessments

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

## Narrative: 1

Cleared for the RNAV [Runway] XX cross ZZZZZ (IAF) at 2000 ft. Captain set the altitude bug to 100 ft. and descended in green FLCH with GP armed. We both thought that VNAV was armed and missed the fact that the vertical mode was green. We descended below 2000 ft. to 1700 ft. and quickly corrected back up to 2000 ft. The Captain began correcting when Tower gave us a low altitude warning. Landed uneventfully afterwards. At the time I was focused on ensuring we had the correct approach loaded, as ATC gave us a different IAF that made us reprogram the approach. I should have verified the FMA was set correctly once the FMS was fixed. Being tired after a 12 hour 4 leg day with thunderstorms and a delay was a factor in why this slip up occurred.

## Narrative: 2

Cleared for RNAV [Runway] XX. LNAV engaged, APP armed. Altitude selected to minimums (first mistake). We were in green FLCH when I thought I had engaged VNAV which would have caught our final altitude of 2000 ft. (second mistake). Since we weren't in VNAV the aircraft descended below 2000 ft. We arrested the descent at 1700 ft. and immediately corrected back to 2000 ft. about the time we received a low altitude warning from Tower. After correcting we landed without incident. These mistakes on my part were due entirely to the fact that I was tired after almost 12 hours of duty, four legs of flying, dealing with thunderstorms and other issues. I was not as sharp as I needed to be.

## Synopsis

An Air Carrier Flight Crew reported they descended below glide path on approach and received a low altitude warning from ATC.



ACN: 2069056 (6 of 50)

## Time / Day

Date : 202401  
Local Time Of Day : 0601-1200

## Place

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

## Aircraft

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

## Person

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Captain  
Function.Flight Crew : Pilot Not Flying  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Experience.Flight Crew.Type : 1700  
ASRS Report Number.Accession Number : 2069056  
Human Factors : Situational Awareness  
Human Factors : Time Pressure  
Human Factors : Workload  
Human Factors : Fatigue

## Events

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

## Assessments

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

### Narrative: 1

On flight from ZZZ1 to ZZZ, I was pilot monitoring and the First Officer was pilot flying. The flight went well until the approach. We flew the ZZZZZ arrival with transition to XXL. The weather was perfect. We had flaps set to 20 and ZZZ gave us a left turn for a base. He finished configuring, and I recall telling him to be careful with his airspeed, as he slowed down, he set REF+5 a bit early. ATC asked if we had the airport in sight and we did. They cleared us to turn left to a certain heading and cleared us for the visual approach. We were at 3000ft and close to ZZZZ1. I saw the glide slope go by and we were too high. Things went extremely fast and a lot was going on, I cannot remember very much of what happened in what order. But because he was high, I told the First Officer "I recommend you hand-fly, we are high", so he did. He disconnected the autopilot and flew manually. He might have been in a bit of a turn from the final intercept heading, I am not sure. To avoid him descending too fast, I gave him VS 1000 fpm since we were inside the FAF. Between that and switching to tower/running landing checklist, I was heads down. I looked up and all of a sudden see that he's about to line up with XXR instead of XXL. I told him that, and he was a bit slow to correct, so I momentarily grabbed the yoke and encouraged the left turn. He corrected. Between focusing on the runway alignment outside and still trying to run the checklist, check in with tower, I did not notice he was getting low. We got the "glide slope" aural warning and he corrected. Then ATC also gave us a "low altitude alert" a little bit later, as we were correcting altitude. This all happened very quickly, because I remember being back on glide slope and all being normal between 700 and 500ft AGL. It is beyond me why I did not call for a go-around. It all went so fast, so much happened in such a short amount of time, I don't remember at what altitudes things happened. Our day started really poorly, with a late inbound and isle chair waiting to deplane. We had to move quickly, I tried to slow things down, not to feel rushed. But quickly, I felt pressure to move faster after push, for an inbound mainline that we were blocking. I think it kind of set the tone for the rest of the turn. On another note, I keep getting switched from late nights to early mornings back and forth, and having started very early, my focus was probably not the best. I should have been paying more attention during the localizer capture moment, and when things went wrong, I should have either called for a go-around or taken the controls. We debriefed it once at the gate. I should have asked for a go around. I think I got caught in the moment. I normally have no issues calling for one or executing one. I could have also taken control of the aircraft and done the go-around myself, when I noticed the wrong runway alignment or the glide slope.

### Synopsis

Air carrier Captain reported low altitude alert on approach. Flight crew corrected and continued approach.

ACN: 2061250 (7 of 50)

## Time / Day

Date : 202312

## Place

Locale Reference.Airport : ZZZZ.Airport

State Reference : FO

Altitude.AGL.Single Value : 0

## Environment

Weather Elements / Visibility : Snow

Work Environment Factor : Temperature - Extreme

Light : Dawn

## Aircraft

Reference : X

ATC / Advisory.Ramp : ZZZZ

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

Flight Phase : Taxi

## Component : 1

Aircraft Component : Turbine Engine

Aircraft Reference : X

Problem : Malfunctioning

## Component : 2

Aircraft Component : Tires

Aircraft Reference : X

Problem : Malfunctioning

## Component : 3

Aircraft Component : Hydraulic Fluid

Aircraft Reference : X

Problem : Malfunctioning

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 2061250

Human Factors : Confusion

Human Factors : Fatigue

Human Factors : Situational Awareness

Human Factors : Time Pressure

Human Factors : Workload

## Events

Anomaly.Aircraft Equipment Problem : Less Severe

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Ground Event / Encounter : Loss Of Aircraft Control

Anomaly.Ground Event / Encounter : Ground Equipment Issue

Anomaly.Ground Event / Encounter : Weather / Turbulence

Anomaly.Ground Event / Encounter : Vehicle

Detector.Person : Flight Crew

When Detected : Aircraft In Service At Gate

When Detected : Taxi

Result.General : Flight Cancelled / Delayed

## Assessments

Contributing Factors / Situations : Aircraft

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Weather

Primary Problem : Weather

## Narrative: 1

Prior to this event, operations were normal and rest was managed well on this trip pairing. Today we experienced problem after problem that constantly developed threats that we had to tirelessly mitigate, which caused a great amount of mental exhaustion along with physical. I started the day at XA00 local time to be report for our XB04 local time transport to the airport. While completing my preflight duties, I observed zero items with the aircraft logbook that were of concern or could cause a delay. Upon reaching [the] departure gate, the Gate Agent stated something completely out of the ordinary, which put the Captain and I on alert. The Gate Agent stated "you should do a thorough walk-around because the previous crew from the night before reported a hard landing." I was confused as to why we were hearing this from a Customer Service Representative. Regardless, there was nothing in the logbook, but given the report we had to investigate by contacting Maintenance that then required a maintenance inspection. This station utilizes contract maintenance that is only available after XC00 local time. Due to the snow storm that ZZZZ was experiencing that reported it would take about 30 minutes for contract maintenance to reach our aircraft. Just this started our delay. Upon reaching the aircraft visually, I observed that the flaps were left extended overnight, all tires appeared to have low tire pressure, one of our hydraulics quantities was at Refill (RF), both engines had multiple inches of snow and ice blocking the intakes, as well as both N1 fans being frozen completely and unable to move. While experiencing coordinating more maintenance this required multiple trips to and from the flight deck to the outside of the aircraft in sub-zero temperatures, falling snow, and a snow covered icy ramp. After waiting over 1.5 hours, maintenance was complete, then it took an additional 30 minutes roughly to obtain our Maintenance Release. After this, we were ready to push, but the ground had left and there was not a tug connected to the aircraft that caused even further delay. After some time, we acquired a push that was only able to push about 3/4 of the way due to the tug slipping with the aircraft connected. We set the parking brake as instructed and completed

the push in the position we stopped in. Both engines were then started and given the snow storm conditions, the de ice pad became full which caused us to wait even longer. All of the constant changes and trapping of potential threats was becoming mentally fatiguing. Finally, we were cleared to the de ice pad and expected to then make a normal departure. Towards the end of the final application of anti-ice fluid, ground personnel called us to notify that one of their trucks slowly collided with the aircraft. Due to this, we had to return to the gate for another maintenance inspection. Now we hit the Long Tarmac Delay point, required more fuel, and the Ground Crew took a while to direct us into the gate. At this point, multiple hours had elapsed with high workload. We prepared the aircraft again, pushed back and the tug had to stop again due to braking action. After starting both engines, with the parking brake set, we began to slide on the apron. Due to this, we shut down in position and waited about 20 minutes for snow removal equipment to clear a safe path for us to then taxi to de-ice that added even more time to the multi hour delay. Following this we made a slow taxi across the airport and made a normal departure and operated the flight to ZZZ. By the end of all of this it was my best judgment to call fatigued due to the multiple hours at a high workload.

## Synopsis

Air carrier pilot reported during push back the tug slid temporarily out of control on an icy ramp. Later on at the deicer pad a deicing truck collided with the aircraft.

ACN: 2060416 (8 of 50)

## Time / Day

Date : 202312  
Local Time Of Day : 1801-2400

## Place

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

## Environment

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

## Aircraft

Reference : X  
ATC / Advisory.TRACON : ZZZ  
Aircraft Operator : Air Carrier  
Make Model Name : EMB ERJ 170/175 ER/LR  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Passenger  
Nav In Use.Localizer/Glideslope/ILS : ILS XX  
Flight Phase : Initial Approach  
Airspace.Class B : ZZZ

## Person : 1

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : Captain  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
ASRS Report Number.Accession Number : 2060416  
Human Factors : Communication Breakdown  
Human Factors : Fatigue  
Human Factors : Situational Awareness  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Person : 2

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

Function.Flight Crew : Pilot Not Flying  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
ASRS Report Number.Accession Number : 2060415  
Human Factors : Situational Awareness  
Human Factors : Communication Breakdown  
Human Factors : Distraction  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.ATC Issue : All Types  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Inflight Event / Encounter : Unstabilized Approach  
Anomaly.Inflight Event / Encounter : CFTT / CFIT  
Detector.Automation : Aircraft Terrain Warning  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : FLC complied w / Automation / Advisory

## Assessments

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

## Narrative: 1

For this flight I had accepted an extension of my flight duty period since I had already timed out coming into ZZZ1 from ZZZZ. I had 14 hours of duty time already but when I accepted the extension I assess myself to see if I was fit for duty at that moment and I was feeling fine, therefore I accepted to continue and extend. Now after 2 hours and 20 mins into flight, we were Northeast of the airport on our approach to ZZZ to do the ILS XXL, we were at 3000 ft as assigned and on a heading of 220 to intercept the localizer. Since it was VMC and we had the field insight, ATC cleared us for the visual Runway XXL. The heading that it was giving to us of 220 gave a weird intercept angle right on the FAF ZZZZZ. We noticed we were going to be high by the time we were going to intercept and we were too close to the FAF, so me as the pilot flying decided to finish configuring and start my descent early to 2700 ft to comply for the FAF altitude. As we intercepted the localizer and already being fully configured, I was surprised that the GS never captured so I continued my descent thinking that I was still high and I was basically looking outside as we were in visual conditions at nighttime, but unfortunately I didn't pay close attention to my altitude. Because of this I was 150 ft lower than I should've been between ZZZZZ and the second fix ZZZZZ1 and that is why I wasn't able to capture the glide slope. Naturally, the plane noticed it, and gave us the GPWS aural "Glide slope" twice. That's when I stopped my descent and since it was visual conditions, not in IMC and was confident on my skill to correct and land safely, I stated "continuing". It was a successful landing with no damage to the aircraft or passenger/crew injuries. Suggestions: Because of how long of a day it was for me of work/duty, at the end of the flight I started to feel tired earlier than anticipated, therefore my lack of situational awareness and decision making decreased and unfortunately the event happened. What I could've done to prevent this from happening again was before accepting the extension, I should've assessed myself at that precise moment AND assessed myself on how would my body and mind feel to fly AFTER one,

two, or three hours of flight time has passed. This could've possibly prevented myself to accept the Flight Duty Period (FDP) extension. Also, during the approach and after the GPWS aural came on, I should've done a go-around and try again. My First Officer should've also helped me out in monitoring my altitude and say something about it and that could've also helped prevent me going lower than I should've. I should've also looked inside more at the instruments and trust them since it was nighttime and I was more susceptible of having night optical illusions making me feel that I was higher than I was. Definitely this was a learning experience for both me and the First Officer and this will help us reduce/eliminate the risk of safety.

## Narrative: 2

On Day 0 I was stationed as ready reserve at ZZZ1 from XA: 00pm until XW: 00am. At approximately XF: 30pm, I was notified that I will be working Aircraft X from ZZZ1 to ZZZ. This flight was delayed prior due to a scheduling conflict. After a second crew swap, an inbound flight was assigned to fly Aircraft X. At approximately XI: 40pm the flight had finally departed. During the approach phase of the flight, we transitioned from the "ZZZZZ Arrival" into the Visual Runway XXL approach. As a crew we had briefed the approach and backed up the approach with the ILS. After being vectored to a heading of 220 we were cleared for the "Visual Runway XXL". Upon initiating the turn, the approach mode button was activated. However, the initial heading directed by ATC had brought us slightly past the FAF which didn't allow the plane to capture the glide slope. Since the lower altitude was not reset, the Pilot flying (PF) had false information which caused us to trend 150 ft lower. On short final the plane received two Enhanced Ground Proximity Warning System (EGPWS) alerts. The plane landed without a non-event. Suggestions: The error that I had made as PM was that I didn't make the appropriate callouts on the Flight Mode Annunciator (FMA) at the right times. I could have lessened my distraction by staying inside and providing better guidance to my pilot flying. Ultimately, to correct this error from happening again. I should have been more alert from the altitude deviation and have been more assertive in calling out the deviation. Last but not least I could called for a go-around. From this flight, I have learned plenty lessons and have learned ways to become a better pilot monitor.

## Synopsis

Embraer 175 crew reported an unstabilized approach at night with below glide slope warnings. The Captain made pitch corrections, then landed safely.

ACN: 2032850 (9 of 50)

## Time / Day

Date : 202309

## Place

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

## Environment

Flight Conditions : VMC

## Aircraft

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

## Person

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Captain  
Function.Flight Crew : Pilot Not Flying  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
Experience.Flight Crew.Total : 7  
Experience.Flight Crew.Last 90 Days : 170.8  
Experience.Flight Crew.Type : 1286.97  
ASRS Report Number.Accession Number : 2032850  
Human Factors : Situational Awareness  
Human Factors : Fatigue  
Human Factors : Human-Machine Interface

## Events

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control  
Detector.Automation : Aircraft Other Automation  
When Detected : In-flight  
Result.Flight Crew : Regained Aircraft Control

## Assessments

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

### Narrative: 1

Bank angle. On departure out of ZZZ, Departure control gave us a right turn to heading 360 with the autopilot off. The PF banked to somewhere around 30 degrees and triggered the bank angle GPWS. The PF immediately recovered. Fatigue was a factor on the last leg of a long day.

### Synopsis

B737 Captain reported during departure the pilot flying exceeded allowable bank angle triggering a bank angle warning. Flight crew returned to normal bank.

ACN: 2032683 (10 of 50)

## Time / Day

Date : 202309  
Local Time Of Day : 0601-1200

## Place

Locale Reference.ATC Facility : ZZZZ.Tower  
State Reference : FO

## Environment

Flight Conditions : Marginal  
Weather Elements / Visibility.Other

## Aircraft

Reference : X  
ATC / Advisory.Tower : ZZZZ  
Aircraft Operator : Air Carrier  
Make Model Name : B777-200  
Crew Size.Number Of Crew : 4  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Passenger  
Flight Phase : Final Approach

## Component

Aircraft Component : Autothrottle/Speed Control  
Aircraft Reference : X  
Problem : Improperly Operated

## Person : 1

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Relief Pilot  
Function.Flight Crew : First Officer  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
ASRS Report Number.Accession Number : 2032683  
Human Factors : Confusion  
Human Factors : Fatigue  
Human Factors : Situational Awareness  
Human Factors : Time Pressure  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Person : 2

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Relief Pilot  
Function.Flight Crew : First Officer  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 2032684  
Human Factors : Time Pressure  
Human Factors : Situational Awareness  
Human Factors : Fatigue  
Human Factors : Confusion  
Human Factors : Communication Breakdown  
Human Factors : Physiological - Other  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Aircraft Equipment Problem : Critical  
Anomaly.Flight Deck / Cabin / Aircraft Event : Other / Unknown  
Anomaly.Deviation - Speed : All Types  
Anomaly.Deviation - Track / Heading : All Types  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Inflight Event / Encounter : Unstabilized Approach  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Overcame Equipment Problem  
Result.Flight Crew : Executed Go Around / Missed Approach

## Assessments

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

## Narrative: 1

I was the RFO (Relief Flight Officer) in the center seat. The Captain was PF (Pilot Flying) and FO (First Officer) was PM (Pilot Monitoring). We were slightly high on base during vectors. PM stated "Captain we will need boards and flaps to get down". PF complied. We intercepted LOC and PM called it out. However, we never captured GS. As RFO I articulated "we are high, no GS" this was echoed by RFO2 stating "you're in ALT". The PM was also aware and told the Captain "if we are not going to be stable at 1k, we will need to go around." PF said "ok" and with AP (Autopilot) already off, decreased pitch slightly as an attempted capture GS. At that point no action was taken for several seconds except that slight descent and we were well above GS unable to make a safe landing (4 white PAPI and well above GS). The PM directed a go around around moments later at 1300ft. TOGA was not pushed and no words were spoken by PF. But the aircraft pitched up as Captain flying said something quietly. At this point the PM noticed the PF seemed to be low SA (Situational Awareness) after making callouts for the Captain that he missed. A moment later the FO stated "I have the aircraft" and started to execute the go around. This was the right call since we had hardly climbed and there were no commands from the Captain. I began filling in additional missed call outs as well as the FO. No thrust set call

was made because TOGA had not been pushed. The FO was now doing double duty essentially. I did not see the thrust ref FMA or magenta reference on n1, so I began to fixate on the throttle position and speed. We got slow and I said "we are slow, add power." The FO turned off FDs at some point. A few seconds later RFO 2 said set climb attitude since the aircraft was now at 5NL. Next, we worked as a team to confirm heading and ALT by ATC. I noticed we were off and told FO " 20 right for heading." He has his hands full from the non standard go around, but immediately corrected the heading deviation. The Captain wanted to fly but we agreed the FO keep the aircraft and make the landing. At some point TOGA was pushed. The Captain believes he hit it at some point he admitted in debrief. I don't know when, but I believe this is what caused the 5NL attitude because of when we expected the go around and what we had set in the MCP. That is why I believe the FO had to turn off the FDs. Cause: Breakdown in crew communication (captain to FO) Solution: Brief go around procedures.

## Narrative: 2

Captain and FO (First Officer) had the last rest. The other RFO and I swapped out with the flying crew to go change in the supernumerary at approximately top of descent, after having briefed the change over. We had loaded the ZZZZZ arrival and ILS YYR. The other RFO and I returned to the flying crew half way down the arrival. The FO mentioned a runway change back to XXL. On vectors to final and descending through approximate 8-10000, the FO verbalized to the CA (Captain) that we were high and suggest speed brakes to help descend. The CA was noticeably flustered, nervous, and seemed to shake slightly. We were at about 4,000 ft. on a base leg for about a 7-8 NM final. The CA disconnected the AP (Autopilot) and continued a descent to join final and cross the final approach fix a few hundred feet high. The vertical FMA went to ALT and the CA leveled at 1,800 ft. We were at 3 white and a red on the PAPI, but leveling at 1800 ft. resulted in the G/S indicator rapidly indicating we were again high. I announced that "we are in ALT mode and not descending". The CA again initiated a descent. The FO at that time announced "if we are not stable by 1,000 ft., we are going around." At 1,300 ft. and still high/unstable, the FO announced "let's go around." The CA mostly leveled the airplane, but I did not notice the TO/GA button pushed and 10-15 seconds into the GA (Go Around), we were not climbing significantly. The FO was coaching the CA through GA call outs to get the aircraft flight path under control, getting flaps to 20 and calling positive rate. Without significant response by the CA, the FO declared, "I have the airplane" and took the controls. The FO had his hands full with a slow airplane from being level at 1,300 ft. The other RFO called "Push the throttle up!" The CA may have pushed the TOGA button after the FO took the controls, causing more confusion. At the same time I noticed our attitude 5 deg nose low and banked slightly left. I called "Set a climb attitude!" And the FO immediately pitched to resume a climb. The Tower assigned a climb to 4,000 ft. Our heading on departed drifted left 15-20 degree, the other RFO called this out for a correction, and the FO corrected. After stabilizing at 4,000 ft., I called for getting the AP on and in proper FMA's, which the FO did. Approach gave us vectors for the approach. On downwind, the CA said "Okay, I'll take the airplane back." The FO stated "I think I should take this landing." The CA did not argue the point. The FO made an uneventful landing and the CA taxied back to the gate. Cause: The captain had mentioned he had not slept well on the flight and had not eaten much on the flight. It's possible that or some other medical issue could have played a factor in this crew member's breakdown in performance. He didn't seem the same as he was on departure. Solution: Good CRM can bring things back under control when things get undesirable in the flight deck. Sim training for go around at 1,000 ft. would be a huge help to the pilot group. We are most likely to GA at or above 1,000 ft. and those becoming a handful quickly.

## Synopsis

Air carrier B777 flight crew reported lack of response from flying pilot on unstable approach resulted in Pilot Monitoring taking control of the aircraft for a go around and subsequent landing.

ACN: 2029683 (11 of 50)

## Time / Day

Date : 202308  
Local Time Of Day : 0601-1200

## Place

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

## Aircraft

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

## Component

Aircraft Component : Parking Brake  
Aircraft Reference : X  
Problem : Malfunctioning

## Person

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Captain  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
ASRS Report Number.Accession Number : 2029683  
Human Factors : Troubleshooting  
Human Factors : Situational Awareness  
Human Factors : Communication Breakdown  
Human Factors : Fatigue  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Aircraft Equipment Problem : Critical  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Detector.Automation : Aircraft Other Automation  
Detector.Person : Flight Crew  
When Detected : Taxi  
Result.General : Maintenance Action

Result.General : Flight Cancelled / Delayed

Result.Flight Crew : Returned To Gate

## Assessments

Contributing Factors / Situations : Aircraft

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Procedure

Primary Problem : Aircraft

## Narrative: 1

Pushed out and got an ADR2 fault. Reset off gate with maintenance control. Continued taxi. Number X for Runway XXR, I set the parking brake and watched the triple indicator cycle. Looked at FO (First Officer) and felt the jet lurch forward and stop at slow speed. I check parking brake and ECAM. I then cycled the parking brake a few times and noticed that the time from my actuation of the switch to parking brake on ECAM was 8 seconds (about 4 times longer than usual). I repeated this several times and opted to return to a gate for maintenance to evaluate. I requested a tow in as I was unsure if the entire brake system was compromised and in their interest of safety went with the most conservative course of action. We blocked in and were met by three technicians and a supervisor. I was able duplicate the gripe for all of them. The jet was taken out of service. I have no theories as to why this happened. I do know that my poor night's sleep and fatigue level caused me to be slower to notice the trend in regards to a creep forward of the jet after the parking brake switch was engaged but prior to the actuators grabbing. I have filed a fatigue report as I called in fatigued after gate return. I do not have a solution or way to mitigate this type of systems failure.

## Synopsis

Airbus 319 Captain reported a malfunction of the parking brake during taxi. The aircraft failed to stop when the parking brake was set. The Captain returned to the gate and the aircraft was taken out of service.

ACN: 2025353 (12 of 50)

## Time / Day

Date : 202308

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 15000

## Environment

Flight Conditions : IMC

Weather Elements / Visibility : Turbulence

Weather Elements / Visibility : Icing

## Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : MD-11

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Mission : Cargo / Freight / Delivery

Flight Phase : Descent

Airspace.Class E : ZZZ

## Component

Aircraft Component : Pitot-Static System

Aircraft Reference : X

Problem : Malfunctioning

## Person : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Not Flying

Function.Flight Crew : First Officer

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

ASRS Report Number.Accession Number : 2025353

Human Factors : Workload

Human Factors : Training / Qualification

Human Factors : Human-Machine Interface

Human Factors : Troubleshooting

Human Factors : Confusion

Human Factors : Fatigue

## Person : 2

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : Captain  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
ASRS Report Number.Accession Number : 2025035  
Human Factors : Situational Awareness

## Events

Anomaly.Aircraft Equipment Problem : Critical  
Anomaly.Inflight Event / Encounter : Weather / Turbulence  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Diverted  
Result.Flight Crew : Overcame Equipment Problem

## Assessments

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

## Narrative: 1

On Descent into ZZZ on our 6 hour ZZZ1-ZZZ flight, Captain's airspeed became unreliable causing multiple systems to fail. Due to severe weather at ZZZ airport our arrival was changed by ATC while we were already on it descending through 15000 feet with intended ILS approach to runway XXR. During this change the Captain's Airspeed Indicator failure occurred. Captain flying, I (First Officer) executed QRH for Airspeed Unreliable. After failing to restore captain's airspeed indicator we diverted to ZZZ2 where the weather was VMC. Executed ILS approach in visual conditions to runway XXL, landed and taxied to parking where maintenance determined that there was significant water in the Captains pitot-static system. On descent into ZZZ we were assigned the ZZZZZ RNAV arrival and rwy XXR. We setup and briefed an approach to that runway via that arrival. Captain entered ILS XXL in secondary flight plan. We had been tracking a major weather system that was moving West to East and that was forecast to be over ZZZ at the time of our arrival. We had briefed this weather prior to the flight and noted our alternate fuel plus 10000 lbs contingency gave us options even beyond our filed alternate of ZZZ2. Captain suggested ZZZ3, for example. Also, this plane had autoland -MEL'd., so we were even more prepared to divert if conditions required. During the last hour of flight we skirted severe turbulence and precipitation that was associated with this weather system, and at top of descent we planned for an anti-ice on descent through the weather, which was now painting large swaths of yellow and red, between us and the field, with some magenta on the weather radar display. During our initial descent we were advised of heavy precipitation on the arrival and asked if we needed a deviation. We declined at that time. Further into the descent (approximately 30 miles from the field and descending through 15000 feet, we observed large areas of red between us and the field. The controller suggested that previous aircraft had changed from the ZZZZZ or other arrivals to the ZZZZZ1 RNAV arrival. We asked for that and were assigned direct ZZZZZ2. We put ZZZZZ2 in the fix page and Captain turned towards it. We were advised we could divert as

far left of our track to ZZZZ2 as was required to avoid weather, so Captain chose a heading to the North and East of the weather that kept us clear of the red areas on our radar display. As I was head down programming the arrival, the autopilot disconnected. I looked up and observed several amber Level 2 alerts on the system display. Select Elevator Feel Manual, etc. I had not completed the reroute, so prior to acting on the alerts I inserted direct ZZZZ2 in the Control Display Panel. At that point I was not aware of the unreliable airspeed. I pulled out the QRH and began looking at flight control checklists when Captain said "Airspeed Unreliable." I turned to that checklist and began reading and acting on it. As we did that we entered some light to moderate turbulence. We were advised that the ZZZZ1 arrival was not available to us. I [advised ATC] that we had some failed instruments. They queried if we were [requesting priority handling] and needed assistance. I said "negative, just advisory, we have a failed airspeed indicator." We were assigned 10000 feet, and we descended and maintained that altitude with Captain flying. I worked through the Airspeed Unreliable checklist, but omitted an important step that would have restored the captain's instrument display. The captain asked for me to ask for a left 360, present position to give us time to work through the checklist. The radio was quite busy, and I was unable to make this request before the captain looked left (East) towards ZZZ2 and observed VMC conditions to the horizon. Captain asked to proceed to ZZZ2, and advised ATC that we were required to maintain VFR conditions and requested direct to ZZZ2. There were many other planes in the ZZZ vicinity, and the weather was changing rapidly and unpredictably, with runway assignments changing as well. We turned towards ZZZ2, asked for direct ZZZZ3 on the ILS XXL approach, executed the approach and landing, and taxied to the gate. As the PM it was my duty to accurately execute the QRH. I omitted a critical step on page X of the QRH. This would have restored the captain's instruments and allowed us to proceed to our filed destination. I believe I followed the wrong thread, or I confused the Static Air Switch items on pages Y and X. I was task saturated with ATC, helping captain maintain a course and airspeed, and with reading the checklist. My own inexperience with the plane was a factor, as well. In the moment, the following were contributing factors (in no particular order): (1) the startle factor. I believe that the Captain thought I had disengaged the autopilot somehow. Because, very coincidentally, as I was reprogramming the arrival, his airspeed indication failed. (2) We were pre-determined to divert to ZZZ2 based on our knowledge of the incoming weather. (3) I am new to the airplane and my systems knowledge is not completely consolidated. (4) I was not assertive enough: I should have asserted that I take the controls so that the captain could review my QRH work. (5) The Airspeed Unreliable checklist is very long with many branches that require the pilot monitoring to effectively render the flying pilot as a "single pilot", man-handling a defective airplane with ambiguous instruments, in IMC, while the PM chases wordy and complex decision threads with many wordy notes and references to rarely used switches. (6) Our aircraft does not have AUX CADC switch(es) installed. So that portion of the checklist that refers to them is a time-consuming distraction. (7) Negative training in the sim: At my airline and at previous carriers that I recently flew at, we were never allowed to restore the inoperative system until we had executed the memory item: 4/10 degrees pitch up, 90% N1, etc. Often the exercise was terminated prior to successful restoration of the instruments, leaving me with an ambiguity as to how the situation would resolve. (8) Fatigue. We started work at XA:00 and this was 7 hours after that. (9) rapidly changing ATC instructions when we were already task saturated with maintaining the flight path and completing the QRH. (10) Weather. It appeared to be deteriorating from bad to worse. (11) This plane had autoland -MEL'd., so we were already prepared to divert if conditions required. Suggestions: (1) Captains should delegate flying to the FO when situation awareness and systems knowledge are critical to the outcome of the flight. (2) The QRH checklists with multiple threads / decision trees should be color coded. Each thread/ branch with its own color. Important steps should be in bold to separate them from the

various notes that are relevant, but not essential to the safe outcome of the flight. Diverting to ZZZ2 was an avoidable consequence, my inexperience, combined with the other major factors noted above resulted in the diversion. On the other hand, in the moment, we justifiably concluded that it was the safest course to proceed to our filed alternate, which was not far away. I did not advocate further troubleshooting for the reasons discussed above: (1) much traffic in ZZZ airspace, (2) deteriorating weather, (3) ambiguous system failure, (4) QRH directive to maintain VMC, (5) captain's very justifiable decision to divert to our previously briefed, nearby filed alternate. (1) Instrument failure due to water in the pitot static system. (2) Incorrect application/ execution of QRH resulting in avoidable diversion. (3) Overly complex QRH procedure requiring too much attention from crew to execute correctly and in a timely manner when faced with other primary attention requirements (flight path/ weather/ ATC).

## Narrative: 2

On descent to 10,000 feet, passing approximately 16000 ft, the F/O (First Officer) (PM) was heads down inputting our second cleared arrival for ZZZ. The auto pilot clicked off. The Captain (Pilot Flying) attempted to re engage the auto pilot to no avail. It was then I noticed the IAS (airspeed comparison alert) and scanned my airspeed, the standby and the FO's airspeeds, noticing that mine was 20-25 knots slower than the other two. The FO was done with the arrival and looking up to get situated again (he's been on the line for about X months). I called for the Airspeed Unreliable checklist, which with everything going on he didn't hear right away. He opened his QRH and started to go into the checklist for some of the alerts that were being displayed. I ran the first 4 steps of the checklist (as displayed) and then again got his attention and directed him to the proper checklist. That checklist is very convoluted just reading it in the crew room later, but with the arrival, weather, and inexperience in the plane, he missed some steps on the checklist. One of the notes in the checklist was to if possible find VMC. Looking east, towards our alternate of ZZZ2, it was VMC the whole way, so with the nasty weather still in ZZZ, we decided to proceed to the alternate. Somehow the Captain's pitot static system had water introduced into it which affected the system. I've flown through heavy rain plenty of times before and not had this happen. And we flew normally for the first 5 1/2 hours of the flight. It was a normal descent, but somehow under that descent angle, that heavy rain, and those winds, the water got into the Captain's system. I don't know that the water in the system could have been prevented, but the mis read checklist could have been prevented by me giving the plane to the FO to fly, while I, with more experience in the plane, accomplished the checklist.

## Synopsis

Air carrier flight crew reported unreliable airspeed indicator during descent in severe weather. Diverted to alternate airport in VMC and landed uneventfully.

ACN: 2017012 (13 of 50)

## Time / Day

Date : 202307  
Local Time Of Day : 1801-2400

## Place

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

## Environment

Flight Conditions : VMC  
Weather Elements / Visibility : Thunderstorm  
Light : Night

## Aircraft

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

## Person : 1

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Captain  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 2017012  
Human Factors : Confusion  
Human Factors : Fatigue  
Human Factors : Situational Awareness  
Human Factors : Time Pressure  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Person : 2

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

Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 2017013  
Human Factors : Situational Awareness  
Human Factors : Fatigue  
Human Factors : Confusion  
Human Factors : Time Pressure

## Events

Anomaly.ATC Issue : All Types  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Inflight Event / Encounter : Unstabilized Approach  
Anomaly.Inflight Event / Encounter : Weather / Turbulence  
Anomaly.Inflight Event / Encounter : CFTT / CFIT  
Detector.Automation : Aircraft Terrain Warning  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : FLC complied w / Automation / Advisory

## Assessments

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

## Narrative: 1

On Day 0, at approximately XA:50 we were in a right base for the visual approach to Runway XX into ZZZ. Due to heavy thunderstorm activity, just off to the north end of the approach course we briefed the approach deciding that we were going to intercept the approach course inside the final approach fix. We were clear down to 3,000 feet initially been told cleared for the visual. Then the First Officer (FO) and I determined if we went down to 2,000 feet, it would keep us clear of the weather after the north, and at the correct altitude inside the marker for a stable approach. As the Pilot Monitoring (PM) I asked the Tower If we could come down to 2,000 feet and he said that we could that there was no obstacles or terrain. We were visual, so I could see there was nothing between us, and where we were going to intercept. As we leveled off at 2,000 feet shortly after that, we received a caution obstacle and climbed slightly for situational awareness and due to our training. I went back and reviewed the VFR low altitude charts. There were a couple of towers, but they were off to the north of us. There was a much smaller tower in front of us, but we were well above it to my understanding. We continued and shot the approach landing without further incident. Suggestions - Moving forward I will stay at the altitude until we are established inbound on the final approach course. I believe the weather caused us to deviate slightly to ensure a safe approach. Other factors that played out here was fatigue setting in from a very long day after commuting.

## Narrative: 2

Operating Aircraft X ZZZ1-ZZZ Day 0. I was Pilot Flying (PF). Coming into ZZZ just before nightfall, we were worried about a line of severe storms just north of the FAF for the RNAV XX. With the crossing runway closure, we would have to fly north of the field towards the storm line, then turn south for the approach. Conditions were visual with ~12 kts winds out of the southeast. When about 5 miles WNW of the field, we decided to intercept the

final approach course by pointing the aircraft at the FAF and then turning final just inside of it. We had already been cleared the visual, and ATC had last instructed us to maintain 3,100 ft. We decided to descend in order to ensure that we were properly stable and did not wind up high when turning final. We checked our approach charts and saw no obstacles charted between our location and the final approach course. We also did not see any obstacles visually. I had terrain mode on my side and it appeared safe on the MFD. We then asked ZZZ tower if there were any uncharted obstacles and if it was safe to descend to 2,000 ft. at our current location. He said that was safe and reiterated that we were cleared the visual. Upon reaching 2,000 ft., we received an obstacle caution. I immediately disconnected the autopilot and climbed back to 3,100 ft. The landing and approach from that point on was normal. Cause - This was classic get-there-it is on my part. The desire to maintain distance from the storm created an external pressure to get in to ZZZ before the storm arrived at the field and led to a poor decision on my part to descend. While we did check with ATC to ensure what we were doing provided adequate obstacle clearance, we should have stayed at 3,000 ft. until intercepting the final approach course. An additional factor that was not a cause but certainly did not contribute to good decision-making was that it was leg 4 at XA:30 and the van the day before in ZZZ2 departed at XB:00, so there was certainly some minor fatigue, although I did not feel that it impaired my flying abilities in any way that was unsafe. Suggestions - I'm not sure there is any further training that could be done to prevent this from happening. It just boils down to a poor decision on my part due to external pressures. The flight was already delayed due to a plane swap in ZZZ1 after the radar altimeter glitched on the previous leg in from ZZZ3. With storms rolling into the route, we were forced to pick our way through the storms and race along the front side of them into ZZZ. The flight would have been uneventful but for the decision to descend early when intercepting the approach, and after the caution was received, we reacted promptly and correctly, then debriefed it on the ground.

## Synopsis

CRJ-900 air carrier crew reported a terrain obstacle alert on a visual approach at night when they descended to FAF altitude on a non-published portion of the approach. The flight crew climbed to correct altitude and continued the approach to a landing.

ACN: 2014154 (14 of 50)

## Time / Day

Date : 202307  
Local Time Of Day : 1801-2400

## Place

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

## Environment

Flight Conditions : VMC

## Aircraft

Reference : X  
ATC / Advisory.TRACON : ZZZ  
Aircraft Operator : Air Carrier  
Make Model Name : 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 : Autoflight System  
Aircraft Reference : X  
Problem : Malfunctioning

## Person : 1

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Not Flying  
Function.Flight Crew : First Officer  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Experience.Flight Crew.Last 90 Days : 171  
Experience.Flight Crew.Type : 906  
ASRS Report Number.Accession Number : 2014154  
Human Factors : Fatigue

## Person : 2

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

Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Experience.Flight Crew.Last 90 Days : 170  
Experience.Flight Crew.Type : 3800  
ASRS Report Number.Accession Number : 2014176  
Human Factors : Fatigue

## Events

Anomaly.Aircraft Equipment Problem : Critical  
Anomaly.Deviation / Discrepancy - Procedural : Clearance  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Returned To Departure Airport  
Result.Flight Crew : Landed in Emergency Condition  
Result.Air Traffic Control : Issued New Clearance

## Assessments

Contributing Factors / Situations : Aircraft  
Primary Problem : Aircraft

## Narrative: 1

Today was an incredibly long day. I had just finished a two-day the previous day out of ZZZ, where we were delayed getting back into ZZZ by almost 5 hours due to weather. So I was hoping for a simple day trip to ZZZZ today. That simply was not the case. I arrived at the airport for our report time at XA:50. I was able to meet with the CA (Captain) and discuss the upcoming day and flight. We met the previous crew of our aircraft on the jet bridge who went into great detail about the current MEL items on that specific aircraft. After discussing the situation with the crew and Dispatch, the CA and I both felt that it was the best course to not take this aircraft to ZZZZ due to the MEL items on the aircraft. We then waited another 3 or so hours for the next aircraft to become available. The CA and I boarded the new aircraft to find that there was an inbound write-up on the aircraft in regards to the brake pressure accumulator not being able to hold pressure and had lost about 800 psi in about 30 minutes. Maintenance personnel then boarded that flight and performed a test on the aircraft to see what the issue was and if it could be deferred or if the issue was more complex. The test took roughly 45 minutes to see if the brake pressure would hold or not. Maintenance informed the CA and I that the aircraft did not pass the test and would need to be taken out of service. The time now is roughly XG:30. The CA and I have been at the airport roughly 6 hours and are now looking for our 3rd aircraft to take to ZZZZ. However duty period was now an issue. We later received a phone call from Scheduling who informed us that we will now be going to ZZZ1 because we would not be legal to operate the previous flight to ZZZZ and back to ZZZ2. The CA and I again boarded our new flight to ZZZ1. We got everything ready to only have the Ramp close for about 30 minutes due to the storms in the area. Once the storms cleared we were able to push back from gate. However, due to the construction behind the gate, the Tow Driver needed to tow us in a specific area to clear the construction. We informed the driver of where to go but he was very confused and it was clear that he may not have gotten the proper training for towing in this area with the construction. Due to this confusion we ended up breaking the shear pin on the push. So we had to get Maintenance to come out and verify everything was ok before continuing on with the pushback. Once given the ok to go from Maintenance, we were able to push back to the proper area and

commence the flight. The time now is roughly XJ:15 and we were on our way for departure after 8.5 hours of delays and changes. There were still so many storms in the direction of which we were going but ZZZ2 was clear. We departed with no issues. We performed the after-takeoff check and continued our climb to 10,000 ft. It was around 8,000 ft. that the CA decided to put the autopilot on by pressing Command A. The autopilot engaged. I was the pilot monitoring and received a clearance to continue climb to 18,000 ft. At that moment within 30 - 60 seconds of the autopilot being on, there was a sudden violent jolt and pitch down of the aircraft. The autopilot remained engaged. The CA and I looked at each other trying to understand what just happened. The aircraft then did the same jolt and pitch down. The CA then clicked off the autopilot. We told ATC that we want to remain at 10,000 ft. and that we had a flight control issue. The CA and I then tried Command B autopilot. It appeared to be working normally. We then tried Command A autopilot and again within 30 - 60 seconds the jolt and nose down pitch occurred. We then saw the stab out of trim light appear. We ran through the checklist and decided that it was best to go back to ZZZ2 at that time. We advised ATC and got vectors back to ZZZ2. We notified Dispatch, the FAs (Flight Attendant), and customers. We did a great job using CRM to really divide and conquer at this time. We would meet back and regroup with each other. We ran the overweight checklist and proceeded to land at ZZZ2 with no issues. ARFF (Airport Rescue and Firefighting) verified the aircraft was ok on the taxiway before proceeding to the gate.

## Narrative: 2

Our showtime for the original pairing was XA:50. We were assigned an aircraft that was removed from ETOPS operations due to an APU issue. I discussed this with Dispatch and requested either an airplane with an APU that was not degraded and certified to operate over water or in ETOPS or a route of flight that was mainly over land and closer to acceptable divert airports. Even though this flight was not ETOPS I do not operate our aircraft over water more than a distance that would provide for a safe and quick diversion in the event of system failures. The Dispatcher agreed to re-route our flight. Soon after discussing this aircraft and flight plan, we were assigned another aircraft. We were not told why this decision was made. The next aircraft was wrought with even more serious issues. In addition to having a cowl anti-ice valve wired in the open position, which required reference to flight manual procedures and information, it led to another MEL item that further complicated the flight crew duties including more referencing of the flight manual and MEL procedures. Bleed air and minimum power settings, as well as split throttle positions, on an approach are serious systems that require lots of attention. Had this flight been further complicated by other system failures not anticipated, we would have been up against an enormous amount of work just to get the aircraft on the ground safely. In addition to that, there were numerous areas of thunderstorm activity on and around our route of flight. We refused the aircraft. The next aircraft they gave us came in with a write-up of brake accumulator pressure bleeding down rapidly while parked. AMTs performed a required test on the brake system and it failed. This evolution took about an hour and further delayed our operation and the aircraft was eventually taken out of service. Following this evolution, the crew desk advised us that we would not be able to complete our one-day trip without going over our Part 117 limits of a 14-hour duty day. Thus, as is allowed by the [agreement] for irregular operations, we were reassigned to a two-day trip that was about to depart. That crew was reassigned to take our two-leg turn to ZZZZ. We spoke briefly with the swap crew on the jet bridge and began setting up the cockpit for our one-leg, first-day flight to ZZZ. The second day would have us flying a leg ZZZ - ZZZ1 followed by a deadhead back to ZZZ2, flying into our day off. This was the first time we had released the parking brake on what was a very long day. During the pushback, we received instructions to position the aircraft away from construction on the ramp with the jet facing north toward the concourse. The push crew was not familiar with

these instructions and had not been trained on the pushback necessary for the construction being done south of the concourse on Taxiway 1. The Tug Driver removed the tow bar pin after we set the brake, but the Ramp Controller informed us that we were not positioned correctly. We then had the Tug Driver hook up the tow bar again to reposition us correctly. This led to the shear pin being broken when the tow bar was reattached and we released the parking brake for repositioning. Following SOP, we were informed that the nose gear had to be inspected. The ground crew then reattached another tow bar and repositioned the aircraft at the gate and station maintenance personnel performed a successful inspection. We pushed back successfully and taxied for takeoff on Runway XX at ZZZ2. After an uneventful departure, we were climbing through about 8,000 ft. to level off at our assigned altitude of 10,000 ft. I engaged autopilot A/CMD and we experienced an abrupt jolt of the control column followed by two more. I immediately disengaged the autopilot and we began to look for an indication of any system malfunction. There were no abnormal signs or indications, including hydraulic pressure or fluid. We discussed the possibility that we had flown through another aircraft's wake and I engaged the autopilot again, followed by the same abrupt jolts. I disengaged the autopilot again and hand-flew the jet, leveling off at 10,000 ft. This time I noticed a flash of the STAB OUT OF TRIM light on the forward instrument panel. We also noticed lots of autotrimming of the trim wheel. The trimming was not indicative of a runaway trim condition. Autopilot B was engaged and it operated normally. The First Officer immediately referenced the flight manual for the associated light. We reviewed the checklist and performed the steps called for. We discussed our options and decided to return to ZZZ2 as the safest and most prudent course of action. We also decided to advise ATC as an extra precaution and to obtain priority handling from ATC. Dispatch was notified, crew and passengers were briefed, and we made a slow approach back toward ZZZ2 about 30 minutes after takeoff. Landing performance data was requested and received from Dispatch. We reviewed the overweight landing checklist, briefed, and flew an uneventful approach and landing to Runway XY at ZZZ2. We were followed by numerous emergency vehicles on rollout. We spoke with the Fire Commander via VHF radio and he informed us that there were no external signs of damage or overheating of the brakes. We taxied back to the gate, shut down normally, performed all checklists, and debriefed thoroughly. We sent write-ups for the system malfunction as well as the overweight landing. Together we also debriefed the Chief Pilot. He called us again a short time later and we answered questions for a human factors review. He called one last time later and informed us that we were released from duty for the remainder of the day and night.

## Synopsis

B737 flight crew reported experiencing an abrupt pitch down event when engaging the autopilot system, resulting in an immediate return to the departure airport.

ACN: 2008451 (15 of 50)

## Time / Day

Date : 202306  
Local Time Of Day : 1801-2400

## Place

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

## Environment

Weather Elements / Visibility : Turbulence  
Light : Dusk

## Aircraft

Reference : X  
ATC / Advisory.Tower : ZZZ  
Aircraft Operator : Air Carrier  
Make Model Name : B737-700  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Passenger  
Flight Phase : Takeoff / Launch  
Airspace.Class B : ZZZ

## Person

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : First Officer  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Multiengine  
Experience.Flight Crew.Last 90 Days : 160  
Experience.Flight Crew.Type : 260  
ASRS Report Number.Accession Number : 2008451  
Human Factors : Fatigue  
Human Factors : Situational Awareness  
Human Factors : Distraction

## Events

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Regained Aircraft Control

## Assessments

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

### Narrative: 1

We were operating leg 3 of 4. I was on day 4 of a busy 4 day Pilot Monitoring (PM) trip, while the Captain had just joined the trip after some time off. While taxiing out in ZZZ we were asked to load performance numbers for an intersection departure. With the aircraft at a stop, I loaded the new intersection, and we ran the Departure Plan Checklist, verifying the flaps were set in the correct position (Flaps 1). We then lined up on the runway and started our takeoff role, with me acting as Pilot Flying (PF). There was a strong gusty crosswind and turbulent conditions in ZZZ. After rotation, I called for "landing gear up" and the Captain responded with "positive rate - Landing gear up". I then noticed an unexpected change in performance and the aircraft's handling, and that the low-speed awareness cues were rising and I had lost my Flap 1 maneuvering cue and my V2 + 15 "shark tooth". I lowered the nose to gain airspeed and said, "something doesn't feel right". At around 1,000 ft. AGL we noticed that the landing gear was still down, and the Captain had accidentally retracted the flaps instead of the landing gear. We correctly configured the aircraft and continued to climb without any further incident, and never exceeded any structural limitations. While discussing this later, the Captain believed he had been so focused on setting the right flap setting during the Departure Plan Checklist that he subconsciously grabbed the flap lever instead of the landing gear. I could have been more attentive as to the configuration of the aircraft. Also, we were both starting to feel tired, on top of a long taxi out with multiple changes. I had also been flying a MAX for most of the trip, and assumed the extra noise with the gear down was just because the -700 is a lot louder than the MAX.

### Synopsis

B737-700 flight crew reported improper clean up sequence during departure climb resulting in momentary aircraft performance issues.

ACN: 2006676 (16 of 50)

## Time / Day

Date : 202306  
Local Time Of Day : 1801-2400

## Place

Locale Reference.Airport : DCA.Airport  
State Reference : DC  
Relative Position.Angle.Radial : 060  
Relative Position.Distance.Nautical Miles : 5  
Altitude.MSL.Single Value : 2000

## Environment

Flight Conditions : VMC  
Light : Night

## Aircraft

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

## Person : 1

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Air Traffic Control : Approach  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : Captain  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Multiengine  
Experience.Flight Crew.Last 90 Days : 70  
Experience.Flight Crew.Type : 16000  
ASRS Report Number.Accession Number : 2006676  
Human Factors : Communication Breakdown  
Human Factors : Confusion  
Human Factors : Human-Machine Interface  
Human Factors : Situational Awareness  
Human Factors : Time Pressure  
Human Factors : Workload  
Human Factors : Fatigue  
Communication Breakdown.Party1 : ATC  
Communication Breakdown.Party2 : Flight Crew

## Person : 2

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Air Traffic Control : Approach  
Function.Flight Crew : First Officer  
Function.Flight Crew : Pilot Not Flying  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Multiengine  
Experience.Flight Crew.Last 90 Days : 137  
Experience.Flight Crew.Type : 868  
ASRS Report Number.Accession Number : 2005931  
Human Factors : Workload  
Human Factors : Situational Awareness  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Inflight Event / Encounter : Unstabilized Approach  
Anomaly.Inflight Event / Encounter : CFTT / CFIT  
Detector.Automation : Aircraft Terrain Warning  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Regained Aircraft Control

## Assessments

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

## Narrative: 1

During the approach phase of flight to the river visual approach to [Runway] 19 at DCA, ATC issued a vector to intercept the approach in the vicinity of the GRAYZ intersection on the LNAV approach overlay. We had briefed the approach to include landing data and runway exit strategy and agreed that a flaps 40 setting would be the most effective. This leg was the third and final flight leg of the day. Prior flight legs had included significant weather mitigation and planning on our part as a crew, and I was, by this time, moderately fatigued. The altitude was approximately 2,000 [ft.] MSL, as I remember, which was issued to us by ATC. The aircraft was being operated using the autopilot, auto-throttles, and ATC had slowed us to 160 KTS for spacing. Because of the issued speed, the aircraft was configured with the landing gear down, flaps 15 for the speed, and subsequent approach. As we began to approach the intercept point, I realized that the intercept angle to capture was going to cause an overshoot, a subsequent overfly of the river to the opposite side, and in proximity of the restricted airspace. I dis-engaged the autopilot and manually flew a course to intercept the LNAV overlay of the river, ensuring no overflight of restrictive airspace. Once on the LNAV course and in the center of the river, I reached over and re-engaged the autopilot, or thus I thought I had. My hands were on the control

column and when I selected the autopilot, it felt as the autopilot had engaged. The Pilot Monitoring did not alert me to the fact that the autopilot had not engaged. I was feeling time-compressed to get all the required tasks completed before landing and wanted the flight path to continue a descent using VNAV on the arrival. I reached up and set a lower altitude on the MCP panel. I felt the aircraft start a left descending turn, which I expected as we were following a left turn in the river. As the pitch attitude of the aircraft decreased, we received a GPWS Obstacle Alert (probably the Washington Monument in the distance). I immediately responded by manually correcting the flight path and then realized that automation had not been activated. I stabilized the flight profile and began using the river terrain features and requested flaps 30 and Landing Checklist. The aircraft was still in the center of the river, but now not on vertical profile slightly high. The time and approach compression was significant. As I began to turn final and line up on the runway, approximately 800 [ft.] MSL, the Pilot Monitoring queried me if I wanted flaps 40. I said yes, and flaps 40 was selected. I was above the PAPI and used normal maneuvering to re-align myself to a normal landing profile. I landed well within calculated Touchdown Zone and taxied to the gate. At no time were any aircraft limitations exceeded nor any airspace vertically or laterally exceeded, nor ATC clearances exceeded.

## Narrative: 2

Captain was PF (Pilot Flying) into DCA on the River Visual Runway 19. ATC gave us a heading 130 to fly and then clearance for the River Visual Runway 19. With the heading we were given, we agreed to go direct GREYZ. Because of that heading, 130, it was evident that the autopilot probably was not going to anticipate the turn enough, leading to a possible overshoot of the runway and getting close to the Prohibited Area, P56B. The Captain chose to disconnect the autopilot to lead the turn. He then tried to reengage the autopilot, while I thought he was still hand flying. The autopilot did not actually engage, and our descent rate increased. Right as I was about to call out, "sink rate," the GPWS called out, "sink rate," instead. The Captain realized the autopilot was not engaged and corrected the flight path. At that point, we were descending at about 2,000 FPM and about 1,500 [ft.] AGL. He recovered nicely. However, it put us below stabilized criteria and we selected flaps 40 below 1,000 [ft.] AGL. We should have gone around due to the unstabilized approach. We ended up running the Before Landing Checklist late as well. We landed normally and continued to the gate. It was a quick set of events, and we were both busy getting the aircraft back where we wanted it, but ultimately, we should have gone around.

## Synopsis

Air carrier flight crew reported flying an unstabilized approach on a charted visual approach and elected to continue to land rather than go around.

ACN: 2002849 (17 of 50)

## Time / Day

Date : 202305  
Local Time Of Day : 1801-2400

## Place

Locale Reference.ATC Facility : ZZZ.ARTCC  
State Reference : US  
Altitude.MSL.Single Value : 39000

## Environment

Flight Conditions : VMC  
Light : Night

## Aircraft

Reference : X  
Aircraft Operator : Air Carrier  
Make Model Name : B787-800  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Passenger  
Flight Phase : Cruise  
Route In Use : Vectors

## Component : 1

Aircraft Component : Powerplant Lubrication System  
Aircraft Reference : X  
Problem : Malfunctioning

## Component : 2

Aircraft Component : Turbine Engine  
Aircraft Reference : X  
Problem : Malfunctioning

## Person : 1

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : First Officer  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 2002849  
Human Factors : Communication Breakdown  
Human Factors : Fatigue  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Other

## Person : 2

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Captain  
Function.Flight Crew : Pilot Not Flying  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
ASRS Report Number.Accession Number : 2002217  
Human Factors : Communication Breakdown  
Human Factors : Fatigue  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Other

## Events

Anomaly.Aircraft Equipment Problem : Critical  
Anomaly.Deviation / Discrepancy - Procedural : Clearance  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Detector.Automation : Aircraft Other Automation  
Detector.Person : Flight Crew  
Were Passengers Involved In Event : N  
When Detected : In-flight  
Result.General : Flight Cancelled / Delayed  
Result.General : Maintenance Action  
Result.Flight Crew : Diverted  
Result.Flight Crew : Inflight Shutdown  
Result.Flight Crew : Landed in Emergency Condition  
Result.Flight Crew : Requested ATC Assistance / Clarification  
Result.Air Traffic Control : Provided Assistance

## Assessments

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

## Narrative: 1

At approximately 2.5 hours into Flight from ZZZ to ZZZ1, while en route and past our critical point, the right engine experienced a sudden loss of oil pressure, necessitating the activation of the appropriate checklist procedures. Consequently, the affected engine was promptly shut down in accordance with Standard operating procedures. Following the engine shutdown, the flight crew determined that the safest course of action would be to divert to ZZZ2. The flight proceeded to ZZZ2, where an uneventful single-engine landing was executed successfully, mitigating any potential risks associated with the in-flight engine failure. Upon arrival at ZZZ2, the Maintenance Team conducted a thorough inspection of the right engine to ascertain the root cause of the oil pressure loss. Initial findings indicate excessive contaminates in the engine chip detector resulting in total oil pressure loss in the right engine. As a consequence of the inflight [problem] and the subsequent stress endured by the crew, a decision was made to preventatively address crew fatigue. Considering the incident and the need for additional rest and recuperation, the crew was deemed unable to continue the flight to ZZZ1. This decision was taken in

accordance with safety regulations and in the best interest of the crew and passengers. Unfortunately, upon landing the crew desk ordered us to continue to fly to ZZZ1 after this incident. Conclusion: Flight experienced a right engine oil pressure loss approximately 2.5 hours into the flight. The crew successfully executed the appropriate shutdown procedures, ensuring the safety of all onboard. An uneventful single-engine landing was accomplished at ZZZ2. The investigation into the root cause of the engine failure is underway. The crew's inability to continue the flight to ZZZ due to the stress and fatigue resulting from the inflight situation was a necessary precaution taken to prioritize safety.

## Narrative: 2

Engine failure over Ocean. Diversion to ZZZ2. At ZZZ2 this flight crew was scheduled to quick turn with different aircraft and continue flying to ZZZ1. Crew desk did not understand why we would not want to do this. The crew desk then asked if I wanted to call in fatigued and I agreed. Flight Operations Duty Manager agreed that we should not fly to ZZZ1, and to let the crew desk know what time we would be rested and available, which I did.

## Synopsis

B787 flight crew reported calling out for fatigue after loss of oil pressure in the right engine. The flight crew performed an in flight shut down of the affected engine and diverted to make a precautionary landing.

ACN: 1999496 (18 of 50)

## Time / Day

Date : 202304  
Local Time Of Day : 0001-0600

## Place

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

## Environment

Flight Conditions : Mixed  
Weather Elements / Visibility : Rain  
Light : Night

## Aircraft

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

## Person

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : Captain  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
ASRS Report Number.Accession Number : 1999496  
Human Factors : Situational Awareness  
Human Factors : Time Pressure  
Human Factors : Fatigue  
Human Factors : Human-Machine Interface

## Events

Anomaly.Deviation / Discrepancy - Procedural : Clearance  
Anomaly.Ground Event / Encounter : Loss Of Aircraft Control  
Anomaly.Ground Event / Encounter : Weather / Turbulence  
Detector.Person : Flight Crew  
Were Passengers Involved In Event : N  
When Detected : In-flight  
Result.General : Flight Cancelled / Delayed  
Result.General : Maintenance Action  
Result.Flight Crew : Rejected Takeoff

Result.Flight Crew : Requested ATC Assistance / Clarification

Result.Flight Crew : Returned To Gate

Result.Air Traffic Control : Provided Assistance

## Assessments

Contributing Factors / Situations : Aircraft

Primary Problem : Aircraft

## Narrative: 1

We were in ZZZ to ZZZ1 taxiing out it was raining and overcast 1,700 ft. and rain. After three reroutes we then was cleared for position and hold. We aligned on Runway X be ready for immediate departure traffic 2 miles out. Aligned, I held the brakes powered up the engines to approximately 40% N1 FF approximately 1400 pounds, feeling the aircraft rumble/ shake engines stabilized are ready to go. Once cleared for Takeoff I then stood up engines throttles to the 12 o'clock position stable released brakes with aircraft moving then smoothly advanced to FLEX detent. Once in detent with engines powered up I could not keep aircraft on center line and was veering quickly to the right. Giving the engines No 2 sec more to catch up, veering uncontrollably to the right off center line. I rejected the takeoff, full reverse manual brakes and placing my hand on the tiller to align back to center line. This exacerbated the loss of nose control, nose wheel skidding on the wet runway left then right then to a slight left. I then once again hit the brakes to a quick total stop. All then cooled down on runway with reversers stowed. We then taxied off on the second left taxiway. This event on the runway was approximately 850 ft. total airspeed was not even alive for the First Officer (FO) "call" We both examined all engine gauges all was normal and sat for a moment to review what just went on called the flight staff on all call. They were all OK and passengers too then several passengers wanted to get off jet as we were think if it would be prudent to go to gate for maintenance review. This was then with no hesitation of us to go back to the gate and deplane jet and allow maintenance to figure out what was the cause of engine issue. The use of the tiller exacerbated the loss of control of aircraft steering below VMC ground on a wet runway. The use of the brakes to a stop is when we truly regained total control of the Jet. Once we returned to gate is when we then realized the event and how my adrenaline was running. The station manager even noticed how our demeanor was and asked how we felt. I was reluctant to say then it hit me I need to wind the clock and slow down I then called myself off of the flight, fatigued not safe. I as Captain felt not safe to continue flying this day. Take the event in to adjust there was no hull loss nor any soul lost and the next day I flew as Captain ZZZ to ZZZ2 with no further issues.

## Synopsis

A320 Captain reported a loss of directional control resulted in a rejected takeoff. The flight crew elected to return to the gate for maintenance action and to deplane several passengers who did not want to continue on the flight.

ACN: 1983222 (19 of 50)

## Time / Day

Date : 202303

Local Time Of Day : 1801-2400

## Place

Locale Reference.ATC Facility : ZZZ.TRACON

State Reference : US

## Environment

Flight Conditions : VMC

Light : Night

## Aircraft

Reference : X

Aircraft Operator : Air Carrier

Make Model Name : B737 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Climb

Route In Use : Vectors

## Component : 1

Aircraft Component : Fuel Crossfeed

Aircraft Reference : X

Problem : Improperly Operated

## Component : 2

Aircraft Component : Turbine Engine

Aircraft Reference : X

Problem : Improperly Operated

## Component : 3

Aircraft Component : Other Documentation

Aircraft Reference : X

Problem : Improperly Operated

## Person : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

ASRS Report Number.Accession Number : 1983222

Human Factors : Communication Breakdown  
Human Factors : Fatigue  
Human Factors : Human-Machine Interface  
Human Factors : Situational Awareness  
Human Factors : Time Pressure  
Human Factors : Troubleshooting  
Human Factors : Confusion  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Person : 2

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : First Officer  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 1983224  
Human Factors : Workload  
Human Factors : Troubleshooting  
Human Factors : Situational Awareness  
Human Factors : Fatigue  
Human Factors : Confusion  
Human Factors : Communication Breakdown  
Human Factors : Human-Machine Interface  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Aircraft Equipment Problem : Critical  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Deviation / Discrepancy - Procedural : Clearance  
Anomaly.Inflight Event / Encounter : Fuel Issue  
Detector.Automation : Aircraft Other Automation  
Detector.Person : Flight Crew  
Were Passengers Involved In Event : N  
When Detected : In-flight  
Result.General : Maintenance Action  
Result.General : Flight Cancelled / Delayed  
Result.Flight Crew : Requested ATC Assistance / Clarification  
Result.Flight Crew : Inflight Shutdown  
Result.Flight Crew : Landed in Emergency Condition  
Result.Flight Crew : Returned To Departure Airport  
Result.Air Traffic Control : Provided Assistance

## Assessments

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

## Narrative: 1

Shortly after completing the after takeoff checklist I noticed that fuel was flowing from the left fuel tank at a very alarming rate. We thought that there was a fuel leak because of the rapid fuel flow out of the left tank. The First Officer (FO) continued to fly the aircraft while I ran the Engine Fuel Leak QRH. We briefly discussed continuing straight to ZZZ1 but the weather was better in ZZZ and the rate of fuel loss out of the left side was very concerning to us. While I ran the QRH the FO [requested priority handling] and requested vectors back to ZZZ. The rapid loss led us to confirm a fuel leak in the QRH which led us to shutting down the number one engine. We continued to an uneventful single engine landing in ZZZ. After securing the engine we became aware the cross feed valve was open. I know I pointed at it in the QRH and verified it closed. I did not see a dim blue light and did not expect it to be open, because the only time it is open is when I open it. While we did discuss the issue at hand before delving into the QRC we felt a great urgency to act quickly due to the very rapid loss of fuel. A longer safety pause would have been more appropriate. The FO did a great job flying the plane and handling the radios but the approach environment is very distracting. I left the checklist to get ATC SOB count after we [requested priority handling], and again to talk to the Flight Attendants (FAs) when they felt the plane turning around. Better managing distractions during critical junctures of the checklist would have gone a long way. I feel like I have good working knowledge of the 737 fuel systems, and know that one pump can overpower the others and the high power setting and fuel flow was the reason why the draw on the left side was so alarming. In retrospect there were a number of opportunities to trap this error before becoming an undesirable aircraft state. Fatigue may have been a contributing factor as this incident occurred on daylight savings day. I had a hard time falling asleep and woke up at XA: 30 AM body time. My watch estimated my sleep for the night as 4 hours 13 minutes. I was tired that day and using caffeine to get me home. I have learned a lot from previous company guidance on this issue and never wanted to be the one to go down this rabbit hole. Look out for tunnel vision, confirmation bias, don't rush!

## Narrative: 2

Shortly after completing the after takeoff checklist the Captain noticed that fuel was depleting from the left fuel tank at an alarming rate. After a quick discussion we agreed that a fuel leak was suspected. I continued flying the aircraft and took over radio duties while the Captain ran the QRH for fuel leak. I [requested priority handling] and requested radar vectors back to ZZZ after a quick discussion with the Captain as the weather was significantly better there than ZZZ1. The checklist lead us to shut down the left engine and we prepared for a single-engine approach and landing. While on downwind our jump seater noticed that our cross feed valve was in the open position and neither the Captain nor I had caught it. We were so busy and inundated with task-saturation that a step was missed in the QRH. I think we were pretty shocked to see how fast our fuel was depleting from the left side and that caused us to rush the checklist and miss key steps. The volume of radio calls and vectors kept me from doing a great job of backing up the Captain while they ran the checklist. Fatigue was definitely a contributing factor as we had an early van in ZZZ2 on the morning of daylight savings. This is a prime example of needing to slow down and take a better assessment of the situation before rushing to conclusions.

## Synopsis

B737 Flight Crew reported a suspected Fuel Leak after takeoff. The Flight Crew ran the QRH and checklists and then requested vectors to return to the departure airport. The suspected Fuel Leak continued to worsen, so the Flight Crew requested priority handling and performed an in flight shut down. When complying with the inflight shutdown QRH, it

was discovered that the Cross Feed Valve was still open. The flight crew continued to perform an air turn back and precautionary landing at departure airport.

ACN: 1972074 (20 of 50)

## Time / Day

Date : 202302  
Local Time Of Day : 0601-1200

## Place

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

## Environment

Light : Daylight

## Aircraft

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

## Component

Aircraft Component : Elevator  
Aircraft Reference : X  
Problem : Malfunctioning

## Person : 1

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : Captain  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
Experience.Flight Crew.Last 90 Days : 75  
Experience.Flight Crew.Type : 7200  
ASRS Report Number.Accession Number : 1972074  
Human Factors : Fatigue  
Human Factors : Situational Awareness  
Human Factors : Time Pressure  
Human Factors : Workload  
Human Factors : Distraction

## Person : 2

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : First Officer  
Function.Flight Crew : Pilot Not Flying  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 1971800  
Human Factors : Time Pressure  
Human Factors : Situational Awareness  
Human Factors : Distraction  
Human Factors : Workload

## Events

Anomaly.Aircraft Equipment Problem : Critical  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Deviation / Discrepancy - Procedural : Weight And Balance  
Detector.Person : Flight Crew  
Were Passengers Involved In Event : N  
When Detected : In-flight  
Result.General : Maintenance Action  
Result.Flight Crew : Diverted  
Result.Flight Crew : Requested ATC Assistance / Clarification  
Result.Air Traffic Control : Provided Assistance

## Assessments

Contributing Factors / Situations : Aircraft  
Primary Problem : Aircraft

## Narrative: 1

After pushback from ZZZ, we performed the Control Check, and the First Officer (FO) noted that the Elevator Control felt "stiff". I performed the check and also noticed the stiffness, but there was no restriction or problem with movement. We discussed our options and I decided since there was no binding or restricted movement, we should be good to continue. On departure at 800 ft. AGL, the FO performed the thrust cutback as per the noise abatement procedure. When I went to lower the pitch, the yoke felt stuck. It took an unusual amount of force to free the yoke and lower the nose. We leveled off at 13,000 ft. and ran the Jammed or Restricted Flight Controls QRH. Upon completion of the QRH, we decided it was best to divert to ZZZ1. I coordinated with Dispatch and told him our problem and the plan to divert to ZZZ1, and he agreed that was the best course of action. The FO coordinated our divert with Approach. We did not [request priority handling] as the aircraft was flying normally. I briefed the Flight Attendants and Passengers and called ZZZ1 Station Operations to ensure they were in the loop. The FO calculated the landing data and we realized we would have to make an overweight landing, as we weighed 133,500 pounds. He referenced the overweight landing section in the manual and we decided to land on XXR at ZZZ1 since it was the longest runway. We looked at brake cooling but it was not a factor. We configured normally, landed and taxied to the gate without incident. All in all, this was a fairly straightforward diversion, but after pulling into the gate, coordinating with Maintenance, Dispatch, Company Operations Chief Pilot, and Crew Scheduling, and making the appropriate write-ups, I found myself drained.

I was very grateful we did not have to continue with our flying and instead got to deadhead home.

## Narrative: 2

On takeoff, as the Captain lowered the nose to accelerate, he experienced a very brief "hanging up" in the elevator controls. It was easily overpowered and the decision to make a precautionary overweight landing in ZZZ1 was made. During the previous landing I noticed a very slight roughness in the elevator during flare, but it was not a feeling that was out of the ordinary enough to cause concern of a potential malfunction. During the Flight Control Check, there was a slight roughness in the elevator, but again it didn't seem anything more than what would be experienced during normal operations. It was very subtle and noted by both of us as being within normal limits from past experience. I noticed the "hang up" that the Captain experienced on takeoff and it had amplified enough to cause us both concern and initiate a divert.

## Synopsis

B737 flight crew reported after takeoff the elevator control system felt stiff. The pilots elected to divert to a nearby airport for maintenance action. An overweight landing was successfully accomplished.

ACN: 1971851 (21 of 50)

## Time / Day

Date : 202302

Local Time Of Day : 0001-0600

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

## Environment

Work Environment Factor : Poor Lighting

Light : Night

## Aircraft

Reference : X

Aircraft Operator : Air Carrier

Make Model Name : B767-300 and 300 ER

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Cargo / Freight / Delivery

Flight Phase : Taxi

## Component

Aircraft Component : Parking Brake

Aircraft Reference : X

Problem : Improperly Operated

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Check Pilot

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1971851

Human Factors : Distraction

Human Factors : Fatigue

Human Factors : Training / Qualification

Human Factors : Workload

## Events

Anomaly.Conflict : Ground Conflict, Critical

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Ground Incursion : Ramp

Anomaly.Ground Event / Encounter : Loss Of Aircraft Control

Detector.Person : Ground Personnel

When Detected : Taxi  
Result.General : Maintenance Action  
Result.Flight Crew : Regained Aircraft Control  
Result.Flight Crew : Took Evasive Action

## Assessments

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

## Narrative: 1

The following is to report unintended aircraft movement during push back. I was the Captain conducting First Officer (FO) new hire and had a new hire occupying the observer seat for familiarization. Work load management was high and leading factors include: fatigue, 2nd leg of an all-night duty period, MEL procedures, and training environment. During push back the ground crew completed the push advised me to set the parking brake and we are cleared to start both engines. I set the parking brake and told the FO to start the right engine. During the start the observing crew member asked if I could explain the start process, to which I only explained our definition of max motoring prior to fuel selection. Also, my attention was focused outside of the aircraft and compliance with verification of proper mode annunciation by EICAS and discrete light. After the right engine was started normally, the ground crew advised the aircraft was rolling and to set the parking brake. I immediately stepped on the brakes, set the parking brake and verified EICAS that the brake was set. I verified with ground crew if there were any injuries, contact with equipment or any damage. The ground crew was all safe and uninjured, no damage or contact with equipment took place. The aircraft was pushed to a dark unlit area on blacktop, it is unsure how much speed the aircraft picked up, but was not enough to make contact with the tug or tow bar parked directly in front. After the aircraft was briefly inspected by local maintenance, the left engine was started and we completed the flight without further issue. My apologies were given to the ground and well done for advising of the aircraft movement. I sincerely apologize to the company and to the crew members aboard for the potential harm or damage that could have resulted. Please contact me with further questions.

## Synopsis

B767 Captain reported uncommanded aircraft movement during push back not noticed by flight crew until advised by ground crew. Captain set the parking brake to stop aircraft movement.

ACN: 1967403 (22 of 50)

## Time / Day

Date : 202301  
Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : RCA.Airport  
State Reference : SD  
Altitude.AGL.Single Value : 0

## Aircraft

Reference : X  
Aircraft Operator : Air Carrier  
Make Model Name : Commercial Fixed Wing  
Crew Size.Number Of Crew : 4  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Cargo / Freight / Delivery  
Flight Phase : Taxi

## Component

Aircraft Component : Electronic Flt Bag (EFB)  
Aircraft Reference : X  
Problem : Design

## Person : 1

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : First Officer  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
ASRS Report Number.Accession Number : 1967403  
Human Factors : Fatigue  
Human Factors : Situational Awareness  
Human Factors : Time Pressure  
Human Factors : Workload  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Person : 2

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : First Officer  
Function.Flight Crew : Pilot Not Flying  
Function.Flight Crew : Relief Pilot

Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
ASRS Report Number.Accession Number : 1967402  
Human Factors : Workload  
Human Factors : Time Pressure  
Human Factors : Confusion  
Human Factors : Communication Breakdown  
Human Factors : Situational Awareness  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Events

Anomaly.Aircraft Equipment Problem : Less Severe  
Anomaly.Ground Incursion : Taxiway  
Detector.Person : Flight Crew  
When Detected : Taxi  
Result.Flight Crew : Became Reoriented  
Result.Flight Crew : Requested ATC Assistance / Clarification  
Result.Air Traffic Control : Provided Assistance

## Assessments

Contributing Factors / Situations : Airport  
Contributing Factors / Situations : Software and Automation  
Contributing Factors / Situations : Aircraft  
Contributing Factors / Situations : Procedure  
Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings  
Contributing Factors / Situations : Chart Or Publication  
Primary Problem : Ambiguous

## Narrative: 1

This was our second long day of sitting on the aircraft waiting for fuel to be loaded. Our first day ended when the airfield closed, because we delayed several hours due to insufficient support for two aircraft and a single fuel truck in operation. From the time we completed our aircraft preflight procedures and briefing, approximately 2 hours had passed. I was the Pilot Flying (PF) in the right seat and the Captain (CA) was the Pilot Monitoring (PM) in the left seat. There were two additional First Officers (FO) seated in the observer seats. The company pages for Ellsworth AFB states that for departures "expect taxi clearance to runway via Taxiway Delta and back taxi." There is further information provided for the arrivals section that states this is due to pavement degradation. This expected clearance is exactly what the company aircraft in front of us received the day prior, and is what we briefed. When we received our taxi clearance we were simply told to taxi via "Alpha Bravo." As we commenced our taxi there was a marshaller positioned directly in front of us, and he signaled for us to taxi straight ahead, then directed us for an immediate right turn towards DELTA Taxiway. As we were nearing the runway, the FO in the left observer seat reminded me to turn left onto Alpha, which the entire crew agreed with. As we turned down the taxiway, it appeared to be very close to some blast fences on the right, so with the CA's concurrence I opted to taxi left of the center line so we had ample wingtip clearance on the right side. This area where we were taxiing was a large (vacant) parking ramp. This Taxiway Alpha has a slight right turn, then a left turn back to parallel the runway. As we made this right turn (approximately 45 deg) I immediately realized something was wrong. The taxiway had a dead end directly in front of us, and the

blue taxiway lights were now on our left side. I quickly came to a stop and we queried Ground Control, while referencing our taxi diagram. The crew thought that perhaps the blue taxiway lights were center line taxi lights, and the Ground Control commented that those lights "used to be green." The crew further interpreted this to be center line taxi lights, so we again continued to taxi to the left to intercept what we thought was center line taxi lights. We again realized this was not the case, and these recessed lights denoted the right side of the taxiway. We crossed over the recessed taxi edge lights onto the appropriate taxiway, and continued our taxi to Runway 31 without any further issues. At no time did the aircraft ever leave a hard surface or an area in which was not intended for aircraft travel, it was simply an area that was not specifically marked as the Alpha Taxiway. Where we were actually located was on a back alleyway for the hardstand parking locations of the ramp. Several factors played into this event, including the following; The long delay due to fueling issues, and duration from the time we briefed. Expectation bias originating from the company airport page and the marshaller/equipment in front of us. Poor taxi diagram available for the airfield which appears to identify two parallel Alpha taxiway lines, which is actually the taxi width line on the ramp area. Incorrect information from ground control concerning taxiway edge lights and colors versus taxiway center line lights, which did not exist. Poor ramp lighting and non standard airport markings. Even though we briefed what was expected and all monitoring pilots had taxi diagrams open and followed along the taxi route, we were still easily confused due to the information we had available. I believe that instead of "expecting" a clearance to back taxi on the runway, this should be standard operating procedure at this airport. There are far too many hazards and traps with the limited information on this airfield and non standard markings.

## Narrative: 2

PM (Pilot Monitoring) briefed taxi route per company page; via Delta and back-taxi to departure Runway 31. We were cleared by ATC to taxi via Alpha, Bravo. Upon signaling marshaller, we were directed onto Delta, the marshaller and a piece of equipment blocking a straight-out taxi. Prior to entering taxiway Delta I advised a left turn was necessary to enter taxiway Alpha "Outer" there being two taxi lines depicted on the airport chart. A turn was made and we followed taxiway Alpha "Outer" realizing, as we neared the curve in the taxiway that something was amiss. We stopped the aircraft, queried ATC, and were assured our taxi path was correct. Being situated behind the Captain (4th Observer) I did not have a good view of the taxiway ahead and to the right of the aircraft, however, I could see out the left window clearly. The Captain and I observed a wide swath of taxiway left of the aircraft, and the PM maneuvered accordingly. We joined taxiway Bravo at the runway end, and departed Runway 31. The non-standard markings, poor airfield and taxiway lighting, and operations of a military airfield were contributing factors. The marshaller put us on the wrong path initially by blocking a straight-out taxi. The two taxi "lanes" for taxiway Alpha are misleading. There is no Jepp AMM (Airport Moving Map) for RCA making Ownership position a guesstimate. It seemed once we made the turn that we were taxying on the "Outer" taxi lane for taxiway Alpha. ATC never stopped or queried us, and when we queried ATC we were given inaccurate information back. Additionally, we had observed a military aircraft take that path in advance of our departure, making it seem there were two, legitimate, taxi lines for taxiway Alpha. The company page could clarify the taxiway Alpha markings. Not being familiar with military airfields it looked as if there were two taxi lines for taxiway Alpha. Further, we could have pressed ATC for the suggested route of taxiway Delta with the back-taxi to the runway.

## Synopsis

Air carrier First Officers reported difficulty locating the correct taxiway to the runway at RCA airport. The pilots stated their EFB does not contain complete airport information, and cited poor taxiway lighting, initial confusing marshaller signals and inadequate help from ATC as additional contributing factors.

ACN: 1966915 (23 of 50)

## Time / Day

Date : 202301  
Local Time Of Day : 1801-2400

## Place

Locale Reference.Airport : ZZZ.Airport  
State Reference : US  
Altitude.MSL.Single Value : 2300

## Environment

Weather Elements / Visibility : Turbulence  
Light : Night

## Aircraft

Reference : X  
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 : Landing

## Person : 1

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Captain  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 1966915  
Human Factors : Troubleshooting  
Human Factors : Workload  
Human Factors : Fatigue  
Human Factors : Time Pressure

## Person : 2

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Not Flying  
Function.Flight Crew : First Officer  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 1966922  
Human Factors : Time Pressure

Human Factors : Fatigue

Human Factors : Workload

## Events

Anomaly.Deviation - Altitude : Overshoot

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Deviation - Speed : All Types

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Deviation / Discrepancy - Procedural : Clearance

Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Anomaly.Inflight Event / Encounter : Unstabilized Approach

Anomaly.Inflight Event / Encounter : CFTT / CFIT

Detector.Person : Flight Crew

When Detected : In-flight

Result.General : Maintenance Action

Result.Flight Crew : Took Evasive Action

Result.Flight Crew : Overcame Equipment Problem

Result.Flight Crew : Became Reoriented

## Assessments

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Weather

Primary Problem : Weather

## Narrative: 1

During my approach on the ILS X into ZZZ, I initiated a go-around just passed or around ZZZZZ FAF due to what I believe was a wind-shear downdraft. The ZZZ1 area was covered with moderate turbulence and thunderstorms were moving through the sector. Prior to the approach I briefed the PM on a possible wind-shear escape maneuver should the possibility arise. The ATIS was not reporting wind-shear and it seemed the other traffic ahead of us were getting into ZZZ just fine. We had just flown in on the ZZZZZ1 arrival with very strong moderate turbulence all the way in. As we were cleared for the approach I selected flaps and gear down on normal schedule and complied with the speed restrictions given to us by ATC. As we turned final I could see an ominous looking cloud that appeared to be moving across the path to the runway at the FAF ZZZZZ. In a break in the cloud I could visually see the runway lights off and on. I prepared for the possibility that the cloud would emanate some turbulence. As we passed through it on the backside of it I felt the airplane get rolled to the right and I felt the plane being pushed down. We did not receive any wind-shear warnings or cautions aurally. I counteracted as it was being forced down and then I felt the airspeed dropping rapidly. I felt as if a downdraft was causing us to be pushed down at an uncontrollable rate. At that point I knew we needed to apply power and climb out of it. I initiated a go-around thinking it was wind-shear pushing us down. I also heard a 'caution obstacle' message. Initially, as I added power it seemed like we were not able to climb immediately. The go around was not perfect but we quickly became busy as I felt we had a terrain issue along with the wind shear. Then we cleared the wind shear and we started climbing rapidly and our speed quickly became very high and we were very close to our go around altitude of 2000 already. The PM informed the Tower that we were going around for wind shear in which they provided a heading and altitude of 2000. I knew we were about to blow through that altitude so I had him ask for a higher altitude. We over flew the altitude by around 300 ft. The Tower did not want to give us higher as they "did not control that airspace". Eventually we went over to Approach and they provided us

4000 ft. I received a high speed message during the event, as the flaps were still extended and in transition and sometime during all this I asked for the gear to be retracted and then flaps 2 which was out of order. I also called for FL 210 but the cockpit became very busy quickly and we did not get it set right away as the aural high speed message was going off along with trying to listen to ATC. I became concerned with the high speed and trying to comply with the ATC altitude. We eventually cleaned up the plane and reengaged automation. The event certainly shook both of us up; however after we had the aircraft under normal flying conditions we briefed the passengers of what happened, loaded another approach, and returned for a second and successful landing. I should have done better with my call outs and procedures. I should have at least called TOGA, and once clear of the shear: flaps 2, (positive rate) gear up, and FLCH 210. Adding the amount of power I did felt right as we seemed to be rolling and descending in the wrong direction and I felt we needed to climb immediately. However, I was also distracted trying to keep us from climbing too far above our target altitude and got behind on the recovery.

## Narrative: 2

I do want to preface this account by saying my memory of the events is not very clear, and after the moment we began the go-around, the exact timing and what happened became a blur of events. I was PM on Aircraft X from ZZZ2 to ZZZ. We had started our day at XA: 30pm and dealt with delays getting in to ZZZ2 due to thunderstorms. Both our flights from ZZZ to ZZZ2 and from ZZZ2 to ZZZ were filled with multiple areas of convective activity and associated turbulence. As we approached ZZZ, the field had some thunderstorms in the area but the latest ATIS was showing a good prognosis with winds dying down to something like 160 at 7 kts or so. Approach had vectored us around at 4,000 or so and the entire time at that altitude we were dealing with moderate turbulence. The Captain (CA) had to override the auto throttles during this time to keep the speed under control. I do recall the CA briefed the wind shear escape maneuver before we set up for the approach as well. Eventually we got vectored southwest and then set up on final for the ILS X. We were told to slow to 160 kts till ZZZZZ and cleared for the approach. Shortly before the FAF, the CA had given me the proper commands to fully configure the plane and we were stabilized at about 1,700 feet. I'm not really sure when the CA switched to green needles, or when the Autopilot (AP) was kicked off as the approach does require it (I believe it was right before we passed the FAF). As we neared ZZZZZ, we could see the runway and lights below several scattered cloud layers. There was an almost a U shaped thin cloud in front of us that rose a couple hundred feet on both sides of the aircraft. We passed right through the middle of this cloud and it was about this time that the approach completely fell apart. I recall seeing the speed start to bleed off pretty quickly, almost 10 kts past our speed. The CA responded by moving the throttles forward quite aggressively and the speed started to come back. However it felt like we were dropping aggressively and the plane had started a slight roll (10 degrees or so) to the right. I don't recall if this happened before or after the CA told me we were going around; but we got an obstacle alert. The CA told me we were going around but didn't state the correct phrase (Go-Around, TOGA, Flaps 2). He did hit the TOGA button though and we began to get speed and altitude back. I remember trying to look at the EICAS and verify TOGA set but the screen was really dark and I couldn't verify it immediately. I do recall seeing something resembling "obstacle proximity" on my Primary Flight Display (PFD) in red, and I think we got 1 aural "OBSTACLE" alert, but the whole moment happened very quickly. I do remember that I eventually stated TOGA set after I was able to verify despite it being so dark. The last thing I remember about looking at the glide slope was that we were about a 1/2 to 3/4 dot low during the time the speed bled off abruptly. I was completely unsure as to what we were dealing with since we didn't get a single wind shear alert, and Tower had not told us about any wind shear reports. The glide slope alert never went off either. Either way the go around was done incorrectly. As the CA hit TOGA and I tried to

verify TOGA set, we neglected to move flaps to position 2 right away. I recall telling Tower we were going around and they told us to climb to 2,000 feet and fly heading 040. I think I missed a call, but with the alerts going off, it was extremely hard to focus on one thing at a time. The Captain asked for FLCH 210 and it was really hard to verify the correct button in the dark cockpit but I think I hit it and had 210 dialed in. At this point, the airplane was rocketing upwards and the speed was the only thing I remember going up a lot. The Captain told me gear up and I didn't even think to verify the flaps were at 2 before doing that. As a result we had the landing gear aural alert going off. Then CA told me to bring flaps to 2 and I did. Around this time the airspeed had climbed significantly and the last number I remember was 240 and we started getting high speed (not sure if this was before or after flaps moved to 2). After I had verified the instructions from ATC, the CA told me we needed higher and I told ATC that. They told me they can't do that as they don't control that airspace. The CA also told me we needed to turn to the left to get out of whatever we were dealing with. I don't think I was able to pass that on as Tower was giving us a new frequency and asking if it was wind shear. We did blow through 2,000 and leveled at 2,200 I believe and then got cleared up to 3,000. Before switching I heard the Tower Controller tell the plane behind us that they were getting wind shear alerts for Runway X gain of 20 kts and another plane called up and said they gained 20 (not sure if it was arrival or departure). Eventually the CA called flaps up, and then said incrementally but I had mistakenly moved them up all the way. I then moved them back to position 1 and then up. Either way it was clear we had over-sped them. We cleaned up, switched over to Approach and got vectored around. We then shot the second attempt on the same approach with no issue. Once we landed the CA called Maintenance to inform them of the over speed event and write up the plane which had finished for the night. Overall we were completely caught off guard by this event as it was not expected and the weather conditions had been improving in the area as well. Both me and the CA were pretty shaken up by the event as the obstacle alert is something that neither of us ever expected to see, even with a wind shear event. It is also important to note that I don't believe ATC ever gave us a warning or talking to for exceeding our altitude of 2,000 feet on the go-around. While it's hard to remember the correct details, I think we responded appropriately by a go-around. However we should have done a wind shear escape procedure even though it was never annunciation. Secondly, even though we elected to do a go-around, we didn't use the correct callouts and as a result of that, ATC calls during the event, the obstacle alert, and other distractions; we caused the flap over speed. The go-around was also abnormal to me since we weren't below 1,000 feet and were pretty limited with the altitude available to climb. I think better CRM would have resulted in a correct go-around procedure or wind shear escape procedure as the whole event could be characterized with "tunnel vision" on my part as well. I also should have corrected the Captain from the moment we elected to go-around by taking control of the situation and configuring the airplane even if the Captain was distracted and didn't verbally tell me. ATC didn't help the situation as they did not immediately clear us to 3,000 feet and I was concerned with the 200 feet above assigned altitude that we had deviated from. This distracted me as well with helping to configure the aircraft. Overall, my lack of following the SOP in regards to callouts and actions exaggerated an already difficult situation.

## Synopsis

EMB-170 Flight Crew reported a wind shear event during final approach in turbulent conditions. The Flight Crew executed a successful wind shear recovery procedure which caused momentary airspeed and altitude deviations.

ACN: 1964518 (24 of 50)

## Time / Day

Date : 202301  
Local Time Of Day : 0001-0600

## Place

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

## Environment

Light : Night

## Aircraft : 1

Reference : X  
ATC / Advisory.Tower : ZZZ  
Aircraft Operator : Air Carrier  
Make Model Name : B737-700  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Passenger  
Flight Phase : Taxi

## Aircraft : 2

Reference : Y  
ATC / Advisory.Tower : ZZZ  
Aircraft Operator : Air Carrier  
Make Model Name : Commercial Fixed Wing  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Nav In Use : FMS Or FMC  
Nav In Use : GPS  
Flight Phase : Landing  
Airspace.Class B : ZZZ

## Person : 1

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : First Officer  
Function.Flight Crew : Pilot Not Flying  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
Experience.Flight Crew.Last 90 Days : 150  
Experience.Flight Crew.Type : 1358  
ASRS Report Number.Accession Number : 1964518  
Human Factors : Communication Breakdown

Human Factors : Situational Awareness  
Human Factors : Time Pressure  
Human Factors : Workload  
Human Factors : Fatigue  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Person : 2

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Captain  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
ASRS Report Number.Accession Number : 1964833  
Human Factors : Workload  
Human Factors : Situational Awareness  
Human Factors : Communication Breakdown  
Human Factors : Time Pressure  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Events

Anomaly.ATC Issue : All Types  
Anomaly.Conflict : Ground Conflict, Critical  
Detector.Person : Flight Crew  
Detector.Person : Air Traffic Control  
Were Passengers Involved In Event : N  
When Detected : Taxi  
Result.Flight Crew : Took Evasive Action  
Result.Air Traffic Control : Issued New Clearance

## Assessments

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

## Narrative: 1

We were taxiing west via [Taxiway] XX to [Runway] XXL during early morning - probably some early morning tiredness - in complete darkness following Aircraft Y. We switched to Tower after [Taxiway] XY and assumed - expectation bias - that Aircraft Y and Aircraft X were the only two aircraft on frequency. Airport was not very busy. Aircraft Y was cleared for takeoff and as they powered up we were told to "line up and wait, Runway XXL." We completed the before-takeoff checklist and as we turned south on [Taxiway] XZ to cross [the Runway] XXL hold-short line - I was FO (First Officer) - I said, "Final's Clear." However, we did note and talk about that there was an aircraft on final. We assumed - incorrectly, expectation bias - that this aircraft was on approach to [Runway] XXR. I assumed this, since we never heard Tower say something to the effect of, "Aircraft X, Aircraft Y on five-mile final." I'm also unsure if there were any transmissions between Tower and Aircraft Y that we heard, until we were taking the runway. Lastly, if I remember correctly, ATIS was reporting [Runway] XXL departures and [Runway] XXR arrivals - not

that this means that an aircraft couldn't land on [Runway] XXL, but it added to expectation bias. As we continued south on [Taxiway] XZ the lights appeared to be trending toward our runway. At the point we started to question if this aircraft was landing on our runway, we heard Aircraft Y transmit, "OK Tower, what do you want us to do?" Tower then stated, "Aircraft X, continue across to exit runway... Aircraft Y, go around." At this point, Aircraft Y was probably on a one-mile final. I don't recall exactly the amount of time that elapsed between us clearing onto [Taxiway] XA. However, it seemed to be about six to nine seconds. I could see the large Aircraft Y go around at about 100 ft. above where we just were. I think that we should have stopped the aircraft and asked Tower to clarify if the aircraft on final was landing on [Runway] XXR or XXL. Due to darkness and the fact that I don't normally fly at night nor do I get the sight picture of taking the runway with an aircraft landing on that same runway, it is difficult to visually confirm if they were landing on [Runway] XXL or XXR. Stopping the aircraft would also give us more time for this situation to play out and to communicate. It was just a compressed timeline and our brains could not take it all in during that short period. We never saw or realized the lights of Aircraft Y, until we were approaching the hold-short lines and by then it was taking us by surprise. We did not realize any aircraft was on final until that point. On the ATC side, I would like to understand their procedures. After some research, I am curious if Tower is allowed to issue line up and wait, LUAW, clearances during night and periods of low visibility. Additionally, I thought if they instructed an aircraft to LUAW, they had to add, "...aircraft on XX-mile final.." I never heard if Tower - we were not on frequency yet - issued Aircraft Y a "continue" or a "cleared to land" clearance. I'd be curious to get those transcripts. I'm also wondering if any air/ground/runway collision avoidance systems in the Tower were activated? Or was the Aircraft Y crew the last link in the chain that prevented this? Was there another controller in the Tower that saw this happening? Why did they issue us a LUAW with an aircraft on such short final for the same runway? Why did we even need to LUAW - there were no delays or backups? Did Aircraft Y sidestep? I have noticed an increase in new controllers - was this a new controller? Maybe they lost situational awareness on how far from landing Aircraft Y was. I really have more questions, since this could have turned out disastrous and my guess is this isn't the first time it has happened. My trust in ATC was somewhat high for Tower controllers. I've heard plenty of new Ground controllers struggling lately, but I assumed the Tower controllers were on a higher level for a place like ZZZ. This has really opened my eyes to how the next aviation accident may play out and serves as significant lesson learned for me.

## Narrative: 2

We were cleared for "line up and wait" on [Runway] XXL with an aircraft on about a two-mile final for the same runway. When given the clearance, we both acknowledged the runway and noted the aircraft on final. Due to the dark and angle of the aircraft, we thought he was lined up on [Runway] XXL. Aircraft Y queried Tower as to what they wanted him to do. At that point Tower realized they put us in position incorrectly and asked us to expedite across the runway. When we got on the runway we also recognized the mistake. I tried to expedite across but the engines were at idle thrust and did not spool up in time. Tower sent Aircraft Y around when they were about 1/2 mile out.

Suggestion: Better communication and coordination between Approach and Tower when landing aircraft on [Runway] XXL during an early morning push.

## Synopsis

B737-700 flight crew reported being issued a line up and wait clearance from the Tower Controller while another air carrier was on short final for the same runway. The flight crew continued across the runway per ATC instructions and the other air carrier executed a go-around.

ACN: 1960483 (25 of 50)

## Time / Day

Date : 202212

Local Time Of Day : 0601-1200

## Place

Altitude.MSL.Single Value : 1000

## Environment

Flight Conditions : IMC

Weather Elements / Visibility : Cloudy

Weather Elements / Visibility : Snow

## Aircraft

Reference : X

Aircraft Operator : Air Carrier

Make Model Name : Heavy Transport, Low Wing, 4 Turbojet Eng

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Cargo / Freight / Delivery

Nav In Use : FMS Or FMC

Nav In Use : GPS

Flight Phase : Final Approach

Airspace.Class C : ZZZ

## Person : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

ASRS Report Number.Accession Number : 1960483

Human Factors : Distraction

Human Factors : Fatigue

Human Factors : Situational Awareness

Human Factors : Time Pressure

Human Factors : Workload

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : Flight Crew

## Person : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Not Flying

Function.Flight Crew : First Officer  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 1960486  
Human Factors : Workload  
Human Factors : Time Pressure  
Human Factors : Fatigue  
Human Factors : Distraction  
Human Factors : Communication Breakdown  
Human Factors : Situational Awareness  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Inflight Event / Encounter : Weather / Turbulence  
Anomaly.Inflight Event / Encounter : Unstabilized Approach  
Anomaly.Inflight Event / Encounter : CFTT / CFIT  
Detector.Automation : Aircraft Terrain Warning  
Detector.Person : Flight Crew  
Were Passengers Involved In Event : N  
When Detected : In-flight  
Result.Flight Crew : FLC complied w / Automation / Advisory  
Result.Flight Crew : Executed Go Around / Missed Approach

## Assessments

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

## Narrative: 1

Commenced approach during near blizzard conditions to ILSXXL. Winds gusting up to 36 kts. Reduced visibility due to blowing snow and low ceilings. Wind direction varying continually from west to north west. Steady wind and gusts varying continually. Runways suddenly opening and then closing. Runway surface conditions being reported as RCC, and or braking action, often times, in conflict with each other (for example, RCC of 4 combined with a braking action of medium, which actually equals an RCC of 3 according to our QRH). We had the required weather to commence the approach; however, we were near the cross wind limit of the aircraft due to RCC conditions. While on final approach, we were again receiving conflicting RCC, versus braking action reports for our runway, along with changing wind direction and gusting speeds. My First Officer and I became inadvertently distracted with the new winds, gusts, RCC, and braking action reports, as we were on the borderline of aircraft limitations. We determined the meteorological conditions exceeded aircraft limitations and needed to go missed approach. Subsequently during the distractions, we inadvertently were not fully configured with landing checklist complete by 1,000 ft. While executing a missed approach we simultaneously heard a momentary proximity alert. In hindsight, I as the Captain, should have not allowed myself, or my First Officer to become inadvertently distracted with the multiple inputs of varying information and changing weather conditions, and just discontinued the approach earlier. In hindsight, also, contributing factors were cumulative fatigue from an extended duty day. By the time

this all occurred, we had already flown approximately over 8 hours and 13 duty hours , as a 2 pilot crew, from maintenance and weather delays.

## Narrative: 2

Arriving in ZZZ we were cleared for ILS XXL. Winds were shifting from W to NW at 23 kts. and gusting up to 38 kts. When we began the approach the winds and RCC were within the aircraft limitations. On final approach the winds shifted and the Captain and I began calculating if we were still within aircraft limitations. We determined that the winds and RCC shifted to the degree that they were outside of the aircraft limitations and we decided to go around below 1,000 ft. AGL. However, because we were task saturated we inadvertently were unable to maintain a stable approach (not in the landing configuration with the landing checklist completed.) Accordingly, the decision to go around was made. We had a long duty day and had flown over 8 hours at the time and 13 hours. We had a maintenance delay in ZZZ1 as well as weather delays. These were all factors contributing to this incident. Next time a situation like this presents itself an earlier decision would be appropriate as opposed what had occurred.

## Synopsis

Air Carrier flight crew reported an unstable approach accompanied by a terrain proximity alert during the missed approach. The pilots reported distractions, fatigue and poor weather as contributing to the event.

ACN: 1956915 (26 of 50)

## Time / Day

Date : 202212  
Local Time Of Day : 1201-1800

## Place

Locale Reference.ATC Facility : ZZZZ.ARTCC  
State Reference : FO

## Environment

Flight Conditions : VMC  
Light : Daylight

## Aircraft

Reference : X  
ATC / Advisory.Center : ZZZZ  
Aircraft Operator : Air Carrier  
Make Model Name : A320  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Passenger  
Flight Phase : Descent

## Person

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Not Flying  
Function.Flight Crew : Captain  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
ASRS Report Number.Accession Number : 1956915  
Human Factors : Communication Breakdown  
Human Factors : Fatigue  
Human Factors : Human-Machine Interface  
Human Factors : Situational Awareness  
Human Factors : Time Pressure  
Human Factors : Training / Qualification  
Human Factors : Workload  
Human Factors : Confusion  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.ATC Issue : All Types  
Anomaly.Deviation - Altitude : Overshoot  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Inflight Event / Encounter : CFTT / CFIT

Detector.Automation : Aircraft Terrain Warning  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : FLC complied w / Automation / Advisory  
Result.Flight Crew : Became Reoriented

## Assessments

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

## Narrative: 1

I was the PM (Pilot Monitoring) 40 miles from ZZZZ at 20000 ft. Asked ATC for lower. Cleared to descend to 4,000 ft. and cleared for the VOR DME 1 Runway XX approach. We were at 16,000 ft. and approximately 10 miles from the VOR when I suggested gear down. Gear selected down at approximately 14,000 ft. and 240 kts. Managed descent to 1,600 ft. and armed the approach. Prior to making procedure turn inbound at 5,000 ft., I asked Approach for present heading for two miles. "Cleared as requested". FO (First Officer) selected heading but 1,600 ft. remained in FCU with V/S defaulted at 2,700 ft. per min. Speed was selected to 200 kts. I suggested turning left direct ZZZZ when it was obvious we were no longer high on the approach. I called out low altitude at approximately 2,200 ft. and asked PF (Pilot Flying) to climb back up to 2,500 ft. We received a "TERRAIN AHEAD" warning when we were close to 1,600 ft. Day Visual conditions and cleared for the visual at this point. Could see terrain at all times. Climbed back above 2,000 ft. and commenced approach. Stable and configured by 1,000 ft. We were kept very high by ATC. Bad descent planning and bad descent technique. First flight for the CA (Captain) for several months due to check pilot duties in the simulator. FO tired from early wake up call, and still new to Company. Ask ATC for lower sooner. Prepare and brief for slam dunk. Communicate better between pilots. Use better techniques for descending fast.

## Synopsis

An Air Carrier Captain reported while descending on an approach they received a Ground Proximity Warning and climbed back to the appropriate altitude.

ACN: 1949576 (27 of 50)

## Time / Day

Date : 202211  
Local Time Of Day : 1201-1800

## Place

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

## Environment

Flight Conditions : Marginal

## Aircraft

Reference : X  
ATC / Advisory.Tower : ZZZ  
Aircraft Operator : Air Carrier  
Make Model Name : EMB ERJ 170/175 ER/LR  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Passenger  
Flight Phase : Initial Approach  
Route In Use : Visual Approach  
Airspace.Class B : ZZZ

## Component

Aircraft Component : Autopilot  
Aircraft Reference : X  
Problem : Improperly Operated

## Person : 1

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : First Officer  
Function.Flight Crew : Pilot Not Flying  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 1949576  
Human Factors : Situational Awareness  
Human Factors : Training / Qualification  
Human Factors : Distraction  
Human Factors : Fatigue

## Person : 2

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

Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : Captain  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
ASRS Report Number.Accession Number : 1949577  
Human Factors : Situational Awareness

## Events

Anomaly.Aircraft Equipment Problem : Less Severe  
Anomaly.Deviation - Altitude : Overshoot  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Inflight Event / Encounter : Unstabilized Approach  
Anomaly.Inflight Event / Encounter : CFTT / CFIT  
Detector.Automation : Air Traffic Control  
Detector.Person : Air Traffic Control  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action  
Result.Flight Crew : Returned To Clearance  
Result.Air Traffic Control : Issued Advisory / Alert

## Assessments

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

## Narrative: 1

On LDA Z Runway XX into ZZZ, we followed procedure down to minimums. Pilot Flying (PF) was set to appropriate Ground Based NAV source, Pilot Monitoring (PM) was set to appropriate Magenta NAV source. At 0.3 NM from FAF, FPA mode was selected per procedure. As we descended, PF noticed we were off course slightly (on Autopilot). PF decided to disengage autopilot to track course accurately as ZZZ is a busy airport with tight restrictions. PM task saturation increased and did not notice altitude selector was not set to missed approach altitude when visual was attained. Airplane Flight Director disengaged for cause unknown at the time which increased workload and scan on both pilots. The momentary distraction allowed us to descend more rapidly than desired toward the airport environment and we received a GPWS alert approaching obstacles in the city. Crew noted the alert, saw the obstacles and corrected with power and pitch changes back to stable flight. Tower noted altitude alert to which we replied correcting. Landed without further incident. Cause - PF was newer on the airplane and we had to fly a procedure that was not done commonly. PM had only done a few of them before as well so monitoring of the approach may have been slightly less proficient. Distraction caused by Flight Director allowed us to lose awareness on descent rate and obstacle closure rate. Crew was on final leg of a long 11 hour day which started at XA: 30 AM so fatigue may have been apart. Suggestions - More awareness can be given during LDA approaches especially to ZZZ. More proficiency can be attained by doing more LOC approaches out on the line. Long fatiguing day caused by delays earlier including go arounds and catering from previous flight. These are out of the power of the parties involved.

## Narrative: 2

On LDA Z XX approach into ZZZ, aircraft was not capturing LOC and maintained Roll mode. After selecting NAV aircraft stayed in Roll mode. I disconnected the autopilot to hand fly the approach. After descending into VMC conditions at 1,100 ft. I continued the approach visually. At 800 ft. ATC advised am altitude alert, I leveled off and continued the approach to a landing. Cause - Descended too fast while on a visual segment of the approach. Suggestions - Be more vigilant on altitude constraints after going visual on an instrument approach.

### Synopsis

EMB175 Flight Crew reported autoflight improperly set resulted in higher rate of descent and a low altitude alert on approach.

ACN: 1948969 (28 of 50)

## Time / Day

Date : 202211  
Local Time Of Day : 1801-2400

## Place

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

## Environment

Light : Night

## Aircraft

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

## Person

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Captain  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
ASRS Report Number.Accession Number : 1948969  
Human Factors : Workload  
Human Factors : Time Pressure  
Human Factors : Fatigue

## Events

Anomaly.Deviation / Discrepancy - Procedural : Hazardous Material Violation  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Deviation / Discrepancy - Procedural : FAR  
Detector.Person : Dispatch  
When Detected : In-flight  
Result.Flight Crew : Overcame Equipment Problem

## Assessments

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

Narrative: 1

I arrived at the aircraft and met my third brand new First Officer (FO) in as many legs. The inbound aircraft was approximately :30 late and we were hoping to make up some time as I was just pushing my first flight of the day at (time), with anticipated weather, aircraft and Crew Member swaps downline, meals and fatigue to be factors later in the night.

During the preflight, we realized we were over Allowable Takeoff Gross Weight (ATOG) and had to pull two revenue Passengers and plan a engine bleeds off takeoff, which caused some anxiety with the probationary First Officer. We had Company HAZMAT added to the flight and I signed the required paperwork, but in the hectic environment, forgot to amend the Release for the Operations Agent. On climbout, I noticed the call light was illuminated and I reviewed the ACARS messages. The light was for a Part 117 notification, but there was also a previously reviewed message from Dispatch reminding us to amend the release for the Hazmat with times and initials. The message was sent while we were at the gate. Neither the First Officer nor I remembered seeing the message prior to pushback. It was busy, but since I had a brand new FO again, I was trying to be methodical, slow down and cover everything. The Dispatcher, Ops Agent, freight and Ramp Agents all did their jobs and personally briefed me of the HAZMAT location. The mistake was totally on me.

## Synopsis

Air Carrier Captain reported he failed to amend the flight release for added Hazmat prior to departure.

ACN: 1946064 (29 of 50)

## Time / Day

Date : 202210  
Local Time Of Day : 0001-0600

## Place

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

## Environment

Weather Elements / Visibility : Fog  
Light : Night

## Aircraft

Reference : X  
ATC / Advisory.Tower : ZZZ  
Aircraft Operator : Air Carrier  
Make Model Name : A321  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Mission : Passenger  
Flight Phase : Final Approach  
Airspace.Class B : ZZZ

## Person

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Captain  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 1946064  
Human Factors : Confusion  
Human Factors : Fatigue  
Human Factors : Situational Awareness  
Human Factors : Workload  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.ATC Issue : All Types  
Anomaly.Flight Deck / Cabin / Aircraft Event : Other / Unknown  
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude  
Anomaly.Deviation - Speed : All Types  
Anomaly.Deviation - Track / Heading : All Types  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Deviation / Discrepancy - Procedural : Clearance

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

## Assessments

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

## Narrative: 1

Night flight. Originally FO (First Officer) leg, switched to CA (Captain) arrival for CAT 3. Cat 3 ILS Runway XXR ZZZ, wet, greater than 6000 RVR. Assigned 210 4000 on downwind. 190 speed on base down to 3000. Intercept 3000 and 170 speed to FAF. This would keep us too high. CA told FO to let them know that we would be too high and it likely wouldn't work out. Mentioned it twice, no calls to ATC were made to relay this. Got busy fast. Put in 1700 ft and 1000 fpm descent. Was too tight and fast and high. CA made the poor decision to continue to 1000 and then plan to likely go around. Verbalized this. At 1000 ft the plane tried to capture the glide slope. This caused an erratic aircraft behavior leading to turning off the AP and auto thrust. Attempted to stabilize before initiating GA. This went badly and we got nose down. CA and FO said GA around. TOGA was not set. Correct attitude not set. The thrust did not react as expected. CA was confused. We were fully configured for flaps full landing. We then got a PULL UP. FO repeated pull up. CA executed very slowly and incorrectly into a GA and attempted to continue to stabilize the aircraft in the climb out. FO got flaps to 1. Oversped flap 1. FO seemed confused. CA set flaps to zero to stop the overspeed. Attempted twice unsuccessfully to re engage automation. Once level at 4000, automation was successfully re engaged. Continue around to another CAT 3 ILS XXR. FO set up and checked but approach phase was not activated. On final when CA pushed speed, plane sped up, CA pulled speed and called for activate approach. FO no response. CA activated approach phase, checked all criteria, stable except speed. Crew discussed continuing and we continued. Speed came down and on speed by 600. Successful auto land and taxi in. Med Auto Brake. AP off at 50 kts. Taxi in to Gate XX then broken jetbridge required tow to XY. Crew discussed event. Neither CA nor FO knew what happened initially at 1000 ft. CA took responsibility for the subsequent events and told FO that CA would file required reports. CA put flap overspeed in logbook and met with Maintenance. FO has 6 months in the 320, CA has 7. Trip started early am day 1; ended after midnight day 2. A circadian issue that the CA discussed at home prior to the trip. Both pilots have [several] kids. CA has dying family member adding life stress [to] manage the hospice care daily.

## Synopsis

A321 pilot reported unstabilized approach.

ACN: 1945726 (30 of 50)

## Time / Day

Date : 202210  
Local Time Of Day : 0601-1200

## Place

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

## Environment

Weather Elements / Visibility.Other  
Light : Dawn

## Aircraft : 1

Reference : X  
ATC / Advisory.Tower : ZZZ  
Aircraft Operator : Air Carrier  
Make Model Name : EMB ERJ 170/175 ER/LR  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Mission : Passenger  
Flight Phase : Taxi

## Aircraft : 2

Reference : Y  
ATC / Advisory.Tower : ZZZ  
Aircraft Operator : Air Carrier  
Make Model Name : Caravan Undifferentiated  
Crew Size.Number Of Crew : 1  
Operating Under FAR Part : Part 121  
Flight Phase : Taxi

## Person : 1

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : Captain  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
ASRS Report Number.Accession Number : 1945726  
Human Factors : Distraction  
Human Factors : Fatigue  
Human Factors : Situational Awareness  
Human Factors : Workload  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Person : 2

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : First Officer  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 1946071  
Human Factors : Situational Awareness  
Human Factors : Fatigue  
Human Factors : Distraction  
Human Factors : Communication Breakdown  
Human Factors : Workload

## Events

Anomaly.ATC Issue : All Types  
Anomaly.Conflict : Ground Conflict, Critical  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Deviation / Discrepancy - Procedural : Clearance  
Anomaly.Ground Incursion : Taxiway  
Anomaly.Ground Event / Encounter : Aircraft  
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

I was CA (Captain) taxiing Aircraft X for departure from the ZZZ "X" gates to Runway XXL, when we narrowly avoided a collision with a Aircraft Y single engine turboprop. Conditions were the pre-dawn period of civil twilight, VMC, dry pavement, and extensive construction zone hazard lighting in the vicinity. CA was on day 5, segment 1, and feeling mildly fatigued. FO (First Officer) was on day 1, segment 1. Aircraft was configured normally with Engine 1 running and APU on. Navigation lights, red beacon, logo lights, and nose taxi light were illuminated. After clearing up a minor issue with the Ramp Controller reversing Taxiways XX and XY in our initial instructions, we had correctly taxied on XY and were holding short of Taxiway XZ. We checked in with Ground for taxi from this position. Ground cleared us to the effect, "Aircraft Y, taxi to Runway XXL via X; you can go over to Tower." There was no mention of any traffic conflicts or sequence. After the FO read back this clearance, I looked left, right, and left again while giving the short taxi brief "via X, no hotspots, clear left." FO responded with "clear right" and I turned on our nose taxi light and began to taxi along XX from XZ to make the right turn onto X. To the left, I was confronted with a vast expanse of blinking hazard lights within the temporary construction zones, as well as the normal runway and city lights against the gray twilight. I did not observe any aircraft movement on taxiway X itself at this time. To the right, I could clearly see all the way along our entire taxi route to the departure end of Runway XXL, and with no traffic ahead of us, I called for the FO to start engine number 2, so that the 2 minute warmup would be complete before we reached the runway. I remained "heads up" during

the engine start and continued my normal visual scan, and still perceived no traffic from the left. Just as I called "clear left for the right on X" and was turning my vision back to the right for the turn, the FO spoke up with something akin to "what about that guy? He's hauling... it doesn't look like he's going to stop." I looked back left and initially thought the FO was referring to a white panel van I could see speeding through the construction zone and was about to say "he's no factor", when I became aware of motion much closer coming from the left. I immediately stopped the aircraft and now fully observed a Aircraft Y single engine turboprop with navigation lights only (no forward taxi/landing lights illuminated) coming fast from left to right on [taxiway] X and about to hit us. I do not recall if I had our aircraft completely stopped before entering into [taxiway] X or not, but the Aircraft Y was coming close enough that I flashed my lights at him multiple times to make sure he didn't hit us. The Aircraft Y did not alter trajectory, and passed fast by our nose, uncomfortably close. They then continued taxiing rapidly towards the Company A ramp area. After a quick debrief of what just happened, we continued onto X, completed the engine start, taxi flows, taxi briefing, and taxi checklist, when I observed and commented we were still listening to Ground. When the FO switched us to Tower, I inquired, "what was supposed to be our sequence reference that Aircraft Y," in case we had somehow missed a traffic call or misheard our taxi instructions from Ground. Tower seemed unconcerned and said, "Oh, he's an inbound, you can keep going on XA and you'll be number 1 for departure." I replied, "no, he cut us off back there," and Tower replied, "Oh, okay, I'll let him know." The remainder of the flight was conducted without incident. Having no opportunity to debrief with ATC, I do not know if the causal factor was ATC creating a conflict by clearing us onto X in front of Aircraft Y, or if Aircraft Y had been issued instructions to yield to us and then didn't. In any case, procedural control was not sufficient to avoid an incident in this case, and an alert FO's visual scan (while also monitoring an engine start) is what prevented an accident. Contributing factors: Ambient lighting was poor because of time of day and non-standard, busy construction lighting Aircraft Y was taxiing extremely fast and with no forward (landing/taxi) lights Cognitive bias--expecting to see conflicts with large passenger aircraft or ground vehicles, not a small aircraft Expectation bias--did not expect traffic due to low overall ground traffic, no traffic to the right, and no traffic called out to us or heard talking on frequency Fatigue Task saturation Maybe tone down the amount of construction hazard lighting at ZZZ to not create a "wall of light" effect for taxiing aircraft.

## Narrative: 2

There was no taxiing incursion in the event. Yesterday morning, the Captain was taxiing on XY approaching Taxiway XX in ZZZ leaving the X gates. I contacted Ground approaching Taxiway XX and was told to taxi to XXL via X, monitor Tower, new departure frequency XXX.XX. I read back the instruction and was then heads down putting the new departure frequency in comm 2 standby. The Captain briefed the taxi and I agreed with the taxi he briefed. He then asked me to start engine #2 since there was nobody ahead of us for departure. I was then heads down for the engine start. When the Captain stated "clear left" I noticed that we were not clear left. I brought it to the Captains attention. He continued to taxi while looking for the aircraft. He did not see the Aircraft Y which only had its position lights on and blended in well with the construction zone in ZZZ. It became evident that neither aircraft was going to stop. I then stated again to the Captain about the opposing traffic moving at a high rate of speed. The Captain then saw the traffic right before I was about to step on the brakes to avoid a collision. He immediately stopped the aircraft and avoided the aircraft. The other aircraft still didn't see us and when they did they swerved off the centerline and their brakes. The aircraft continued to taxi in front of us. The Captain questioned Tower about our sequence and told them about the near incident. We continued the rest of the flight without incident. Suggestions: ADSB IN with taxi diagram display Lowered iPad mounts that do not block vision of flight crew

## Synopsis

Air carrier flight crew reported critical ground conflict during taxi out for departure, requiring braking to avoid a collision.

ACN: 1942817 (31 of 50)

## Time / Day

Date : 202210  
Local Time Of Day : 0001-0600

## Place

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

## Environment

Flight Conditions : VMC  
Light : Night

## Aircraft

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

## Person : 1

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Not Flying  
Function.Flight Crew : Captain  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
ASRS Report Number.Accession Number : 1942817  
Human Factors : Workload  
Human Factors : Time Pressure  
Human Factors : Fatigue

## Person : 2

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : First Officer  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 1942812  
Human Factors : Time Pressure

Human Factors : Fatigue

Human Factors : Workload

## Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Deviation - Altitude : Overshoot

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Deviation / Discrepancy - Procedural : FAR

Anomaly.Deviation / Discrepancy - Procedural : Clearance

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Anomaly.Inflight Event / Encounter : CFTT / CFIT

Detector.Automation : Aircraft Terrain Warning

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Took Evasive Action

Result.Flight Crew : Returned To Clearance

Result.Aircraft : Equipment Problem Dissipated

## Assessments

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

## Narrative: 1

After two unsuccessful attempts to land at ZZZ1 Airport due to weather. We diverted to ZZZ where we setup for a visual approach to Runway X. We used the RNAV (GPS) Y Runway X approach to back up the visual approach as the ILS approach was out of service. On right downwind for Runway X ATC asked if we had the airport in sight which we did. They cleared us for the visual approach and we continued downwind. We turned about a 5 mile base leg and were descending to 6100. We received an obstacle alert and responded accordingly. This is when I realized that we were improperly conducting a visual approach into ZZZ. I had forgot that we needed to follow the approach guidance from an IAF or radar vectors for this airport. Both of us missed that point during the approach briefing. After adjusting our descent rate for the alert we continued the approach without further incident. After conducting two missed approaches from minimums and diverting with considerable weather in the area that we were constantly avoiding we were mentally fatigued and overlooked the safety alert airport requirements for approaches into ZZZ at night. I am familiar with this airport and its requirements as I have been here many times before. I think the contributing factors involved in our error were rushing during a diversion at night and task saturation that caused us to overlook the requirement. Also contributing was the late hour at the end of a long day and get-there-it-is.

## Narrative: 2

We departed the airport and knew we'd be dealing with weather both most of the way enroute, and at the destination, at night. After attempting an approach twice with hopes the clouds at minimums were transient, we diverted to our alternate. Enroute, while dodging storms at night, it became clear that there was a better alternate behind us, closer. We again coordinated with ATC to turn towards that airport. Due to its proximity and the nature of the irregular ops, we were somewhat task saturated for a bit. We felt good about our decision and focused on the flight path management in relation to the weather, as well as all the briefings, etc. During the approach to landing, cleared for a visual approach and in good VMC, I turned the plane to a base leg, and rolled the VS knob down because we had been high. While communicating with the Captain about my decision

to turn now, and configuring, our flight path became low in relation to our vertical guidance. It was VMC and we had a clear view to the airport and runway. I was either slowing my descent or had leveled when an obstacle alert sounded. I clicked off AP, applied thrust and started a climb. The alert went away immediately, and the vertical guidance was realigned on the 3 degree glideslope soon after. We continued the approach and landed uneventfully, and during the debrief the Captain informed me of our mistake. Weather both enroute and at the original destination airport. Multiple missed approaches both ending in a hold. Intermittent icing, especially during high work load times. The entire flight was at night. Flying well in to the night.

## Synopsis

CRJ-700 flight crew reported receiving an obstacle alert during a night visual approach. After responding accordingly to the alert, the flight crew followed the company approach guidance to a safe landing.

ACN: 1938052 (32 of 50)

## Time / Day

Date : 202209  
Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport  
State Reference : US  
Relative Position.Angle.Radial : 160  
Relative Position.Distance.Nautical Miles : 12  
Altitude.MSL.Single Value : 7000

## Environment

Light : Daylight

## Aircraft

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

## Component

Aircraft Component : Navigational Equipment and Processing  
Aircraft Reference : X  
Problem : Malfunctioning

## Person : 1

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : First Officer  
Function.Flight Crew : Pilot Not Flying  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Experience.Flight Crew.Last 90 Days : 165  
Experience.Flight Crew.Type : 2200  
ASRS Report Number.Accession Number : 1938052  
Human Factors : Fatigue  
Human Factors : Time Pressure  
Human Factors : Workload  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Person : 2

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Captain  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
ASRS Report Number.Accession Number : 1937138  
Human Factors : Workload  
Human Factors : Communication Breakdown  
Human Factors : Time Pressure  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Events

Anomaly.Aircraft Equipment Problem : Less Severe  
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude  
Anomaly.Deviation - Altitude : Overshoot  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Deviation / Discrepancy - Procedural : Clearance  
Anomaly.Inflight Event / Encounter : CFTT / CFIT  
Detector.Person : Air Traffic Control  
When Detected : In-flight  
Result.Flight Crew : Regained Aircraft Control  
Result.Flight Crew : Overcame Equipment Problem

## Assessments

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

## Narrative: 1

While on approach, we were turned onto a base leg by ATC and given a clearance to turn, slow and descend to 8000 ft. I responded to ATC. However, the Captain was in the middle of finding out his HUD was inoperative. He made the turn but did not dial in the altitude in the MCP window. He realized that he had not put an altitude in the MCP panel and queried me what the altitude was. Unfortunately, I told him the wrong altitude of 7000 ft. We were both heads up at that time, looking for the proceeding aircraft turning final. Leveling off at 7000 ft., I had a feeling something was not right. At that point, ATC issued an Altitude Alert and told us to climb back to 8000 ft. We climbed back to 8000 ft., turned final and intercepted the localizer and landed. Several things where big contributors. I was tired. I had been working PM trips then switched to a early AM wakeup call. After the event, I called in fatigued. Possibly recognizing my night of poor rest, I should have called in fatigued earlier. Second the failure of us not following our standards in setting the MCP panel. I should have queried ATC again to verify our altitude when I realized the Captain did not know what it was. Last, the Captain was tasked saturated with dealing with the inoperative HUD. This definitely was an added distraction and we both should have been more aware of it interfering with tasks at hand.

## Narrative: 2

While on downwind I was trying to get the HUD to work when we were given turn to base and descend clearance at the same time. I heard the turn while I was extending a line in the FMS for final and asked what the altitude was, my FO (First Officer) thought it was seven thousand but wasn't sure. Typical approach in ZZZ was talking so much and so fast we couldn't get a verification. I looked at the FAF fix and saw 7000 ft. and figured that was the clearance. Approach then called us and advised the clearance was 8000 ft. and climb back to 8000 ft. and we complied and continued the approach with no further incident. Distractions with the HUD, ZZZ Approach speaking so fast and so much were certainly additive conditions. Its very hard to continually track ZZZ and all of their clearances. Insist on verification of clearance. Take some of the load of the PF, like requiring the Pilot Monitoring to do all radio and FMS programing while below 10,000 ft., or all the time for that matter. That way, the Pilot Flying can concentrate on flying the aircraft and listen better to ATC clearances.

## Synopsis

Air Carrier flight crew reported receiving an ATC low altitude alert during approach. The flight crew immediately climbed to assigned altitude and continued the approach.

ACN: 1932078 (33 of 50)

## Time / Day

Date : 202209

Local Time Of Day : 0001-0600

## Place

Locale Reference.Airport : MSLP.Airport

State Reference : FO

## Aircraft

Reference : X

ATC / Advisory.Tower : MSLP

Aircraft Operator : Air Carrier

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

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Landing

## Person : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Captain

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

ASRS Report Number.Accession Number : 1932078

Human Factors : Situational Awareness

Human Factors : Fatigue

## Person : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Not Flying

Function.Flight Crew : First Officer

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1931059

Human Factors : Situational Awareness

Human Factors : Distraction

Human Factors : Time Pressure

## Events

Anomaly.ATC Issue : All Types

Anomaly.Conflict : Ground Conflict, Critical

Anomaly.Ground Incursion : Runway  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

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

### Narrative: 1

Having received a landing clearance the transition from ILS DME2 Runway 14 to a visual approach was continued. Captain was Flying Pilot. 1000 ft. stable call was made. At about 600 ft. I asked the FO (First Officer) "Is that paint on the runway?" Slight hesitation and I think the answer was something like "not sure" or "that is a big paint spot". 500 ft call was made. Landing was completed. At about 80 kts. the FO called out "truck on runway". I applied very heavy brakes slowing the aircraft quickly to about 20 kts. I exited the runway at Taxiway "A" continuing to the gate and parking the aircraft. At time of landing the sun was low in the sky and behind the aircraft, the truck was driving down the runway the same direction we were landing. The vehicle was on the center line of the runway, I think the term is "Relative Movement" since the vehicle was driving down the center line there was no movement of the vehicle relative to the windshield. This made it difficult to identify the object as a vehicle. The vehicle just blended into the background. The vehicle departed the runway northwest of Taxiway "A" to the north side of the runway. As we were taxiing to the gate the FO asked the Tower Controller if in fact he cleared us to land and the Controller stated "Yes". After we parked again the FO asked if a landing clearance was issued and the Controller stated "Yes". The Controller said he told the vehicle to clear the runway but said the vehicle driver must have missed the transmission. [A contributing factor was fatigue related to early] duty day and 10 hours behind the door the night before, and [an early] duty day on the day of the event. I think there was only one Controller on duty.

### Narrative: 2

During the approach, the CA (Captain) (PF (Pilot Flying)) ended up unexpectedly high on the visual approach (backed up by the ILS DME 2) once turning to final. He used gear extension, full speed brakes and manual flying to bring the aircraft to within stable limits by the 500 ft. callout, but our attention was focused on whether we would need to perform a Go-around or not. This channelized attention led to a later-than-normal completion of the before landing checklist. All this is to say the final moments of this approach were rushed and compressed. Shortly before reaching the flare, the CA asked, "Is that something on the runway? Or is that just paint?" We saw something yellow about halfway down the runway, slightly left of centerline, but at a distance of over 1NM it looked like a strip of yellow paint. We had been cleared to land and were the only aircraft talking with approach for several minutes at this sleepy airport. So cognitively I convinced myself it must be some type of paint indicating an area of a temporary repair or something non-standard that must be specific to Mexico (I am inexperienced with Mexico airports). I said, "I think it's just paint" as we entered the flare, and I cross-checked the yellow spot out front several times as I confirmed spoilers extending on touch-down. As the flare and touchdown were happening, the shape of the yellow appeared to be three dimensional rather than two dimensional like paint, and I quickly realized it was a vehicle stopped on the runway, approximately 20 feet to the left of centerline. I called out, "That's a vehicle on the runway!" to the CA rather than "Go-Around" since thrust reversers had already

been selected. The CA came heavily on the brakes as I called Tower saying, "Get that truck off the runway!" Before my transmission was halfway over, the vehicle (ambulance style van), which was parked facing away from us, peeled out and quickly drove into the dirt/grass off the left of the runway. I do not think my transmission had anything to do with its movement unless the occupants were listening to our frequency. We were probably never closer than 1000 ft. to the vehicle, but if it had not moved we would likely have still been about 30 kts. by the time we overtook its position. It is unclear whether we could have gained enough separation to the right to avoid collision with the left engine had we deviated to the right of centerline without departing the runway surface to the right. When we cleared the runway at Taxiway A the vehicle was behind us, so I estimate its location to have been at approximately 4500 ft. from the approach end of Runway 14. Before shut down I debriefed with the Tower Controller. He confirmed we had been cleared to land but offered an excuse that he had told the vehicle to exit the runway but it had not complied. He promised to review the communications. The visibility was extremely clear and there are no obstructions to the Tower view of the runway area, and the Controller had never mentioned any traffic to us. The Tower Controller should not have cleared us to land with a vehicle on the runway, or should have canceled our clearance when it became apparent there would be a conflict. He likewise should have informed us of the traffic. The CA's steep approach compressing our timeline and focusing our attention was a contributing factor, but visually the yellow 'spot' truly looked two dimensional until the round out and flare for the distance we saw it at (I have excellent vision and do not need or wear glasses). Still, my cognitive disbelief that it \*could\* be a vehicle stopped me from directing a go-around at the last possible opportunity. But I believe our actions, perceptions and decisions were contributing rather than causal factors. Tower Controller should not give clearance to land with a vehicle on the runway. Tower Controller should cancel clearance or direct the go-around when a conflict is apparent. If I see anything that causes me confusion or still seems odd by the time of the flare I will direct or execute a go-around.

## Synopsis

Air carrier flight crew reported heavy braking was required to avoid a collision with a truck on their runway at MSLP. The Tower Controller had instructed the truck to exit the runway but the truck failed to do so.

ACN: 1932036 (34 of 50)

## Time / Day

Date : 202209  
Local Time Of Day : 1801-2400

## Place

Locale Reference.ATC Facility : ZZZ.TRACON  
State Reference : US  
Relative Position.Angle.Radial : 090  
Relative Position.Distance.Nautical Miles : 15  
Altitude.MSL.Single Value : 9000

## Environment

Light : Daylight

## Aircraft

Reference : X  
ATC / Advisory.TRACON : ZZZ  
Aircraft Operator : Air Carrier  
Make Model Name : B737-700  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Passenger  
Flight Phase : Initial Approach  
Airspace.Class B : ZZZ

## Component

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

## Person : 1

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : Captain  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
ASRS Report Number.Accession Number : 1932036  
Human Factors : Communication Breakdown  
Human Factors : Fatigue  
Human Factors : Situational Awareness  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Person : 2

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : First Officer  
Function.Flight Crew : Pilot Not Flying  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Experience.Flight Crew.Last 90 Days : 200  
Experience.Flight Crew.Type : 3200  
ASRS Report Number.Accession Number : 1931685  
Human Factors : Situational Awareness  
Human Factors : Time Pressure

## Events

Anomaly.Aircraft Equipment Problem : Less Severe  
Anomaly.Deviation - Track / Heading : All Types  
Anomaly.Deviation / Discrepancy - Procedural : Clearance  
Anomaly.Inflight Event / Encounter : Fuel Issue  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Became Reoriented  
Result.Flight Crew : Returned To Clearance

## Assessments

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

## Narrative: 1

Cleared to intercept LOC, while being vectored on final approach. The Flight Crew failed to do so, without notifying Approach. There was no loss of separation. ATC did accommodate the failed intercept with vectors that eventually lead to a stabilized approach and a safe landing. Distractions, threats, and task saturation that led the Flight Crew to prioritizing aviating over communication were the following: Non-Normal Fuel Imbalance that resulted in a return to departure airport situation, minutes after takeoff (1500 pounds). Running the QRH and troubleshooting for a possible fuel leak during most of the return to the field flight time. Becoming situationally aware, that landing immediately would result in max landing weight being exceeded, while simultaneously realizing that the Fuel Imbalance was no longer trending negatively. ATC's efforts to expeditiously vector Flight Crew to begin the approach, while being too high to safely do so. Notifying Flight Attendants, Passengers, and Dispatch of the issue and decision to return to the field. First flight of the day with a Cockpit Crew that had never flown together before. Fifth day of reserve with minimum sleep. The previous duty day ended hours after midnight with a "Sound Check" and Live DJ Wedding hotel event that ended at XA30 AM. This Crew Member estimated less than four hours of sleep. The Flight Crews thoroughly debriefed the event and came to the following conclusions: The above situation may have been mitigated, had the Flight Crew better coordinated with each other and ATC. The result may have been longer vectors, to provide more time to process the increased task loading and troubleshooting, once the Crew realized that the fuel imbalance trend had been reduced and eventually reversed. Taking a pause to communicate that the overweight landing was now a higher risk (versus the fuel imbalance) may have helped ATC to aid the Flight Crew with less expeditious

vectoring and thereby avoid task saturation considering the high number of threats experience in the short flight back to the originating airport.

## Narrative: 2

Encountered a sudden fuel imbalance annunciation showing 1,300 pounds difference shortly after takeoff. Made decision to return but got rushed after ATC cleared us direct to field. While running checklists and coordinating with Flight Attendants, the Captain flew through final. We immediately coordinated to get vectors and landed [uneventfully].

## Synopsis

B737-700 flight crew reported a track deviation occurred while returning to departure airport following a fuel imbalance issue.

ACN: 1931686 (35 of 50)

## Time / Day

Date : 202209  
Local Time Of Day : 0601-1200

## Place

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

## Environment

Light : Daylight

## Aircraft

Reference : X  
ATC / Advisory.TRACON : ZZZ  
Aircraft Operator : Air Carrier  
Make Model Name : B737-700  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Flight Phase : Climb  
Airspace.Class B : ZZZ

## Component

Aircraft Component : Engine Air Pneumatic Ducting  
Aircraft Reference : X  
Problem : Improperly Operated

## Person

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)  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
ASRS Report Number.Accession Number : 1931686  
Human Factors : Situational Awareness  
Human Factors : Fatigue

## Events

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

## Assessments

Contributing Factors / Situations : Aircraft

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

### Narrative: 1

We turned the engine bleeds off while taxiing into the gate from our first flight, to prevent a dual bleed light. The First Officer forgot to turn them back on after engine starting. We performed the appropriate checklists and the appropriate calls were made, but we forgot to visually check the bleed sources were in the correct position, when the Captain responded to the checklist. We climbed out as normal, but as we were performing the 10,000 ft. Checklist, the Cabin Pressure Warning horn and light went off. We leveled off at 10,000 ft., told ATC and immediately realized what we had done. We turned the bleeds on, went through the QRH to resolved the issue, and the cabin pressurized as normal. We notified ATC and the Flight Attendants, continued the climb and proceeded on course as intended. No others issues entailed during the flight. Threats to this situation were an extremely early report time and early morning awakening for both Crew Members. First Officer was new and Captain visually looked at bleeds during checklist and responded with what was "expected" but not as the bleeds actually were. Making sure that you respond to what you see not what you expect during checklist callouts And verifying bleed sources are in the correct position, after engine starting and shutting down the APU.

### Synopsis

B737-700 First Officer reported the flight took off with the pneumatic bleed valves closed, resulting in failure to pressurize. The crew noticed and corrected the error.

ACN: 1928964 (36 of 50)

## Time / Day

Date : 202208  
Local Time Of Day : 1801-2400

## Place

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

## Aircraft

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

## Person : 1

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Captain  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 1928964  
Human Factors : Situational Awareness  
Human Factors : Time Pressure  
Human Factors : Distraction  
Human Factors : Fatigue

## Person : 2

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : First Officer  
Function.Flight Crew : Pilot Not Flying  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 1928972  
Human Factors : Situational Awareness  
Human Factors : Fatigue  
Human Factors : Distraction  
Human Factors : Time Pressure

## Events

Anomaly.Conflict : Ground Conflict, Critical  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Deviation / Discrepancy - Procedural : Clearance  
Anomaly.Ground Event / Encounter : Vehicle  
Result.Flight Crew : Took Evasive Action

## Assessments

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

### Narrative: 1

Failed to shutdown both engines on Shutdown Flow. Captain called for shutdown checklist. First Officer read the checklist in its entirety. Crew realized both engines start levers were not placed to cutoff after checklist completion and then immediately placed both start levers to cutoff and verified the engines were shutting down. Cause - It was the end of nearly an 11 hour duty day. Taxing into [Gate] DXX a tug cut in front of the aircraft and the Captain needed to make an abrupt stop to avoid hitting the tug. I believe that distraction pulled some of our focus during our shutdown of the aircraft along with the longer busy duty day added to some fatigue. Suggestions - Turning up the dome light after parking at the gate. Following the shutdown flow especially after engine start levers cutoff verifying the engine shutdown by decrease in N1, EGT, N2 and fuel flow.

### Narrative: 2

Crew failed to recognize engines not shut down during shut down flow and while completing shut down checklist until Crew recognized issue after checklist completion while putting personal equipment away. Cause - Long flight day dealing with weather delays starting in ZZZ1 and weather, turbulence and significant mountain wave ZZZ2/ZZZ. Mitigated all issues but felt the fatigue setting in. Entering alleyway to gate had a tug moving along ramp edge suddenly turn to cross ramp in front of jet. I had to lock brakes to stop quickly which became a mental distraction. Day flyer, flying a night trip and had turned down cockpit lighting prior to running checklist, as I would during daylight hours and did not turn on dome light until after checklist. Suggestions - Slow down the shut down checklist. Do not turn down flight deck lighting until getting to that item on checklist.

## Synopsis

B737-800 flight crew reported they failed to shut down both engines during their shutdown flow. The crew stated distraction caused by a conflict with a tug contributed to the event. Fatigue was also cited as a factor.

ACN: 1916238 (37 of 50)

## Time / Day

Date : 202207  
Local Time Of Day : 1801-2400

## Place

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

## Environment

Flight Conditions : Marginal  
Light : Dusk

## Aircraft : 1

Reference : X  
ATC / Advisory.Tower : ZZZ  
Aircraft Operator : Air Carrier  
Make Model Name : Regional Jet 200 ER/LR (CRJ200)  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Passenger  
Nav In Use : GPS  
Nav In Use : FMS Or FMC  
Flight Phase : Final Approach  
Flight Phase : Initial Approach  
Flight Phase : Landing  
Route In Use : Visual Approach  
Route In Use.STAR : ZZZZZ4  
Airspace.Class B : ZZZ

## Aircraft : 2

Reference : Y  
ATC / Advisory.Tower : ZZZ  
Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer  
Flight Phase : Takeoff / Launch  
Airspace.Class B : ZZZ

## Person : 1

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Captain  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
ASRS Report Number.Accession Number : 1916238  
Human Factors : Communication Breakdown  
Human Factors : Fatigue

Human Factors : Other / Unknown  
Human Factors : Situational Awareness  
Human Factors : Time Pressure  
Human Factors : Training / Qualification  
Human Factors : Workload  
Human Factors : Confusion  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Person : 2

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : First Officer  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
ASRS Report Number.Accession Number : 1916239  
Human Factors : Workload  
Human Factors : Training / Qualification  
Human Factors : Time Pressure  
Human Factors : Other / Unknown  
Human Factors : Fatigue  
Human Factors : Confusion  
Human Factors : Communication Breakdown  
Human Factors : Situational Awareness  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.ATC Issue : All Types  
Anomaly.Conflict : Ground Conflict, Less Severe  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Inflight Event / Encounter : Unstabilized Approach  
Detector.Person : Flight Crew  
Were Passengers Involved In Event : N  
When Detected : In-flight  
Result.General : None Reported / Taken

## Assessments

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

## Narrative: 1

During visual approach to XXL, First Officer (FO) was pilot flying (PF) and I was pilot monitoring (PM). Both pilots were unfamiliar with simultaneous visual approach procedures into ZZZ1. We were cleared on the visual following traffic to the parallel. Due to heavy glare and haze, FO was unable to maintain visual with the runway and I opted to

take controls since I could see the runway and traffic to follow. ATC had assigned a speed without specifying when to slow or when to contact Tower and we crossed the FAF at 170 kts. In the ensuing rush to contact Tower, finish configuring and run the before landing checklist, we ended up making our stabilized call at 500 ft. After touchdown and before rolling through XXR, I heard Tower clear an aircraft for takeoff on XXR and I came to a rapid stop short of XXR. Neither pilot had heard an ATC clearance to land and hold short of any runway or taxiway. We cleared the Runway at Taxiway 1 and taxied to the gate without further incident. Task saturation and tunnel vision led me to fail to call for or execute a go around when it was clearly called for. Unfamiliarity with the visual approach procedures at ZZZ1 and a long duty day were contributing factors to poor decision making and situational awareness. More detailed information on unique procedures into large airports to ensure pilot familiarity, better fatigue mitigation and a continued emphasis on executing a go around when an approach becomes unstable.

## Narrative: 2

After almost a 5 hour maintenance delay at ZZZ2, an integrated drive generator was deferred and we completed one of the two legs that were originally on our schedule before timing out. I was pilot flying (PF) this leg and elected not to brief the arrival into ZZZ1 on the ground due to lots of variables and abnormalities for compliance with the MEL on the departure briefing. In the climb-out, I called for Autopilot on to start looking at the arrival and complete a brief then. Both the Captain and I were unfamiliar with ZZZ1. Once we reached cruise, we immediately got a descend via clearance on the ZZZZZ 4 arrival. I had not briefed yet because we were discussing the Visual as we were told to expect that. Being unfamiliar with this, we did not know how to correctly program the FMS. We spent a lot of time trying to figure this out while we were descending down. I eventually briefed the visual backed up with the ILS XXL as I normally would for a visual and briefed a threat to be the Visual procedure as we weren't sure what to expect or how that would go. Descent check was called for at about 13,000 ft. We ultimately ended up high and fast to join the intercept course to the XXL LOC. ATC asked a few times if we had the airport in sight, but it was evening and the sun was setting right in the direction the airport was. There was also a haze layer creating visual illusions and I could not find the runway. As we got closer, I could tell we were getting high and fast and needed to accept the visual to get configured and on glide path. The captain saw the runway and called it in sight and we attempted to slow and get set up. ATC had us at 210 kts. and 5000 ft., then eventually gave us 180 kts. or greater. We went flaps 8/20 and gear down with full boards to lose altitude. I still did not have the airport in sight looking right into the sun so we swapped controls and I transitioned to pilot monitoring (PM). ATC never handed us off to Tower so once inside the FAF we got fully configured by going flaps 30/45 in one call, and never completed the correct calls for check spoilers, flaps 45 before landing check. As flaps were in transit to 45, I called Tower for landing clearance. During their read back, we got a FLT SPOILER DEPLOY caution and retracted the spoilers. I read back landing clearance and we continued to land. During the roll-out, it appears Tower cleared someone on XR to takeoff before we crossed that intersection. Unsure if we missed a land and hold short clearance, the captain used the breaks to stop before the XR intersection. Tower proceeded to clear traffic to land behind us on XXL, give an aircraft a line up and wait clearance for XXL while we are stopped on the runway with no further instruction. We elected to taxi off and wait for further instructions, and the remainder of the taxi-in was uneventful. Both the captain and I were unfamiliar with ZZZ1, their arrivals and charted visuals. Fatigue definitely played a role as this was already into our 2 hour extension period from a reflow on a 13.5 hour duty day. The short flight was a threat and did not give us enough time to brief and prepare for the visual. Neither of us were fully clear on the procedures involved with the charted visuals and how the FMS should be set up/used. ATC was nearly pressuring us to report the airport in sight so they could clear us for the visual. At the time, accepting the

visual seemed like the only way to get in a position to be stabilized on the approach course because ATC did not give us vectors or lower altitudes to help put us in position. The sun was setting and was shining right at us, and combined with the haze, it was very difficult to find the airport having not been familiar with the area. From the very beginning, we could have asked for delay vectors on the arrival to get caught up and try to understand the charted visual procedures. Then coming in closer, we could have asked for a slower speed to help create time and get configured with at least flaps 8 and 20. Without having the airport in sight, we also could have asked for the ILS but it seemed that everyone else was getting in with the visual so ATC kept asking if we had the airport in sight so they could send us on our way. Once cleared for the visual, it was apparent we were not in a good position but ATC cleared us anyway and we tried to make it work. At this point, it got really hectic and busy, we should have broken off the approach and came back around. We were not stabilized by 1000 ft. which should have been a mandatory go-around. I don't think I ever once considered doing a go-around because of task saturation and tunnel vision to keep the aircraft under control and clear of parallel traffic. I could have also asked the Tower Controller to say again with the landing clearance. Going back to liveATC, it appears the Tower Controller cleared someone to line up and wait on XXR and he told us that there was traffic in position and holding on the intersecting runway, current winds and cleared to land. The only part I heard was the landing clearance, but I was aware he said more. I just did not hear the other parts of the transmission due to the caution coming on at the same time. A little more direction/assistance from ATC would have helped tremendously, but they probably had no way of knowing we were unfamiliar with these procedures. It would also be helpful to have information on our company charts about these procedures, especially since ZZZ3 based crews rarely go to this area. Bottom line, we should have gone around at the latest at 1000 ft. when we were not stabilized.

## Synopsis

CRJ200 flight crew reported multiple issues resulted in an unstable approach that would have required a go around. Instead, the crew continued the landing and were stable by 500 ft AGL.

ACN: 1916153 (38 of 50)

## Time / Day

Date : 202207  
Local Time Of Day : 0001-0600

## Place

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

## Environment

Flight Conditions : VMC  
Light : Night

## Aircraft

Reference : X  
Aircraft Operator : Air Carrier  
Make Model Name : B767 Undifferentiated or Other Model  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Passenger  
Flight Phase : Parked

## Component

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

## Person

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : Captain  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Experience.Flight Crew.Total : 10890  
Experience.Flight Crew.Last 90 Days : 197  
Experience.Flight Crew.Type : 5702  
ASRS Report Number.Accession Number : 1916153  
Human Factors : Communication Breakdown  
Human Factors : Situational Awareness  
Human Factors : Time Pressure  
Human Factors : Troubleshooting  
Human Factors : Fatigue  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Dispatch

## Events

Anomaly.Aircraft Equipment Problem : Critical  
Anomaly.Deviation / Discrepancy - Procedural : MEL / CDL  
Anomaly.Deviation / Discrepancy - Procedural : Maintenance  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Deviation / Discrepancy - Procedural : FAR  
Anomaly.Ground Event / Encounter : Weather / Turbulence  
Detector.Automation : Aircraft Other Automation  
Detector.Person : Flight Crew  
Were Passengers Involved In Event : N  
When Detected : Taxi  
Result.General : Release Refused / Aircraft Not Accepted  
Result.General : Maintenance Action  
Result.General : Flight Cancelled / Delayed  
Result.Flight Crew : Returned To Gate

## Assessments

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

## Narrative: 1

Reported to ZZZ, Date, XX: 30, H3005. OAT at one time was discussed to be as high as 107 degrees F. Met FO (First Officer) at FPA (Flight Planning Area) and completed flight planning assignments. Proceeded to Gate XX and prepared aircraft for on-time departure of Aircraft X. Main cabin door and cargo door closed...was waiting for Final DG report. Called ZZZ Operations about Final DG...no report. Sent Load Planning a message and called Dispatch regarding no Final DG Report...Final DG report arrives about 15-20 minutes after doors closed. (Note: very hot on flight deck, estimate of 95 degrees F.) Push the aircraft, start both engines, and taxi to XXL/WW. Given instructions to line up and wait. Once on the active runway, Equipment Overheat EICAS message. Obtained clearance to taxi clear of Runway XXL. Initiated QRH procedures, switch to Standby, wait 5 minutes to determine if Overheat condition still present. Once switched to Standby, overheat annunciation inhibited for 5 minutes. After 5 minutes overheat still present. Contacted ZZZ Operations and asked for a gate return. Was told no wide body gates available, did you call Maintenance? Maintenance release sent. ZZZ Operations instructed me to contact ZZZ Maintenance. ZZZ Maintenance asked to confirm the operating configuration of the aircraft and I confirmed. ZZZ Maintenance asked me if I wanted to reset the system. I declined the request. I again asked ZZZ Operations for a gate, no gate available. (Note: flight deck temperature estimated in excess of 100 degrees F. QRH discussed failure of instruments, due to excessive heat. I was concern for safety of flight deck occupants and possible damage to the aircraft.) Contacted Dispatch and explained the situation. Dispatch called ZZZ Operations and eventually Gate XX was assigned for gate return. Shortly after parking at XX, ZZZ Tech Operations Personnel arrived on the flight deck and showed me an iPad picture of a closed E and E bay exhaust valve. Tech Operations indicated that the exhaust valve was not modulating open. Deplaned passengers from aircraft. At first, Tech Operations wanted to MEL the malfunctioning exhaust valve. I indicated I would not operate the aircraft with the MEL. Tech Operations then stated that they would replace the exhaust valve. Tech Operations indicated that the repair would be complete by XE: 15pm. At approximately XE: 30pm, I was notified of an aircraft swap. FO and I proceeded to the

FPA, I reviewed and authorized a new release, and proceeded to Gate XY. At some point, I received a call from Crew Scheduling and was asked if the flight deck crew was willing to extend IAW FAR 117. The FO and I were willing to extend. CCO XH: 28.pm. To continue, storm developed around ZZZ, with associated lightning...Ramp Closed. Ramp opened around XG: 00pm. The flight began boarding. We started taking on the required fuel and I was confident the flight would takeoff prior to CCO Time. At approximately XG: 50pm, I noticed that the cargo door was closed, but did not receive a DG report, main cabin door closed. I sent a message via Chat and asked about the DG report and asked to confirm that baggage loading was complete. After a several minutes it was reported that baggage cans from the previous flight were still on the previous aircraft and that baggage cans for that flight had not been loaded. ZZZ Operations announced that the flight was cancelled. Passengers deplaned. The FO and I left the aircraft at approximately XH: 30. Crew Scheduling called and left a message that Aircraft X would operate/depart Date1, XR: 30 am. I got home at approximately XJ: 15am, Date1, and into bed at approximately XK: 00 am. Prior to bed, I took 3 Bayer aspirins, as I had a significant headache. I estimate that I fell asleep at approximately XL: 00 am. My alarm clock was set for XO: 30 am. Once awake I determined that I was fatigued and was not fit for duty. I called Crew Scheduling and reported fatigued. The scheduler requested a time when I would be fit...I responded mid to late afternoon on Date1. I woke up at approximately XS: 30 am, and called Crew Scheduling advising them that I was no longer fatigued. I would like to add that I believe my prolonged exposure to much higher-than-normal ambient temperatures added to my state of fatigue.

## Synopsis

B767 Captain reported numerous delays were caused by mechanical, communications and ground weather. The flight eventually cancelled and the Captain called out fatigued due to the situation.

ACN: 1915224 (39 of 50)

## Time / Day

Date : 202207

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

## Environment

Flight Conditions : VMC

## Aircraft

Reference : X

ATC / Advisory.Ramp : ZZZ

Aircraft Operator : Air Carrier

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

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Taxi

## Person : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : First Officer

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Total : 2

ASRS Report Number.Accession Number : 1915224

Human Factors : Communication Breakdown

Human Factors : Distraction

Human Factors : Human-Machine Interface

Human Factors : Situational Awareness

Human Factors : Time Pressure

Human Factors : Training / Qualification

Human Factors : Workload

Human Factors : Fatigue

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : Flight Crew

## Person : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Experience.Flight Crew.Total : 13000  
ASRS Report Number.Accession Number : 1915802  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Conflict : Ground Conflict, Critical  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Ground Event / Encounter : Other / Unknown  
Detector.Person : Flight Crew  
Were Passengers Involved In Event : N  
Result.Flight Crew : Became Reoriented  
Result.Flight Crew : Took Evasive Action

## Assessments

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

## Narrative: 1

During push-back at ZZZ at XA:28 local time, the new ATIS stated conditions codes 5,5,5 100% wet for our departure runway. The Performance Data indicated dry conditions; so I (First Officer) contacted Operations to have them change the condition code to wet during push back. I also started the #1 engine, then requested a new performance data through ACARS. As the ground crew stopped the push back, the new performance data printed out and I began inputting the data into the FMS. Simultaneously, the Captain conducted a control check (as I monitored) and called for "flaps 2, taxi" to begin movement. I looked at the EICAS verified steering was disengaged and the Flaps were set to 2. I looked up and didn't see any ground crews. I then said, "flaps set, steering engaged." The Captain then began to taxi forward. That's when I noticed the tug and ground crews directly under the airplane walking back. I immediately yelled "STOP, STOP, STOP" and applied brakes. The aircraft moved forward about 3-5 ft. before coming to a complete stop with equipment and personnel directly under the aircraft. The Captain acknowledged and set the parking brake. No ground personnel or equipment contacted the airplane. We then received a salute from ground personnel as they departed the area of operations. The Captain and I discussed the situation and continued the rest of the flight without incident. This event occurred early in the morning when both crew members were tired. Airfield conditions called for new performance data which caused a slight distraction for both crew members. The Captain has just over 80 hours as pilot in command (PIC) following a long break from the company. Distraction with the performance data, inexperience, and lack of situational awareness caused the Captain to lose focus and forget to wait for ground personnel to leave the area before conducting the control check and calling for taxi. As the First Officer (FO), I should have been more situational aware of what the Captain was doing and the location of ground personnel. Ensure Captains are adequately trained, comfortable, and ready prior to being released from IOE. After flying with the Captain for the entire sequence, it is my opinion that the Captain needed more time to develop flows, understand procedure, and become operationally proficient before being released to the line.

## Narrative: 2

VFR conditions, ATIS reporting wet runway conditions. Communication with Operations to change to wet for correct performance data numbers. Performance numbers came out during push causing a distraction. After engine start and tow-bar release aircraft moved approximately two feet before CRM and stopped the plane without contact, damage or injury. Stopped reviewed performance data, ran/ reran all flows and checklist at a thorough pace and continued. Early start in the dark, operations and communication with operations to correct the field conditions leading to an unnecessary interruption/distraction causing an input change to the FMS that would have been best accomplished at the gate in the normal routine manner. Communication with Operations to ensure field conditions that the performance data will be calculated on the latest ATIS or official weather. This should be accomplished after obtaining weather information during the normal preflight sequence, especially in changing weather conditions. With the discovery of any unusual information the parking brake should be set, verify ground crew position and both pilots agree on the change. This is how I will approach this or a similar situation in the future.

## Synopsis

Air carrier Captain and First Officer reported a failure to use SOPs during push back and brake release. The Captain and First Officer failed to communicate and released brakes while the ground crew was still under the aircraft. There were no injuries or equipment contact.

ACN: 1915174 (40 of 50)

## Time / Day

Date : 202207  
Local Time Of Day : 0001-0600

## Place

Locale Reference.Airport : ZZZZ.Airport  
State Reference : FO  
Altitude.AGL.Single Value : 0

## Environment

Weather Elements / Visibility : Rain

## Aircraft

Reference : X  
Aircraft Operator : Air Carrier  
Make Model Name : A321  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Passenger  
Flight Phase : Parked

## Component

Aircraft Component : Unknown  
Aircraft Reference : X  
Problem : Malfunctioning

## Person

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : Captain  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
ASRS Report Number.Accession Number : 1915174  
Human Factors : Troubleshooting  
Human Factors : Workload  
Human Factors : Fatigue  
Human Factors : Physiological - Other

## Events

Anomaly.Aircraft Equipment Problem : Less Severe  
Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor  
Anomaly.Flight Deck / Cabin / Aircraft Event : Illness / Injury  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Detector.Person : Flight Crew

Detector.Person : Flight Attendant  
When Detected : Aircraft In Service At Gate  
Result.General : Flight Cancelled / Delayed  
Result.General : Maintenance Action

## Assessments

Contributing Factors / Situations : Aircraft  
Primary Problem : Aircraft

## Narrative: 1

Approaching the gate it was clear a serious fume event had/was taking place. Walking down the jet-bridge I almost immediately had a hard time breathing the air. Once I entered the cockpit, it was 100% clear it was fume event. I told the FAs (Flight Attendants) to deplane. Maintenance had NOT written up the issue much to my surprise. I immediately entered the fume event in the logbook. The air in the aircraft was so bad I had to depart to the gate area. Later I agreed to complete engine run ups and maintenance checks. The issue did not go away. Soon after I started to feel sick. I stated this to my FO (First Officer) and the FAs. Several hours later the flight cancelled and assumed I was going to the hotel. Scheduling demanded that I DH (Dead Head) back on a flight to ZZZ. I stated I needed a hotel room--I was told "Sorry". After hours of toxic air, maintenance run ups, and fume event reports, I was not feeling sick and fatigued but Scheduling would not grant my request for a hotel. I called out fatigued. I contacted [medical] after I called out due to my stomach issues.

## Synopsis

Air Carrier Captain reported a fume event during gate preflight. After assisting maintenance with the engine run ups and maintenance checks which resulted in no improvements the flight was cancelled.

ACN: 1909487 (41 of 50)

## Time / Day

Date : 202206  
Local Time Of Day : 1201-1800

## Place

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

## Environment

Flight Conditions : VMC  
Light : Daylight

## Aircraft

Reference : X  
ATC / Advisory.Tower : ZZZ  
Aircraft Operator : Air Carrier  
Make Model Name : B737-900  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Passenger  
Flight Phase : Takeoff / Launch  
Route In Use : Vectors

## Component

Aircraft Component : Turbine Engine  
Aircraft Reference : X  
Problem : Malfunctioning

## Person : 1

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : First Officer  
Function.Flight Crew : Pilot Not Flying  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
Experience.Flight Crew.Total : 435  
Experience.Flight Crew.Last 90 Days : 229  
Experience.Flight Crew.Type : 435  
ASRS Report Number.Accession Number : 1909487  
Human Factors : Communication Breakdown  
Human Factors : Confusion  
Human Factors : Fatigue  
Human Factors : Situational Awareness  
Human Factors : Time Pressure  
Human Factors : Troubleshooting

Human Factors : Workload  
Human Factors : Human-Machine Interface  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Person : 2

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Captain  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Experience.Flight Crew.Total : 1812  
Experience.Flight Crew.Last 90 Days : 229  
Experience.Flight Crew.Type : 1812  
ASRS Report Number.Accession Number : 1909498  
Human Factors : Workload  
Human Factors : Troubleshooting  
Human Factors : Situational Awareness  
Human Factors : Human-Machine Interface  
Human Factors : Confusion  
Human Factors : Communication Breakdown  
Human Factors : Fatigue  
Communication Breakdown.Party1 : Flight Crew

## Events

Anomaly.Aircraft Equipment Problem : Critical  
Anomaly.Deviation / Discrepancy - Procedural : Clearance  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Detector.Automation : Aircraft Other Automation  
Detector.Person : Flight Crew  
Were Passengers Involved In Event : N  
When Detected : In-flight  
Result.General : Flight Cancelled / Delayed  
Result.General : Maintenance Action  
Result.Flight Crew : Rejected Takeoff  
Result.Flight Crew : Returned To Gate  
Result.Flight Crew : Requested ATC Assistance / Clarification  
Result.Air Traffic Control : Provided Assistance

## Assessments

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

## Narrative: 1

It had been a long day for us. We extended our duty, multiple passenger issues (including a full deplane and reboard hrs later), 5 releases, an over fuel, multiple Flight Attendants timed out because of legality issues, performance issues due to wind and temps in ZZZ,

and multiple extensive ZZZ1 delays due to gate issues and WX. I have provided this information to give you a complete picture of our environment and mindset of that day. We were going to depart Runway XX in ZZZ. It was to be a bleeds off take off so the QRH was run. The takeoff roll was normal with thrust set and checked. The 100 knots call was made and then I noticed the EGT dial was full red. I brought it to the Captain's attention and he rejected. My best guess is that we were at 110 knots. The rejection was executed properly with all appropriate calls made. We ran the QRH and then QRH for the rejection and the exceedance. The trucks were also called. After consulting with [airport] response, the Flight Attendants, and the QRH, we determined it was safe to return to the gate. We parked at Gate X without further incident. I support my Captain's decision to reject because I feel it was truly in the interest of safety.

## Narrative: 2

Departing ZZZ Runway XX. Bleeds off takeoff. Flaps 1. Approximately 163,000 pounds takeoff weight. Surface temps in ZZZ around 30C. Winds 120@10G20. Aircraft was properly configured. Bleeds Off Takeoff QRH was referenced by the FO (First Officer) and I double checked it. Takeoff thrust was 101.2% N1 I believe. Takeoff roll was normal...100 knot call out was made. Just past the 100 knot call the FO called the Engine 2 Exceedance. Engine 2 EGT dial was completely RED which sits just below the N1 Dial. I made the decision to abort the takeoff at around 110 knots. Stopped halfway down the runway. Determined we could clear the runway and turned off at the High-Speed [Taxiway] 1. We asked for the ARFF (Airport Rescue and Firefighting) to be dispatched. They reported no damage, no brake fire. Completed the RTO (Rejected Takeoff) QRC/QRH. The Engine Limit or Surge or Stall QRH. Referenced the Brake Cooling Charts for a 900ER and determined we could taxi to the gate. Arrived at the gate with no further incident. I do understand that above 100 knots, we should reject for loss of directional control, Fire, Engine Failure, PWS (Predictive Wind Shear). However in the moment, with a relatively heavy airplane, max performance, and the long runway I believed at that time it was safer to stop the airplane. A different airport with a different set of conditions I am not certain I would have. Also seeing a completely red EGT gauge just below the N1 gauge does lead to a definite startle factor in what exactly I am looking at. The fact that it was a long day which included defueling the airplane, about the start the push only to be told by Dispatch not to push because flights we are diverting out of ZZZ1. Deboarding, Customer Service issues, Multiple FAs (Flight Attendants) timing out, our own CCO (Critical Crew Offtime) issues which included extending our CCO time, reboarding, 5 Dispatch releases...Not 100% certain that is all relevant but maybe in my mind it was a factor in just saying maybe we should just call it and not take this plane airborne. I dunno. But at the end of the day we made that decision. Nothing was broke or bent, no one was hurt but it did give me a sleepless night and something to think about.

## Synopsis

Flight Crew reported a rejected take off was caused by Engine #2 EGT exceedance and returned to the gate for maintenance action.

ACN: 1909015 (42 of 50)

## Time / Day

Date : 202206

Local Time Of Day : 1201-1800

## Place

Altitude.MSL.Single Value : 31000

## Environment

Flight Conditions : VMC

Light : Daylight

## Aircraft

Reference : X

Aircraft Operator : Air Carrier

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

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Cruise

Route In Use : Vectors

## Component

Aircraft Component : Central Computer

Manufacturer : MAU2B

Aircraft Reference : X

Problem : Malfunctioning

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Captain

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

ASRS Report Number.Accession Number : 1909015

Human Factors : Communication Breakdown

Human Factors : Fatigue

Human Factors : Human-Machine Interface

Human Factors : Situational Awareness

Human Factors : Time Pressure

Human Factors : Troubleshooting

Human Factors : Workload

Human Factors : Confusion

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

## Events

Anomaly.Aircraft Equipment Problem : Critical  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Deviation / Discrepancy - Procedural : FAR  
Anomaly.Deviation / Discrepancy - Procedural : Clearance  
Detector.Automation : Aircraft Other Automation  
Detector.Person : Flight Crew  
Were Passengers Involved In Event : N  
When Detected : In-flight  
Result.General : Flight Cancelled / Delayed  
Result.General : Maintenance Action  
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  
Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Aircraft

## Narrative: 1

On flight from ZZZ1 to ZZZ, Aircraft X experienced an AVNX MAU (Master Avionics Unit) 2B failure approximately 250 miles from ZZZ. The aircraft was at FL310. Upon experiencing the failure, the Captain was the Pilot Flying and had me identify and cancel. I pulled out the QRH and went step by step through the procedure with the Captain. Upon completion of the checklist we determined that a [request for priority handling] was appropriate and to request Crash Fire Rescue. We notified dispatch, the Flight Attendants and the passengers of the situation. The failure of the MAU caused us to lose our inboard brakes, ground and terrain proximity warning and a number of other messages. Based on the loss of our inboard brakes and with an increased runway requirement we would need CFR on site. We also selected Runway XXR as winds were favorable and it was 10,006 ft. runway. This was adequate based on the QRH number assessment for landing. We ran the Landing Gear/ Brake Malfunction descent and landing checklist in accordance with the QRH. Upon landing we experienced decreased braking capability but sufficient enough to safely stop. While stopping I also had up the system page to additionally monitor brake temps. We safely landed without any deviations or damage. After clearing the runway, we were asked by ATC to quickly taxi across XXL. I told them we were unable and reminded the controller that we had to brakes that failed. I personally was not happy that the Controller lost situational awareness and asked us to do something that was potentially unsafe. He acknowledged and we waited for to clear XXL. Upon taxiing into the gate the aircraft got the Brake Overheat message. We once again identified and canceled and I read the QRH and we executed it. The Captain stopped the aircraft and we determined the best course of action was to have the aircraft tugged to the gate. We had Crash Fire Rescue Equipment inspect us multiple times upon landing to ensure there was no threat to our passengers or crews from the hot brakes. We subsequently were tugged into the gate and waited for maintenance to respond. Upon arrival to the gate, Maintenance wanted to have the aircraft shutdown and brought back on line to see if the fault would clear. At this point, I was frustrated and felt like a better assessment of the reliability of our systems needed to occur after the failure in flight. We already had MEL XX-XX-XX-X for the FADEC (Full Authority Digital Electronic Control) that required an alternate ignition operations procedure on it. In response to this, I could tell that stress had set in and I made the

decision not to continue flying for the rest of the day. After flying in the military for XX years, I call it the rule of three. When three things happen bad in the aircraft.... It's time for me to do a personal assessment of where I am at IAW (in accordance with) the personal assessment checklist. I also started to talk myself into continuing for the day which is a dangerous attitude to have. Upon recognizing that the event caused more stress than everyday operation, I informed the Duty Pilot and scheduling that I was not going to continue. I also talked to the Chief Pilot. I am glad I did this. Looking back at yesterdays events, we had a lot of additional complexities that we do not encounter on a normal day. These system failures were not our fault, but the QRH was well written enough to get us safely on the ground. We had good CRM throughout the [incidents]. I think our crew did a phenomenal job identifying and mitigating threats both in and after the flight, and that is why I am sharing this. I am also happy that there were both union and company personnel who supported my decision based on my self assessment. This is a positive cultural aspect that I would like to highlight. [I would suggest to] continue to train emergency and QRH usage. Continue to ask crews to do self assessments... we are not all built the same way. Learn from these failures and validate QRH procedures.

## Synopsis

EMB ERJ 170/175 First Officer reported the failure of MAU 2B in cruise. The Flight Crew made a precautionary landing at destination airport and the aircraft was towed to the gate.

ACN: 1907448 (43 of 50)

## Time / Day

Date : 202206

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

## Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : B737 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Taxi

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Captain

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Total : 2545

Experience.Flight Crew.Last 90 Days : 189

Experience.Flight Crew.Type : 2545

ASRS Report Number.Accession Number : 1907448

Human Factors : Communication Breakdown

Human Factors : Confusion

Human Factors : Distraction

Human Factors : Situational Awareness

Human Factors : Training / Qualification

Human Factors : Troubleshooting

Human Factors : Workload

Human Factors : Fatigue

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.No Specific Anomaly Occurred : Unwanted Situation

Detector.Person : Flight Crew

When Detected : Taxi

Result.General : Flight Cancelled / Delayed

Result.Flight Crew : Became Reoriented

## Assessments

Contributing Factors / Situations : Company Policy

Contributing Factors / Situations : Environment - Non Weather Related

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Procedure

Primary Problem : Company Policy

## Narrative: 1

I was the Captain on Flight XXX ZZZ-ZZZ1 performing Line Check Airmen (LCA) duties with a new hire on date. This was an all-night flight which was leg five and a third duty period for the new hire. My new hire was Military background and had completed his OE early this year and basically sat for four months. He had been back for a three-day sim recently. He has a great attitude and is eager to learn, however the first few legs he was challenged with a lack of -121 experience and what I believe was a degradation or loss of good habit patterns from the sim phase. Leg three on day two was a short, challenging flight from ZZZ2-ZZZ3. He was stressed and challenged making many mistakes, but ultimately I could see improvement, despite being overwhelmed with the pace of our operations. Leg four was a long leg from ZZZ3-ZZZ that same day, and showed significant improvement. The approach and landing were approaching "line standard" and I was hopeful if not confident that we had gotten over the "hump". We had a long layover to ready for the all night flight back to ZZZ1. I had stated that typically, it's much easier to fly from ZZZ to ZZZ1, so we could have a good flight and finish required briefings. The day before Flight XXX I had two periods with naps, early afternoon and then again in the evening before report time. My student reported that he had napped, but said he wish he had drank more coffee when we were in the cockpit. When I awoke an hour prior to report, the operations flight plan was not present, so I readied myself to the duty day. In the 10-15 minutes prior to leaving the room there was still no operations flight plan, but I had checked the weather along the tracks as well as ZZZ1 (all good, and VFR). The hotel van was late by almost 10 minutes. We arrived to chaos at the gate area. ZZZ station was buying seven passengers off the full flight. I pulled up the operations flight plan and immediately called Dispatch to remove fuel and get the latest ZZZ4. I then directed my First Officer (FO) to the cockpit to get ready for the flight, telling him that he was responsible for the FMC and that I would do the exterior walk around to give him additional time. Dispatch, Station and Flight Attendant conversations dominated the next several minutes and I arrived at the cockpit from the walk around approx. 25 min prior to pushback. He had most of the programming done and it was all accurate. He had been slow but usually pretty accurate in previous flights. We discussed the upcoming flap 25, Bleeds Off take-off and I had him pull up the supplemental procedure and review it. We were able to get all the passengers on, and we briefed and did the preflight checklist. I had briefed that we would push back, start both engines and run the before takeoff checklist to completion before taxi. Additionally, he had briefed a flap 25 bleeds off, and we analyzed the data and discussed the winds (080/10) and temp (23C) as these were critical to taking the planned weight. The door closed and we worked a clearance with ZZZ5. My FO was seemingly having issues with radio calls, attempting to take calls for other aircraft. So I slowed him down and we received our clearance and expected altitude. Then we pushed back and I directed him to start both engines as briefed. The preflight had been hectic, with me being pulled in many directions. I had shielded him from as much of that as possible, by having him simply work on his cockpit set up. I am very aware that my error signature is when I am rushed, I make mistakes. As such, when the brakes are released, I stop rushing and slow down. I briefed my student the same thing and I make sure to slow my speech pattern and checklist response time. That is not unique to this day, it's every time. I had briefed him that we were going to take our time and we were

not rushed. I have no memory or perception for us rushing after push this night. After the number two engine was started, he was sitting there, and I saw the packs were off. This was a common error he had had in previous legs, so I pointed to the packs. The pushback crew was at my ten o'clock position and I looked back at them. Then I glanced in and saw that the number one engine wasn't started and I verbalized "Start Number One". He responded, "Oh you want me to start Number One? OK." I then turn my attention back to the crew as it was time for the salute. I look back in and the engine is at max motoring, at approx. 34 percent N2 with the Fuel Control Switch still in Cutoff. My FO mumbled something about 30 percent which I didn't hear. I asked him to repeat it and he did. It was something about a "limit", so I asked again and got a reply I didn't understand, so I slowed down again and said, "I do not understand what you are telling me". He was confused, and it turns out that he was mixing up previous airplane's limits. I prompted him to start the engine. We ran through the After Start Checklist with no issues that I'm aware of. No without moving the aircraft we began the before take-off checklist. The first step is "Final Weights" from the ACARS printout. The number he read made no sense. I was thinking about it as he went on, trying to understand when he backed up and corrected himself to a number that made more sense. I'm assuming a transpose error. Then he went on to the takeoff weights/speeds and really had troubles. He was going back and forth from the takeoff data message to the FMC. I stopped him, and we talked about him analyzing the data, and checking it with the FMC prior to the checklist initiation. He understood, and I stopped the before takeoff checklist and we started again from the beginning. I remember the first two steps clearly. I remember the trim step clearly. I remember the FMC step clearly as we had discussed the routing that was absent a SID. In the later moments and the hours since I have no memory of mention of flaps. We taxied to the runway, ensured the bleed panel was correctly configured including techniques, got the release from ZZZ5 and took the runway. As we were taking the runway, I was going to go over the flap 25 takeoff again and talk rotation rates and pitches and as I said, "OK...a Flaps 25 takeoff..." and as I glanced at the gauge, the flaps were set to flaps 5. He reselected flaps 25, stating "You probably said 25..." We then stopped on the runway and accomplished the before takeoff check in its entirety. I know the "whys". I don't know the "how" and it'll be a while to cement the "what am I going to do next". He's new, with no airline background. He sat for four months. In my opinion he's lost habit patterns and confidence. There were operational pressures out of the station, along with numerous distractions. I knew and briefed that we were rushed and that we would take a moment. We did. I slowed things down. We both had stated that we napped, but it was late; XAAM for him, XBAM for me. The single most disturbing thing I'm wrestling with it for 20+ years in the B737, I've been very careful with flaps. From day one in the left seat when we get to the step, I pause (so that I can clear any taxi conflicts and go heads down) point to the FOs Take-off Page in the FMC, then point to the flap gage. Then I reach over and wiggle the flap handle in the detent. I couldn't in the moment, nor can I understand how I would have missed the step in the checklist or worse, how I could have possibly stated "25 indicated" without a visual conformation and a tactile one. And I have no memory of any part of that step. My best guess, which considering my actions that day are suspect, is that he became increasingly overwhelmed and as his errors started occurring, he didn't have the habit patterns or muscle memory or experience to dig himself out. He's new. He sat an unconscionable amount of time and is trying as hard has he can. But he told me that night, "Chair flying can only go so far" and he's right. He can't possibly recreate the distractions and unanticipated threats. I knew he was overwhelmed, he had been the whole trip, but the previous leg was so much better, maybe I have a bias that he was "over the hump". During engine start, I knew he was making errors, but I thought I was slowing down and trying to create an environment where he could catch himself up. And ultimately, I blame myself. Because in trying to be an above average instructor, I became a very substandard Captain. In discussing this with my best friend from military instructing

days, himself a Captain at another carrier, we tried to find a "what will we do next". He suggested that I make a rule that when errors start piling up, stop instructing and just be a Captain. I liked it and vowed to add that to my personal checklist until I woke up this morning with the realization that had I done that, and not started to instruct him on the mechanics of the flaps 25 takeoff, I might not have glanced at the gauge. I might not have caught it. So I'm back to square one.

## Synopsis

B737 Captain reported as they taxied onto the runway for departure the Captain noticed the First Officer set the flaps to the wrong position and a complete Before Take Off briefing had not been accomplished. The Captain reported the First Officer made many mistakes and lacked proficiency due to being a new student who had not flown for a long period of time.

ACN: 1907134 (44 of 50)

## Time / Day

Date : 202206  
Local Time Of Day : 1201-1800

## Place

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

## Aircraft

Reference : X  
ATC / Advisory.Tower : ZZZ  
Aircraft Operator : Air Carrier  
Make Model Name : A321  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Passenger  
Flight Phase : Takeoff / Launch  
Airspace.Class B : ZZZ

## Component

Aircraft Component : Turbine Engine  
Aircraft Reference : X  
Problem : Malfunctioning

## Person

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Captain  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
ASRS Report Number.Accession Number : 1907134  
Human Factors : Workload  
Human Factors : Fatigue

## Events

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

## Assessments

Contributing Factors / Situations : Aircraft

Primary Problem : Aircraft

### Narrative: 1

After takeoff at approximately 600 AGL number 2 engine exhaust gas temperature rose to over 700 degrees. After thrust reduction, temp went to between 605 and 620. ECAM number 2 Engine over temp flashed while temp varied. As we climbed, temp decreased, we as a crew decided not to shut down engine since temp was slowly decreasing. Although we did decide to return to ZZZ overweight in concurrence with Dispatch. Followed QRH for overweight landing and non-normal landing procedures. Landed without further incident. I was on 10 days of flying without ability to go home, received my break at hotel. Had somewhat good sleep, but was getting quite burned out from being gone for so long. Became a little overwhelmed once ECAM started flashing to shut engine down. Communicated to First Officer I was no longer in the green and he assured me he was in the green. Once we decided to return to ZZZ and followed all QRH procedures I returned to the green and felt less stressed and communicated to my First Officer. Landed without incident.

### Synopsis

A321 Captain reported returning to departure airport after the #2 engine overheated in initial climb.

ACN: 1903368 (45 of 50)

## Time / Day

Date : 202205  
Local Time Of Day : 1801-2400

## Place

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

## Aircraft : 1

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

## Aircraft : 2

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

## Person : 1

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : Check Pilot  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 1903368  
Human Factors : Distraction  
Human Factors : Fatigue  
Human Factors : Situational Awareness  
Human Factors : Time Pressure  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Person : 2

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Not Flying  
Function.Flight Crew : First Officer  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 1903382  
Human Factors : Workload  
Human Factors : Situational Awareness  
Human Factors : Distraction  
Human Factors : Confusion  
Human Factors : Communication Breakdown  
Human Factors : Fatigue  
Communication Breakdown.Party1 : ATC  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Conflict : Ground Conflict, Critical  
Detector.Person : Flight Crew  
When Detected : Taxi  
Result.Flight Crew : Took Evasive Action

## Assessments

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

## Narrative: 1

We landed on XR and exited at XX. Instructed to join X and hold short of XL. Instructed First Officer (FO) to remain on Tower frequency until we were clear of all active runways. We were then cleared to cross XL, to join Y, "keep it moving" and to monitor ground on XXX.X. The FO assisted me in finding the turn onto Y and then checked off VHF #1 to call ramp. I was concentrating on a short distance in front of the airplane in anticipation of the left turn where Y meets XY. As I entered the turn I noticed a light gray object in the darkness above my point of focus. I quickly realized my entire windshield was filled with the image of a company Aircraft Y crossing in front of us from right to left. I applied the brakes and watched as the other airplane cleared our nose by a short distance. We did not receive any advisory about the conflicting traffic nor were we given any "give way" instructions. Nor did we hear any other airplane receive any such communications. Contributing factors in this incident include fatigue. We were at the end of a duty day that exceeded 11 hours and nearly 8 hours of flying. Also, the late hour (approximately XA: 30 local) contributed to a lower level of alertness. Darkness. The incident occurred during hours of darkness and in an area of the airport that is not particularly well illuminated. Taxiway Geometry: The geometry of the intersection of Y and XY is such that the view of Taxiway XY from an airplane on Y is to the right side and not clearly visible. Experience level. The FO is a new hire pilot on his second OE trip. He has no prior 121 experience and this was his first entry into ZZZ. Ideally a real time ground aircraft display on the flight deck would have prevented this incident.

## Narrative: 2

Our Aircraft X landed on Runway XR and cleared the runway. Tower instructed us to hold short XL on Taxiway X and we complied. We were then instructed to cross Runway XL and to join Taxiway Y and monitor ground. After clearing XL on Taxiway X we configured exterior lighting, looked both ways and stated "cleared left / right" then proceeded to join Taxiway Y. The Captain instructed me to call Ramp and he would monitor Ground. As soon as I put my head down to call Ramp, the Captain stopped the aircraft as a company Aircraft Y was overtaking us on the right from Taxiway XY onto Taxiway Y. I did not see this aircraft when stating "cleared right" after clearing Runway XL on Taxiway X as we joined Taxiway Y per the controller's direction. The aircraft overtaking us from Taxiway XY onto Taxiway Y did not slow or give way despite our aircraft being established on Taxiway Y. Neither the Captain nor myself heard the controller tell us or the other aircraft to give way to one another. Airport Design. Taxiway Y flow is counter clockwise. The threats from merging taxiway traffic on the right side of the aircraft are difficult to detect as the view of the starboard merging taxiways are constantly shifting aft and right which becomes out of view for the right seat occupant. Low Light: The event occurred at night which limited the ability to detect other aircraft when combined with airport lighting. Experience Level: This was the second OE event for the First Officer with no prior 121 experience and his first event at ZZZ. Fatigue: Long duty day and nearly 8 hours of flying coupled with a local time of ~XA: 30. The Ground Controller could have notified either aircraft to give way to the other aircraft and verified the command with a positive response. Neither occupant in our aircraft heard the controller give such instructions to either aircraft.

## Synopsis

Air carrier flight crew reported the Captain had to suddenly brake to avoid another taxiing aircraft which passed in front of them.

ACN: 1903211 (46 of 50)

## Time / Day

Date : 202205  
Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : LGA.Airport  
State Reference : NY  
Altitude.AGL.Single Value : 0

## Aircraft

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

## Person

Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Air Traffic Control : Ground  
Function.Flight Crew : First Officer  
Function.Flight Crew : Pilot Not Flying  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 1903211  
Human Factors : Situational Awareness  
Human Factors : Fatigue  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : ATC  
Communication Breakdown.Party2 : Ground Personnel

## Events

Anomaly.Aircraft Equipment Problem : Less Severe  
Anomaly.Conflict : Ground Conflict, Critical  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Ground Event / Encounter : Other / Unknown  
Detector.Person : Flight Crew  
Were Passengers Involved In Event : N  
When Detected : Aircraft In Service At Gate  
Result.General : Flight Cancelled / Delayed  
Result.Flight Crew : Returned To Gate

## Assessments

Contributing Factors / Situations : Company Policy  
Contributing Factors / Situations : Equipment / Tooling

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Procedure

Primary Problem : Ambiguous

### Narrative: 1

During pushback the tug driver pushed our aircraft extremely close to other aircraft parked at neighboring gates. We were cleared to pushback to spot XX. During the pushback I (FO) was watching the right wing walker, and he was giving a wand up the whole time we were moving. After we pushed back and we started to move forward, the tow pulled us forward I was watching the wing to make sure we were clear of a fuel truck. As I turned my head forward I mentioned to the Captain that the nose was very close to the tail of a parked plane. He said that sometimes parking is tight and did not appear concerned. As we made the left turn, I kept my eye on the right wing walker and he continued to give a thumbs up as we continued the turn. I told Captain again that we were pretty close, but still had a thumbs up. As the tug driver turned hard to move us away from the parked airplane, the tow bar snapped. The tug driver stopped the tug and the ground crew came to assist him. We set the parking brake and the Captain called ops about the tow bar and having maintenance meet us to inspect the wheel. Shortly thereafter, I assume ground crew supervisors were called and started to gather around tug and the right wing. After about 15 minutes, We were given clearance to be towed back to the gate for maintenance to check things out. When the maintenance person boarded, she said we had had a near miss with the parked aircraft. I know it may be experienced based, but it is difficult to tell how close we actually were to the aircraft. Also, we were operating on min rest and had had a max crew day the day before.

### Synopsis

First Officer reported a near impact with an adjacent aircraft during pushback after the tug's tow bar snapped.

ACN: 1901910 (47 of 50)

## Time / Day

Date : 202205

## 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

Nav In Use : GPS

Nav In Use : FMS Or FMC

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Captain

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

ASRS Report Number.Accession Number : 1901910

Human Factors : Communication Breakdown

Human Factors : Fatigue

Human Factors : Human-Machine Interface

Human Factors : Physiological - Other

Human Factors : Situational Awareness

Human Factors : Troubleshooting

Human Factors : Distraction

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : Other

## Events

Anomaly.No Specific Anomaly Occurred : Unwanted Situation

Detector.Person : Flight Crew

Were Passengers Involved In Event : N

When Detected : In-flight

When Detected : Pre-flight

When Detected : Taxi

Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

## Narrative: 1

I'm involuntarily TDY'd to ZZZ, and had been on duty for 2 days at the time of the event. I have been commuting to ZZZ for [8 hour] airport standby (ready Reserve) for 17 days in

the last 30 days, and I have been to my home for 2 days the entire month due to TDY. The night of the Date I was unable to get sufficient sleep, because my significant other (herein refereed to as SO). has been looking at houses with me over facetime and we have conflicting schedules. On the [following day] I was on airport standby with no calls for 8 hours. I was assigned a flight to ZZZ1 that was scheduled to depart 30 minutes after my shift ended. The flight landed and we got to the hotel by XA:00. I then had to find suitable dining accommodations. I was able to get to sleep by XS:00 for a XA:20 van after looking at homes with my SO whom I have barely seen for the last month. During flight, I began to notice error compiling due to fatigue. I immediately alerted the First Officer to my increasing levels of fatigue and asked him to keep a high level of vigilance as I began to feel I was making mistakes, and missing radio calls. As we were descending through 12,000 ft. back into ZZZ I realized we had also forgot to set local altimeter setting. We landed with no further incident. However as we arrived at the gate I have been assigned an additional 6 hours of flying to ZZZ2 and back. It was at this point I decided to remove myself from flying duties. We often hear about the "swiss cheese model" In aviation, where it is not just one issue that causes incidents in flight, however it is often multiple issues that overlap and fatigue is almost ALWAYS a major contributing factor. In this case, I was beginning to see the holes in our hypothetical model line up. Flying around 79 other people, there are no excuses for poor performance. I do not want fatigue hindering from performing not only my duty to the passengers and company, but preventing me from safely operating the aircraft is unacceptable. The root cause is accumulated fatigue due to poor staffing, forcing me to two-leg commute to an unintended, and unwanted base whilst also being asked to live out of a hotel room for 30 days. On standby I've had a constantly changing schedule that could be remedied with better staffing. After working a full day of standby being asked to work a flight tharts 30 minutes after my shift ends for a short overnight, then having a flight day of 7.5 hours of flying is unrealistic.

## Synopsis

Air carrier Captain reported extreme fatigue due to the companies scheduling and personal activities. The Captain called in fatigued to the company and was removed from flying duties.

ACN: 1900157 (48 of 50)

## Time / Day

Date : 202205

Local Time Of Day : 1801-2400

## Place

Locale Reference.ATC Facility : ZZZ.TRACON

State Reference : US

## Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Air Carrier

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

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Nav In Use : GPS

Nav In Use.Localizer/Glideslope/ILS : ILS Cat 2

Flight Phase : Initial Approach

Route In Use : Direct

Airspace.Class B : ZZZ

## Person : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Flying

Function.Flight Crew : First Officer

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

ASRS Report Number.Accession Number : 1900157

Human Factors : Fatigue

Human Factors : Physiological - Other

Human Factors : Time Pressure

Human Factors : Workload

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : Flight Crew

## Person : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Not Flying

Function.Flight Crew : Captain

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 1900245  
Human Factors : Workload  
Human Factors : Time Pressure  
Human Factors : Other / Unknown  
Human Factors : Fatigue  
Human Factors : Communication Breakdown  
Human Factors : Physiological - Other  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Deviation / Discrepancy - Procedural : FAR  
Detector.Person : Flight Crew  
Were Passengers Involved In Event : N  
Result.General : None Reported / Taken

## Assessments

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

## Narrative: 1

While working Aircraft X ZZZ1 to ZZZ, we conducted a CAT II approach to [Runway] XXR in ZZZ and failed to realize that runway is not AMOC (Alternate Methods of Compliance) approved. There is a 5G NOTAM for ZZZ. Initially, we briefed and set up for ILS CAT I for Runway XXR. I was Pilot Flying. Upon check in with ZZZ Approach, we were assigned ILS XXL. We set up and briefed the approach for the ILS CAT I XXL. Upon check in with ZZZ Tower, we were told RVR was 5,000 [ft.] touchdown and greater than 6,000 rollout. However we did not have any runway environment in sight at minimums. We conducted a Go-Around. Upon checking in again with ZZZ Approach, we were now assigned ILS XXR. The Captain and I discussed our current fuel and determined we were well above Bingo and good for another approach. We then discussed doing a CAT II considering that we could not get the airport environment in sight at CAT I mins. We agreed that a CAT II sounded like a good idea and there was a CAT II approach for XXR. We sent for appropriate landing data but failed to notice the ACARS message about the runway AMOC status. Also, we had briefed the Release prior to the flight but failed to remember which runways were AMOC approved. We did run the "CAT II APPROACH" briefing items but the bullet point "Review NOTAMs for inoperative ground components" also failed to prompt me to remember the 5G NOTAM. We conducted the CAT II approach to Runway XXR and landed. There were no radio altimeter anomalies. The Captain had the runway environment in sight at 200 feet indicated. The approach and landing were stabilized and uneventful. This error was caused by my failure to verify the AMOC/5G status of the runways at ZZZ on the release and failure to notice the AMOC ACARS message. Contributing factors were the high workload experienced throughout the day which included delays, a return to gate, and a missed approach. In retrospect, I recognize the effects that a long and challenging day can have on state of mind and attentiveness to small details such as reviewing NOTAMs and AMOC status. The addition of 5G procedures

in recent months presents another threat and opportunity to commit errors. To prevent this error in the future, I will include a review of the Remarks in addition to the NOTAMs section of the release in my preparation for a CAT II or RNP AR approach. I would also recommend the company add a bullet point to the company document CAT II and RNP AR approaches: "verify runway is AMOC approved or that no 5G NOTAM [exists] for the airport." I would recommend a new revision of the company document that adds a bullet point to the CAT II and RNP AR approach sections saying: "Verify runway is AMOC approved or that no 5G NOTAM exists for the airport/runway." I will also more carefully review the remarks and NOTAMs section of the release during my preparation for a CAT II or RNP approach.

## Narrative: 2

WX reporting minimums for CAT I at ZZZ. Issued [Runway] XXL ILS approach, ending with a go around due to no visual cues for the runway. ATC brought us around for XXR and we discussed to do a CAT II. Shot the CAT II seeing the runway lights at 200 ft. Issued standard SOP CAT II procedure; although the following day the First Officer brought to my attention ZZZ was not 5G AMOC (Alternate Method of Compliance) approved. In the moment, ending the day with 15 hour duty, with 8.9 hours of flight time, it didn't even cross my mind. Add a bullet point to the company document to check for 5G AMOC

## Synopsis

Air carrier flight crew reported conducting a Category II approach to a runway that was not 5G AMOC approved. The pilots reported fatigue as a probable cause for the error.

ACN: 1895846 (49 of 50)

## Time / Day

Date : 202204

Local Time Of Day : 1201-1800

## 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 : Regional Jet 900 (CRJ900)

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Initial Approach

Route In Use : Visual Approach

Airspace.Class B : ZZZ

## Component

Aircraft Component : Electronic Flt Bag (EFB)

Aircraft Reference : X

Problem : Malfunctioning

## Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Not Flying

Function.Flight Crew : First Officer

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

ASRS Report Number.Accession Number : 1895846

Human Factors : Communication Breakdown

Human Factors : Distraction

Human Factors : Fatigue

Human Factors : Human-Machine Interface

Human Factors : Situational Awareness

Human Factors : Time Pressure

Human Factors : Workload

Human Factors : Confusion

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

## Events

Anomaly.Aircraft Equipment Problem : Less Severe  
Anomaly.Flight Deck / Cabin / Aircraft Event : Other / Unknown  
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Detector.Automation : Aircraft Other Automation  
Detector.Person : Flight Crew  
Were Passengers Involved In Event : N  
When Detected : In-flight  
Result.Flight Crew : Became Reoriented  
Result.Flight Crew : FLC complied w / Automation / Advisory

## Assessments

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

## Narrative: 1

On approach to landing, pilot flying called for gear down. I hit chime and inadvertently selected flaps 30 and read off flaps 30 straight-in speed. Pilot flying then called for flaps 30 and I noted we were flaps 30 and again straight-in speed. We both expressed confusion as why I had already input flaps 30. Then, Captain called for "check spoilers, flaps 45, before landing check." I checked spoilers 0, flaps 45, straight-in speed, and went to read the checklist and [my EFB] crashed. I attempted to restart and then did checklist from memory because it was taking a long [time] to reload. I correctly called the checklist, but we did not identify that the gear was still up. The gear warning subsequently sounded. We corrected and landed. This happened at the final approach fix, although we were visual. Possible causes could be my lack of good rest for the entire trip. Day 1 was extended and we received less than 12 hours between airport to airport. Day 2 was minimum rest airport to airport. Day 3 ended with adequate rest opportunity but I didn't sleep well due to getting up at XA:00. Also, this was the first trip I was using [the EFB software] for checklists and it hung multiple times when attempting to use the checklist. This caused more rushing and distraction when checklists were called for and being read. I was expecting gear down callout and ready for it. Possibly unrecognized fatigue caused me to go for the wrong control. Resting better would have helped avoid this event. I will no longer use [the EFB software] for checklists until it is more stable. We could have gone around, but there is some ambiguity in the decision process for going around. We recognized the error and corrected, returning to stable approach before 1,000 ft. HAT on a visual approach.

## Synopsis

CRJ900 First Officer reported incorrectly extending flaps instead of the landing gear as well as encountering issues with the EFB software making checklist usage difficult. Corrections were made to the aircraft's configuration prior to 1,000 ft. and a normal landing was completed.

ACN: 1893402 (50 of 50)

## Time / Day

Date : 202204

Local Time Of Day : 1801-2400

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

## Environment

Light : Night

## Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : B737 MAX 9

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Landing

Airspace.Class C : ZZZ

## Person : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Not Flying

Function.Flight Crew : First Officer

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

ASRS Report Number.Accession Number : 1893402

Human Factors : Training / Qualification

Human Factors : Fatigue

## Person : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Captain

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1894026

Human Factors : Fatigue

Human Factors : Training / Qualification

## Events

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy  
Anomaly.Inflight Event / Encounter : Unstabilized Approach

## Assessments

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

### Narrative: 1

Landing in ZZZ and we may have floated past the touchdown zone. It was in a MAX which I'm still relatively new to. I think I was a little behind in noticing how far we had floated. Likely some complacency with landing on XXR in ZZZ, as it's such a frequent approach for us. It was also a bit of a long day having coming up from ZZZ1 and we were close to 9 hours of block time.

### Narrative: 2

Landing in ZZZ in the max which I have only flown a couple times previously I floated in my flare slightly longer than intended to avoid a hard landing at night in a less familiar sight picture. I may have landed slightly past the touchdown zone. Trusting my hud information and flight instruments and avoiding different control inputs based on different aircraft models, instead keeping steady back pressure and looking farther down the runway on flare.

## Synopsis

B737 MAX 9 flight crew reported being new to this generation aircraft type resulted in landing past touchdown zone.