ASRS Database Report Set

RNAV Arrival Reports

Report Set Description.................................A sampling of reports that reference RNAV Arrival related incidents.

Update Number........................................9.0

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

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

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

Type of Records in Report Set.......................For each update, new records received at ASRS will displace a like number of the oldest records in the Report Set, with the objective of providing the fifty most recent relevant ASRS Database records. Records within this Report Set have been screened to assure their relevance to the topic.
MEMORANDUM FOR: Recipients of Aviation Safety Reporting System Data

SUBJECT: Data Derived from ASRS Reports

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

ASRS reports are submitted voluntarily. The existence in the ASRS database of reports concerning a specific topic cannot, therefore, be used to infer the prevalence of that problem within the National Airspace System.

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

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

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

Linda J. Connell, Director
NASA Aviation Safety Reporting System
CAVEAT REGARDING USE OF ASRS DATA

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

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

One thing that can be known from ASRS data is that the number of reports received concerning specific event types represents the **lower measure** of the true number of such events that are occurring. For example, if ASRS receives 881 reports of track deviations in 2010 (this number is purely hypothetical), then it can be known with some certainty that **at least** 881 such events have occurred in 2010. With these statistical limitations in mind, we believe that the **real power** of ASRS data is the **qualitative information** contained in **report narratives**. The pilots, controllers, and others who report tell us about aviation safety incidents and situations in detail – explaining what happened, and more importantly, **why** it happened. Using report narratives effectively requires an extra measure of study, but the knowledge derived is well worth the added effort.
Report Synopses
ACN: 1500354 (1 of 50)

Synopsis
Air carrier Captain reported that Jeppesen RNAV Arrival charts for MMUN do not include the additional waypoints after the transition points.

ACN: 1499623 (2 of 50)

Synopsis
Air carrier Captain reported the PAPI depiction on the Jeppesen 12-5 Chart for the PHL RNAV (GPS) Runway 27L approach, dated 22 Jun 2017, is shown on the incorrect side of the runway.

ACN: 1497542 (3 of 50)

Synopsis
B767 flight crew reported that they felt rushed and pressured when ATC gave them vectors very close to the final approach course.

ACN: 1497442 (4 of 50)

Synopsis
B777 Flight Crew reported that an unexpected autoland due to a change in weather, resulted in a shorter approach and insufficient time for Flight Attendants to secure carts, one of which struck a passenger.

ACN: 1495928 (5 of 50)

Synopsis
ATC Center Supervisor reported arrivals routinely experience laser events but no action has been taken to resolve the problem.

ACN: 1495510 (6 of 50)

Synopsis
CRJ-200 First Officer reported a GPWS alarm at an assigned altitude during an approach.

ACN: 1495214 (7 of 50)

Synopsis
Boeing 787 Captain reported difficulty in meeting crossing restrictions on arrival due to the aircraft’s increased glide ratio.

ACN: 1494854 (8 of 50)

Synopsis
ZAU Center Controller reported that an aircraft had to go-around after being issued an RNAV Approach due to equipment and personnel on the runway.

**ACN: 1494165 (9 of 50)**

**Synopsis**
GA pilot reported a NMAC while on approach to DeWitt Spain airport. No traffic information was provided by ATC.

**ACN: 1493702 (10 of 50)**

**Synopsis**
EMB175 flight crew reported their FMS database has SYYKO programmed as "at or above" when it is an "at" fix on the IAH RNAV Runway 27 Approach.

**ACN: 1493668 (11 of 50)**

**Synopsis**
ERJ First Officer reported they received a low altitude alert from ATC on a night visual approach to RIC.

**ACN: 1493528 (12 of 50)**

**Synopsis**
I90 TRACON Controller and EMB175 flight crew reported the E175s have an FMS anomaly where a crossing restriction is programmed as "at or above" when it should be "at."

**ACN: 1493265 (13 of 50)**

**Synopsis**
ZME Center Controller reported the RNAV Runway 22 Approach at SRB has an IAF altitude 100 feet lower than the minimum IFR altitude.

**ACN: 1493257 (14 of 50)**

**Synopsis**
SBA TRACON Controller reported ATC trainee vectored an aircraft off the approach into an area with a higher Minimum Vectoring Altitude.

**ACN: 1493063 (15 of 50)**

**Synopsis**
B757 First Officer reported that the Captain hand flew an approach without autothrottles due to wind.

**ACN: 1492673 (16 of 50)**
Synopsis
C152 flight instructor reported an airborne conflict with a Falcon jet that was poorly handled by ATC.

ACN: 1492395 (17 of 50)

Synopsis
NCT TRACON Controller reported a VFR NORDO aircraft crossed a runway's final approach course with traffic descending on the approach.

ACN: 1491695 (18 of 50)

Synopsis
C172 instructor pilot reported he was unable to clear the runway as the left brake had locked up during landing roll.

ACN: 1489642 (19 of 50)

Synopsis
CRJ200 Captain reported a close encounter with a UAV at 4000 feet on the downwind leg for Runway 27R at ORD.

ACN: 1488402 (20 of 50)

Synopsis
Embraer First Officer reported encountering severe turbulence while on descent into ORD.

ACN: 1487855 (21 of 50)

Synopsis
B737 Captain reported that one of the Company Tailored Jeppesen charts for Runway 31L at PSP erroneously indicates that there are VASI lights to the left of the runway which may lead to Taxiway C being mistaken as a runway.

ACN: 1486649 (22 of 50)

Synopsis
A Trainee Controller reported an aircraft he thought was descending to 11000 feet continued descending through 11000 feet into opposite direction traffic at 10000 feet.

ACN: 1486003 (23 of 50)

Synopsis
Denver Approach Controller and four pilots reported that an aircraft went through assigned final course causing an airborne conflict with two other aircrafts.
ACN: 1485001 (24 of 50)

Synopsis
CL-300 flight crew reported receiving a low altitude alert while distracted by a gear warning horn associated with an air-ground disagreement.

ACN: 1484949 (25 of 50)

Synopsis
CRJ-200 First Officer reported descending below charted altitude on approach to BTV citing fatigue as a contributing factor.

ACN: 1484895 (26 of 50)

Synopsis
B737 Captain reported an NMAC with a VFR aircraft in the vicinity of PSP.

ACN: 1483759 (27 of 50)

Synopsis
Light Jet Captain reported a GPWS Terrain warning after descending to a traffic pattern altitude based upon a mistaken airport elevation.

ACN: 1482868 (28 of 50)

Synopsis
Air carrier flight crew reported their aircraft descended below an RNAV Arrival crossing restriction when a runway change was entered in the FMC.

ACN: 1482841 (29 of 50)

Synopsis
The flight crew of a Boeing 737 reported that ATC cleared them "Direct To" a way point without further instructions or clearances after they arrived at the way point.

ACN: 1482290 (30 of 50)

Synopsis
Air carrier flight crew reported difficulty in executing an RNAV approach using aircraft systems automation which resulted in going below glideslope mid-approach at SDF.

ACN: 1481926 (31 of 50)

Synopsis
B737 flight crew reported the aircraft automation had an erratic action with the autopilot trying to stay on path.
<table>
<thead>
<tr>
<th>ACN</th>
<th>Synopsis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1481818</strong> (32 of 50)</td>
<td>GA pilot reported maneuvering to increase separation from traffic on approach to Runway 22 at PAH. He descended below the Terminal Area Altitude and received an obstacle warning on his portable GPS unit.</td>
</tr>
<tr>
<td><strong>1481817</strong> (33 of 50)</td>
<td>Pilot reported parachute operations in the vicinity of LMO put skydivers and aircraft in danger because of the zone's proximity to V220 and V85. Reporter also stated, regular CTAF communications may interfere with the &quot;jumpers away&quot; call.</td>
</tr>
<tr>
<td><strong>1481262</strong> (34 of 50)</td>
<td>A Pilot expressed concern about an RNAV Arrival which requires the aircraft to descend below Class B airspace and reduce speed to 200 knots unexpectedly.</td>
</tr>
<tr>
<td><strong>1480931</strong> (35 of 50)</td>
<td>Air taxi pilot reported not flying the full approach into AVL as ATC intended due to a poorly worded clearance.</td>
</tr>
<tr>
<td><strong>1480561</strong> (36 of 50)</td>
<td>Phenom 300 flight crew reported that a tree protrudes into the normal 3 degree glideslope for Runway 17 at THV.</td>
</tr>
<tr>
<td><strong>1480145</strong> (37 of 50)</td>
<td>CL60 Captain reported he noticed a deviation from assigned altitude when the autopilot disconnected, and observed that automation dependency was a factor in the excursion.</td>
</tr>
<tr>
<td><strong>1479617</strong> (38 of 50)</td>
<td>BOI TRACON Controller was distracted by peer jokes, discussions and fixing the setting on the RADAR scope and forgot about an aircraft that went below a Minimum Vectoring Altitude.</td>
</tr>
<tr>
<td><strong>1479568</strong> (39 of 50)</td>
<td></td>
</tr>
<tr>
<td>ACN: 1477924 (40 of 50)</td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Synopsis</strong></td>
<td></td>
</tr>
<tr>
<td>PA28 flight instructor reported an NMAC with a helicopter on approach to MKT airport.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACN: 1477818 (41 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>B737 Captain reported difficulty and stress in working with Guatemalan controllers. He was given a revised, unacceptable takeoff clearance by MGGT Tower and did not receive the winds for takeoff. Captain also stated the RNAV (RNP) Runway 20 Approach is allegedly flawed in its design. It consistently positions the aircraft low when on the glidepath at the decision altitude.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACN: 1477738 (42 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>General aviation pilot reported difficulty with new navigation equipment while on a RNAV approach and experiencing rapidly deteriorating visibility while on a VFR flight.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACN: 1477704 (43 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>A300 Captain reported a track deviation on arrival into MIA. Chart design and fatigue were cited as contributing.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACN: 1477252 (44 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>B767 First Officer reported executing a go-around after TRACON issued a low altitude alert on approach to CVG. The localizer was later found to be mistuned.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACN: 1477156 (45 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>Air carrier flight crew reported descending below the MIA Runway 26R RNAV Approach profile. The autopilot did not capture the vertical path and the crew did not detect it until they were low causing a GPWS warning.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACN: 1476869 (46 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>B737 flight crew experienced three separate TCAS events during a visual approach into MDW.</td>
</tr>
</tbody>
</table>
EMB-175 Crew reported the FMS failed to sequence on an RNAV approach which resulted in a missed approach and were vectored for an ILS approach.

**ACN: 1476000 (47 of 50)**

**Synopsis**
Air carrier flight crew reported getting low while on a visual approach to MCO Runway 36L when VNAV was selected, but it did not engage.

**ACN: 1473906 (48 of 50)**

**Synopsis**
Air Carrier Captain reported an NMAC with a light aircraft on approach to MDW.

**ACN: 1473203 (49 of 50)**

**Synopsis**
C182 pilot and TRACON Controller reported a pilot deviation from the published missed approach and flight below Minimum Vectoring Altitude.

**ACN: 1473165 (50 of 50)**

**Synopsis**
Corporate jet Captain reported missing a change to the approach clearance by ATC into SBRJ due to expectation bias, changing weather conditions and the Controller's foreign accent.
Report Narratives
ACN: 1500354 (1 of 50)

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

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

Environment
Light: Dusk

Aircraft
Reference: X
ATC / Advisory.Center: MMFR
Aircraft Operator: Air Carrier
Make Model Name: Large Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Nav In Use: FMS Or FMC
Flight Phase: Descent
Route In Use.STAR: BUBUN 1B

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days: 724
ASRS Report Number.Accession Number: 1500354
Analyst Callback: Attempted

Events
Anomaly.No Specific Anomaly Occurred: All Types
Detector.Person: Flight Crew
Were Passengers Involved In Event: N
When Detected: In-flight
Result.General: None Reported / Taken

Assessments
Contributing Factors / Situations: Chart Or Publication
Primary Problem: Chart Or Publication
Narrative: 1

Upon arriving into MMUN ATC cleared us to fly the BUBUN 1B RNAV Arrival expecting 30L, with a subsequent descend via clearance. The EFB Jeppesen App contains these STAR Arrivals, but not all points, and there are no Jeppesen approaches that tie into these arrivals. As our routing was toward LOPKA, I selected the LOPKA transition. Upon reviewing the points on the LEGS page I noticed many other points after LOPKA. These points establish a base turn and final approach segment, but nothing within our JEPP-FD products contain these points. We were subsequently cleared direct to a point (don’t remember which) that was on the final segment for 30R, cleared the visual 30R. In order to get clarity on where this point was I assumed (correctly) that we needed to load in the EPNEL1B STAR/OTSOL transition for 30R. Only then were we able to verify this point was actually on final for 30R.

The MMUN STARS need to indicate all points that comprise the RNAV Arrivals. With the higher potential for communication issues (ATC Controller accents/dialects) we need better clarity on the waypoints that we may be sent to.

Synopsis

Air carrier Captain reported that Jeppesen RNAV Arrival charts for MMUN do not include the additional waypoints after the transition points.
**ACN: 1499623 (2 of 50)**

**Time / Day**
- Date: 2017111
- Local Time Of Day: 1201-1800

**Place**
- Locale Reference.Airport: PHL.Airport
- State Reference: PA

**Environment**
- Light: Daylight

**Aircraft**
- Reference: X
- ATC / Advisory.Tower: PHL
- Aircraft Operator: Air Carrier
- Make Model Name: Widebody, Low Wing, 2 Turbojet Eng
- Crew Size.Number Of Crew: 2
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Mission: Passenger
- Nav In Use: FMS Or FMC
- Nav In Use: GPS
- Flight Phase: Initial Approach
- Route In Use: Other
- Airspace.Class B: PHL

**Person**
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function.Flight Crew: Pilot Flying
- Function.Flight Crew: Captain
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number.Accession Number: 1499623
- Analyst Callback: Completed

**Events**
- Anomaly.Deviation - Procedural: Published Material / Policy
- Detector.Person: Flight Crew
- When Detected: In-flight
- Result.Flight Crew: Requested ATC Assistance / Clarification
- Result.Air Traffic Control: Provided Assistance

**Assessments**
- Contributing Factors / Situations: Chart Or Publication
- Primary Problem: Chart Or Publication

**Narrative: 1**
Assigned and briefed Runway 27L RNAV GPS approach including location of PAPI reference to the runway. When became visual noticed the PAPI was on the "left" side of Runway 27L and not as diagrammed (right side of the runway). Crew had PHL ATC Tower confirmed we were in fact lined up with the correct runway we were cleared to land on.

JEPP Chart 12-5 (effective date 22 JUN 2017) inaccurate. Suggestion: Reprint 12-5 JEPP chart to accurately reflect location of the PAPI.

Callback: 1

The reporter reiterated the points stated in the narrative. He stated that he did not query the Tower Controller if the error on the chart was known, and that the Tower Controller gave no indication whether it was known or not. The reporter stated that he only asked whether his aircraft was lined up on the correct runway. The reporter stated that the PAPI depiction is also similarly incorrect on the PHL Jepp 11-7 (ILS or LOC Rwy 27L) chart, Effective 22 Jun 2017. He stated that the PAPI is located approximately 800 feet beyond the Runway 27L threshold on the left side.

Synopsis

Air carrier Captain reported the PAPI depiction on the Jeppesen 12-5 Chart for the PHL RNAV (GPS) Runway 27L approach, dated 22 Jun 2017, is shown on the incorrect side of the runway.
**ACN: 1497542 (3 of 50)**

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

**Place**
- Locale Reference.Airport: ZZZ.Airport
- State Reference: US
- Altitude.MSL.Single Value: 2100

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

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

**Person: 1**
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function.Flight Crew: Pilot Flying
- Function.Flight Crew: First Officer
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number.Accession Number: 1497542
- Human Factors: Time Pressure
- Human Factors: Workload

**Person: 2**
- Reference: 2
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function.Flight Crew: Captain
- Function.Flight Crew: Pilot Not Flying
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number.Accession Number: 1497550
- Human Factors: Time Pressure
- Human Factors: Workload
Events

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

Assessments

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

Narrative: 1

Approach was planned and briefed, considering all contingencies, including the possibility of a vector to intercept final on the RNAV. On downwind given an aggressive descent and turn to base, much sooner than we expected. Not turned to final until last minute and told to intercept course to final. By the time the heading bug was around and LNAV selected, LNAV immediately captured. Dogleg heading was directly at ZZZZZ, which is 2.8 miles from the FAF. Very tight vector for an in the weather RNAV. Current standard/technique requires fully configured 2 miles prior to FAF on an RNAV. Normally, final configuration happens on final. So, slowing to 180 on base to fully configured within 0.8 miles. A lot going on in a very short period of time. Fully configured by (or just inside of) 2 miles from FAF. Due to the busy time, did not verify that VNAV was selected. As we broke out, both of us realized that we were low and corrected, about the same time that ATC called to tell us the same.

Very aggressive vectors to intercept RNAV final approach. Not verifying that airplane was doing what we wanted it to do. A suggestion to ATC. When vectoring to an RNAV, it's not the same as a visual or an ILS. More to do. Please don't give such aggressive vectors, whether you think you're doing us a favor or just trying to get us out of your hair.

A suggestion to the training department. Train tight vector, rush, rush, RNAV approaches. Real world may not be "direct to ZZZZZ" (which is 5-10 miles from the FAF), "cleared the approach". Apparently, that isn't how it happens all of the time.

A word to the crew. Verify that the plane is doing what you want it to do and if you're rushed, say so or go around. I felt rushed but in control and fully configured and dialed in where I wanted to be but didn't crosscheck to make sure the plane was doing what I wanted it to do (VNAV PTH).

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

B767 flight crew reported that they felt rushed and pressured when ATC gave them vectors very close to the final approach course.
ACN: 1497442 (4 of 50)

Time / Day
Date: 201711
Local Time Of Day: 0601-1200

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

Environment
Flight Conditions: IMC
Light: Daylight

Aircraft
Reference: X
ATC / Advisory.Tower: ZZZZ
Aircraft Operator: Air Carrier
Make Model Name: B777 Undifferentiated or Other Model
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Landing

Person: 1
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Pilot Flying
Function.Flight Crew: Captain
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Total: 5884
Experience.Flight Crew.Type: 59
ASRS Report Number.Accession Number: 1497442

Person: 2
Reference: 2
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: First Officer
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Total: 3238
Experience.Flight Crew.Type: 709
ASRS Report Number.Accession Number: 1497152

Person: 3
The airport had just gone below CAT 1 so we had briefed a CAT 2 approach. We were filed for the RNAV STAR. ATC gave us a heading to intercept the localizer approximately 25 miles out from the runway. That had shortened the arrival which has a large delaying "S" turn. We had double dinged the cabin at 10,600 ft. ATC was controlling our speed and had us slower than we would normally be that far out on a better weather day. The approach and auto land went as expected. I had selected autobrakes to level 4 considering the weather.

We parked and finished our debriefing of the flight; we then opened the cockpit door. The Lead FA came in and said "Captain, there is a passenger that wants to talk to you about the landing" and she started to leave. Desiring more information, I said "wait, what does he want to know about the landing?" She again repeated that the man wants to talk to the Captain about the landing and she left. I grabbed my flight bag and belongings and proceeded towards the exiting door (2L) to say good-bye to the passengers. That exit door has a walk through galley, but the curtain was closed. A man had walked through that
closed area and opened the curtain from the inside. When the curtain opened I first noticed broken glass on the floor. Then I observed the man who appeared to be upset. He asked me if I was the Captain and I answered yes I am. He said are you the one who landed the airplane? Because of his body language and his tone, I asked him to calm down and he replied to me "you need to calm down". I said I am the one who landed, (did not tell him it was an auto land). He claimed he got hit in the head with a galley cart that came down the aisle on landing.

**Narrative: 2**

On the descent, Captain followed SOP by alerting the flight attendants at 10,600 feet with the CABIN ALERT button (pushed twice.)

We made a normal AUTOLAND approach and landing with AUTOBRAKES 4.

After shutdown and completing Parking and Termination checklists, Captain was asked by a flight attendant to meet with a passenger about our landing. I observed a passenger walk over to speak with Captain, but could not see or hear the passenger since they met in a galley area near door 2L.

**Narrative: 3**

An announcement was made saying we were landing in 20 minutes. As we were picking up we noticed that carts were still in the aisle in Coach. [Another FA] went back to help them get ready for landing. Everyone was working like crazy trying to get everything picked up and stowed. We actually landed somewhere between 5 - 8 minutes after the announcement! I had to sit in my jump seat at 2R before I could finish securing the quarter turn latches over the carts. I snapped on my seatbelt seconds before the wheels touched the ground. When the reverse thrusters were applied, two carts, a cart door and an overhead half bin flew out of position. Glass racks flew out of a cart breaking lots of glasses all over the galley floor. The brakes on the half liquor carts don't actually work so they came out of their housing. As a matter of fact none of the half carts have brakes that really work, only keeps it from rolling in one direction, but will move in others. After the plane was taxiing at a normal speed, I got up to pick up the bin and racks to clear up the area. When I put a liquor cart back into its position that's when I realized that the other cart was missing. I looked down the aisle towards the front and saw that the cart had rolled down the aisle just a little past Row 6. As I was about to move the cart a passenger grabbed my arm and told me the cart hit him in the head.

**Narrative: 4**

We were picking up trays as fast as we could. We only had four flight attendants working in the back, unfortunately. This covers FAA minimums, but realistically, for that airplane, it is not enough, even with a lighter load.

I then heard someone shout that we were landing - to take our seats! I hurried, as fast as I could to get my pickup cart in the housing, and [another flight attendant] was shouting for me to sit in her seat with her, but I chose to run to my seat. I did make it to the seat, and was able to get strapped in just as we were touching down. There were bins that were hanging out in the aux galley beside my door, as we did not have time in any of the galleys to make sure everything was secure, much less go through the cabin and verify that everything and everyone was secure.

**Synopsis**
B777 Flight Crew reported that an unexpected autoland due to a change in weather,
resulted in a shorter approach and insufficient time for Flight Attendants to secure carts,
one of which struck a passenger.
**ACN: 1495928 (5 of 50)**

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

**Place**
- Locale Reference.ATC Facility: ZID.ARTCC
- State Reference: IN

**Environment**
- Light: Night

**Aircraft**
- Reference: X
- ATC / Advisory.Center: ZID
- Aircraft Operator: Air Carrier
- Make Model Name: Commercial Fixed Wing
- Crew Size.Number Of Crew: 2
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Mission: Cargo / Freight
- Nav In Use: GPS
- Nav In Use: FMS Or FMC
- Flight Phase: Landing
- Flight Phase: Descent
- Airspace.Class A: ZID
- Airspace.Class E: ZID

**Person**
- Reference: 1
- Location Of Person.Facility: ZID.ARTCC
- Reporter Organization: Government
- Function.Air Traffic Control: Enroute
- Function.Air Traffic Control: Supervisor / CIC
- Qualification.Air Traffic Control: Fully Certified
- Experience.Air Traffic Control. Time Certified In Pos 1 (yrs): 17
- ASRS Report Number. Accession Number: 1495928
- Human Factors: Situational Awareness

**Events**
- Anomaly.ATC Issue: All Types
- Anomaly.Inflight Event / Encounter: Other / Unknown
- Detector.Person: Flight Crew
- Detector.Person: Air Traffic Control
- When Detected: In-flight
- Result.General: Police / Security Involved
- Result.Air Traffic Control: Issued Advisory / Alert

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

Narrative: 1

Every evening we have laser events involving [an Air Carrier’s] inbound flights on the RNAV arrival. We must have filed hundreds of these over the past few years. I am not kidding. HUNDREDS! It is extremely unfortunate that nothing seems to be being done about it. It is obvious to us that a local resident does not like the [Air Carrier’s] arrivals flying over their land between [late evening] and midnight local time. They have taken it upon themselves to light up cockpits with a high-powered laser most nights of the week. We get estimates from flight crews on the location of the laser, but understandably, they choose not to look out the window after it happens so we can never actually pin point the location. We do our job by filling out the required time consuming paperwork, calling in the event to the local sheriff department and forward the form to the DEN (Domestic Events Network), but that seems to be the end of it.

I believe there must be another government entity that has some advanced capability to pinpoint a laser transmission. It would be awesome if we could get the word out to them that we need them to spend a week in the area between [late evening] and midnight usually on clear weather evenings to help up pinpoint this goofball who is responsible for this unlawful and unsafe act before it actually blinds a flight crew. I also am curious what (if any) resources [the Air carrier] has available to throw at the problem? It involves their flights every night.

Synopsis

ATC Center Supervisor reported arrivals routinely experience laser events but no action has been taken to resolve the problem.
Time / Day
Date: 201711
Local Time Of Day: 0601-1200

Place
Locale Reference.ATC Facility: CRW.TRACON
State Reference: WV
Altitude.MSL.Single Value: 3300

Environment
Flight Conditions: VMC
Light: Daylight

Aircraft
Reference: X
ATC / Advisory.TRACON: CRW
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
Flight Phase: Initial Approach
Route In Use: Vectors
Airspace.Class C: CRW

Component
Aircraft Component: GPWS
Aircraft Reference: X
Problem: Design

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: First Officer
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1495510
Human Factors: Situational Awareness

Events
Anomaly.Aircraft Equipment Problem: Less Severe
Anomaly.Deviation - Procedural: Published Material / Policy
Detector.Automation: Aircraft Terrain Warning
Detector.Person: Flight Crew
Assessments
Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

We were receiving vectors and altitudes from ATC for runway 5. Our final instruction from ATC was to descend to 3000 ft on a downwind heading. We reached 3000 ft and noted an ALTS CAP message on the FMA. During the descent, I briefed that an altitude of 3000 ft would keep us at least 1000 ft above the terrain from our approach direction. I referenced both the approach plate for the RNAV RWY 5 and the company reference page. After reaching 3000 ft, we reported the airport in sight and were cleared for the visual approach. The aircraft was slowing to flap extension speed and was in clean configuration. I initiated an approximately 20 degree right turn to stay inside the final approach fix. Approximately 15-30 seconds after beginning the turn we received a GPWS message and instructions to pull up. I was confused because I had visual reference to the terrain and was given an ATC descent to 3000 ft shortly prior. I disconnected the autopilot and initiated a shallow climb to approximately 3300 ft. The conflict was resolved. I continued the approach because the aircraft was stable and terrain clearance was assured visually and reinforced by my prior approach brief. The aircraft was stable and landed uneventfully.

After talking with the Captain, we discovered that the CRJ GPWS system is triggered within 1250 ft while in flaps 0 configuration. This tolerance is reduced once flaps are lowered in preparation for landing. I believe that our final assigned altitude of 3000 ft put us within this 1250 ft range for some of the peaks of the surrounding terrain. It also explains the short duration of the GPWS alerts and the lack of GPWS alerts once the flaps were lowered out of 0.

A shallow climb was initiated and power added. I did not accomplish a maximum performance escape maneuver because visual confirmation of terrain clearance was assured.

I believe that there may be a discrepancy between the minimum altitude Charleston Approach can assign, the height of the terrain on downwind to runway 5, and the CRJs GPWS alerting range while in flaps 0. We received descent instructions to 3000 ft, which put us within as little as 1030 ft above the terrain.

Synopsis

CRJ-200 First Officer reported a GPWS alarm at an assigned altitude during an approach.
**ACN: 1495214 (7 of 50)**

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

**Place**
- Locale Reference. ATC Facility: PCT.TRACON
- State Reference: VA
- Altitude. MSL. Single Value: 7500

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

**Aircraft**
- Reference: X
- ATC / Advisory. TRACON: PCT
- Aircraft Operator: Air Carrier
- Make Model Name: B787 Dreamliner Undifferentiated or Other Model
- Crew Size. Number Of Crew: 2
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Mission: Passenger
- Flight Phase: Descent
- Route In Use. STAR: GIBBZ
- Airspace. Class E: PCT

**Person**
- Reference: 1
- 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: 17085
- Experience. Flight Crew. Type: 0
- ASRS Report Number. Accession Number: 1495214

**Events**
- Anomaly. Flight Deck / Cabin / Aircraft Event: Other / Unknown
- Detector. Person: Flight Crew
- When Detected: In-flight
- Result. Flight Crew: Took Evasive Action

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

**Narrative: 1**

I'm getting checked out on the 787. We were flying the GIBBZ 2 RNAV arrival HVQ transition into IAD. While flying the arrival between OTTTO and RYPIN, the aircraft (787) required full speed brake extension to make the crossing restriction at MAAAY which we just made.

This [report] is being sent to highlight the fact that the 787 has a high probability of missing the crossing restraints on the GIBBZ 2 arrival if the tailwind is stronger or if the plane is slower (closer to max lift over drag speed). For planning purposes the 787 flies closer to a 4 to 1 ratio verses 3 to 1 on other aircraft.

Distance from OTTTO to MAAAY is 7.1 miles in which the plane has to descend 2000 ft. Additional distance is also required for the auto flight system to transition from level flight into the descent phase and back. I strongly suggest changing the distance between the points or the amount of altitude between these points.

**Synopsis**

Boeing 787 Captain reported difficulty in meeting crossing restrictions on arrival due to the aircraft's increased glide ratio.
Time / Day
Date: 201711
Local Time Of Day: 1201-1800

Place
Locale Reference.Airport: TVK.Airport
State Reference: IA

Environment
Flight Conditions: IMC
Light: Daylight

Aircraft
Reference: X
ATC / Advisory.Center: ZAU
Aircraft Operator: Corporate
Make Model Name: Super King Air 350
Crew Size.Number Of Crew: 1
Operating Under FAR Part: Part 91
Flight Plan: IFR
Mission: Passenger
Nav In Use: GPS
Flight Phase: Final Approach
Airspace.Class E: ZAU

Person
Reference: 1
Location Of Person.Facility: ZAU.ARTCC
Reporter Organization: Government
Function.Air Traffic Control: Enroute
Qualification.Air Traffic Control: Fully Certified
Experience.Air Traffic Control.Time Certified In Pos 1 (yrs): 8
ASRS Report Number.Accession Number: 1494854
Human Factors: Situational Awareness
Human Factors: Confusion

Events
Anomaly.ATC Issue: All Types
Anomaly.Deviation - Procedural: Published Material / Policy
Detector.Person: Flight Crew
When Detected: In-flight
Result.General: Flight Cancelled / Delayed
Result.Flight Crew: Requested ATC Assistance / Clarification
Result.Flight Crew: Executed Go Around / Missed Approach
Result.Flight Crew: Diverted
Result.Air Traffic Control: Issued New Clearance
Result.Air Traffic Control: Provided Assistance

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

**Narrative: 1**

Aircraft X inbound TVK and requested an RNAV Approach to Runway 16 due to IMC conditions. Aircraft X advised they had the current weather. Another sector informed me that the NOTAMs were read to the pilot. I reviewed the NOTAMs for the airport prior to issuing approach clearance. The NOTAMs at the time were PAPI OTS, RWY END LGTS OTS and one OBST LGT OTS. Aircraft X was cleared for RNAV approach and was instructed how to cancel IFR and frequency change was approved. Aircraft X cancelled IFR clearance in the air after breaking out of IMC. Shortly after, Aircraft X queried if I was still able to hear them. I replied I could. Aircraft X asked if there was a NOTAM for a runway or airport closure. I replied "negative".

There were no NOTAMs for airport or runway closure at the airport. Aircraft X reported a lighted yellow X on the runway approach end and saw construction personnel and equipment on the runway. Aircraft X executed a go-around and circled the airport. Aircraft X requested IFR clearance to a nearby alternate airport and landed safely. I reported the incident to the CIC (Controller in Charge). I assumed the airport to be closed until I was told otherwise. I made a note of this at the sector and passed the information on to my relief. The next day, the NOTAMs showed the first and last 500 ft of the runway were closed.

The runway and/or airport closure NOTAM was not displayed on at the time the approach clearance was issued. Either the NOTAM was not issued or valid at the time the approach clearance was issued or through some glitch, the NOTAM was not properly displayed at the sector. The status of runway and airport NOTAMs is critical to safety and should always be accurate.

**Synopsis**

ZAU Center Controller reported that an aircraft had to go-around after being issued an RNAV Approach due to equipment and personnel on the runway.
**ACN: 1494165** (9 of 50)

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

**Place**
- Locale Reference. Airport: M01.Airport
- State Reference: TN
- Altitude. MSL. Single Value: 1300

**Environment**
- Flight Conditions: VMC
- Weather Elements / Visibility. Visibility: 10
- Light: Daylight
- Ceiling. Single Value: 6200

**Aircraft : 1**
- Reference: X
- ATC / Advisory. CTAF: M01
- Aircraft Operator: Personal
- Make Model Name: Small Aircraft, High Wing, 1 Eng, Fixed Gear
- Crew Size. Number Of Crew: 1
- Operating Under FAR Part: Part 91
- Flight Plan: IFR
- Mission: Personal
- Flight Phase: Final Approach
- Route In Use: Visual Approach
- Airspace. Class E: M03

**Aircraft : 2**
- Reference: Y
- Make Model Name: Small Aircraft, High Wing, 1 Eng, Fixed Gear
- Crew Size. Number Of Crew: 1
- Operating Under FAR Part: Part 91
- Flight Phase: Cruise
- Airspace. Class E: M03

**Person**
- Reference: 1
- Location Of Person. Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Personal
- Function. Flight Crew: Pilot Flying
- Function. Flight Crew: Single Pilot
- Qualification. Flight Crew: Private
- Qualification. Flight Crew: Instrument
- Experience. Flight Crew. Last 90 Days: 21
- Experience. Flight Crew. Type: 370
- ASRS Report Number. Accession Number: 1494165
Human Factors : Situational Awareness
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : ATC
Communication Breakdown.Party2 : Flight Crew

Events
Anomaly.ATC Issue : All Types
Anomaly.Conflict : NMAC
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Automation : Aircraft TA
Detector.Person : Flight Crew
Miss Distance.Horizontal : 250
Miss Distance.Vertical : 50
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

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

Narrative: 1

I was on the RNAV 17 approach into DeWitt Spain airport (M01) and shortly before passing the FAF, I had visual contact with the runway and cancelled IFR. I had been monitoring the CTAF at DeWitt Spain for the past 20 minutes and considering there was no traffic on frequency, the Approach Controller did not report any conflicts, and the wind was favoring Runway 17, I elected for a straight-in approach. I used the RNAV 17 approach plate as guidance for my descent, and started descending from 1,900 feet after passing VAGDY. At this point, the non-pilot passenger in the right seat brought my attention to a target on the G1000 MFD that was reported to be 200 feet below our position, and on an intersecting track from the left. I increased my scan to my left and did not see anything initially. At approximately 1,300 feet, our altitudes were reported to be equivalent and my passenger and I simultaneously made visual contact with the target. I determined that our current heading would likely result in a collision and took evasive maneuvers, entering a steep bank to the left and adding power to stop our descent and enter a slight climb, since the target was slightly below our altitude. I was able to regain visual contact with the target after this turn, and it passed harmlessly to our right in the opposite direction. We were close enough that I could identify the registration number, but I was unable to copy down the numbers. After re-establishing my approach, I called back Memphis TRACON on 119.1 and reported a near-miss on approach. The controller gave me a [phone number] to call after I landed and we spoke over the phone about the incident.

From the target's track and altitude, I assume they had departed Charles Baker (2M8) and were making a westbound departure. 2M8 and M01 are in close proximity to one another (7 miles) and use different CTAF frequencies, which would also explain why there was no announcement on the M01 CTAF. The ceiling at M01 at the time was reported to be BKN062; however, I was still in IMC at 3,000 feet approaching FAXIP, and didn't break out into VMC until after I had started the approach, which is why I elected to continue along the approach path to a landing rather than entering a standard traffic pattern.

Synopsis
GA pilot reported a NMAC while on approach to DeWitt Spain airport. No traffic information was provided by ATC.
ACN: 1493702 (10 of 50)

Time / Day

Date: 201711
Local Time Of Day: 0601-1200

Place

Locale Reference.Airport: IAH.Airport
State Reference: TX
Altitude.MSL.Single Value: 4000

Environment

Flight Conditions: IMC
Light: Daylight

Aircraft

Reference: X
ATC / Advisory.TRACON: I90
Aircraft Operator: Air Carrier
Make Model Name: EMB ERJ 170/175 ER/LR
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Nav In Use: FMS Or FMC
Nav In Use: GPS
Flight Phase: Initial Approach
Route In Use.STAR: LINKK1
Route In Use.Other
Airspace.Class B: IAH

Component

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

Person: 1

Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1493702
Human Factors: Human-Machine Interface
Human Factors: Situational Awareness
Human Factors: Troubleshooting

Person: 2
Reference: 2
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: First Officer
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1493699
Human Factors: Confusion
Human Factors: Situational Awareness

Events
Anomaly.Aircraft Equipment Problem: Less Severe
Anomaly.Deviation - Procedural: Published Material / Policy
Detector.Person: Flight Crew
Detector.Person: Air Traffic Control
When Detected: In-flight
Result.Flight Crew: Requested ATC Assistance / Clarification
Result.Flight Crew: Became Reoriented
Result.Air Traffic Control: Provided Assistance

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

Narrative: 1
I was cleared to descend via the LINKK 1 arrival into IAH and cleared to fly the RNAV 27. The RNAV 27 approach has multiple crossing restrictions 210 knots 6000 ft at RDFS, GEYGR 4000 and SYYKO at 3000. The SYYKO at 3000 is a mandatory attitude on the approach plate but in our FMS for the RNAV 27 it is an at or above 3000 (3000A). We briefed the LINKK 1 arrival and the RNAV 27 and should have emphasized the mandatory crossing restrictions better on the RNAV 27 Approach briefing between the final waypoint on the arrival RDFSH, and beginning of the approach GEYGR and SYYKO. We remained at 4000 to meet the restriction at GEYGR, but missed the mandatory 3000 at SYYKO since the FMS had the crossing at or above 3000 and we were meeting this parameter by being at 4000. The next waypoint TRANN also has at 3000 or above crossing so the aircraft was not going to descend to make SYYKO AT 3000. This deviation could have been caught on a more thorough approach briefing. A better cross check between the approach plate and the FMS was required. It is the pilot’s responsibility to make sure these mandatory restrictions are met. There were some distractions on arrival, delay of obtaining ATIS via radio. The pilots spent several minutes trying to obtain the full ATIS and communicating with ground ops for parking.

I suggest a better presentation on the approach plate for the mandatory restriction to RNAV 27. These restrictions get lost or do not stand out on the approach plate. If you compare the ILS 27 approach plate to the RNAV 27 they have the same restrictions but are presented in a different [manner]. In other words they are not standard. The FMS data needs to be corrected on the RNAV 27. SYYKO is a mandatory 3000 and it is stored as an at or above on RNAV 27. SYYKO Is also a mandatory 3000 on the ILS 27 but in the FMS it is stored correctly as a hard altitude 3000. A better briefing comparing the waypoints, attitudes and speeds between the arrival and approach. Digital ATIS should be the


standard. It would reduce the time a pilot spends trying to get the information via radio and I suggest other means of communicating with ops. The pilots should both be monitoring the arrival and approach and not worried about confirming parking spots. This information should be transmitted in seconds not multiple radio communications. Aviate, Navigate and communicate.

**Narrative: 2**

[Report narrative contained no additional information.]

**Synopsis**

EMB175 flight crew reported their FMS database has SYYKO programmed as "at or above" when it is an "at" fix on the IAH RNAV Runway 27 Approach.
ACN: 1493668 (11 of 50)

Time / Day
- Date: 201710
- Local Time Of Day: 1801-2400

Place
- Locale Reference.Airport: RIC.Airport
- State Reference: VA
- Altitude.AGL.Single Value: 1000

Environment
- Flight Conditions: VMC
- Light: Night

Aircraft
- Reference: X
- ATC / Advisory.Tower: RIC
- Aircraft Operator: Air Carrier
- Make Model Name: Embraer Jet Undifferentiated or Other Model
- 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 C: RIC

Person
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function.Flight Crew: Pilot Not Flying
- Function.Flight Crew: First Officer
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- Experience.Flight Crew.Type: 740
- ASRS Report Number.Accession Number: 1493668
- Human Factors: Situational Awareness

Events
- Anomaly.Deviation - Track / Heading: All Types
- Anomaly.Deviation - Procedural: Clearance
- Anomaly.Inflight Event / Encounter: CFTT / CFIT
- Detector.Person: Flight Crew
- Detector.Person: Air Traffic Control
- When Detected: In-flight
- Result.Flight Crew: Became Reoriented
- Result.Air Traffic Control: Issued Advisory / Alert

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

**Narrative: 1**

Aircraft was being vectored for a night visual approach to Runway 20 at RIC. Captain was PF, I was PM. We flew the DUCXS arrival. Vectoring began IVO NEAVL intersection, roughly 20 NM from airport. We were using the RNAV Z Runway 20 as an instrument procedure reference during the approach. We were vectored for a wide right downwind, roughly 10 NM West of field and given a descent to 2000. Once established at 2000 and abeam the airfield we were vectored toward FOBON, the FAF for RNAV Runway 20, [on] a heading of approximately 070. Based on this approach angle to FOBON we anticipated the corner would be cut so we fully configured the aircraft for landing.

About 5 miles SSW of FOBON we were asked if we had field in sight. At that point I could clearly see the Runway 16 lighting system and the terminal area and pointed this out to the PF. He said to report field in sight, which I did. We were immediately cleared for the visual 20. He began a descent and started a right turn to intercept the Final Approach Course (FAC). During the turn to intercept the captain turned past the 202 inbound course to about a 230 heading without ever intercepting the final approach course. He appeared to be lining up for Runway 16, which had a MALSR and was more brightly lit than Runway 16.

I immediately advised the Captain he was far right of course and needed to come well left. He immediately turned back toward the Runway 20 FAC. I asked him to level off which he did at 1000 feet. At that point I was able to verbally guide the PF toward the FAC and reestablish the aircraft on a stable glide path. Just as we were reestablishing ourselves on the FAC, ATC called to report she just received a low altitude alert on our aircraft.

I acknowledged her call and we elected to continue as by this point we were level, on course and about to restart our descent on glide path. I called 1000 configured to the Captain and we began our descent. Shortly thereafter the Captain commented that he felt like he had black hole illusion. Since we were configured and stable I immediately gave distance and altitude callouts to the runway, which the Captain felt was helpful. We continued the approach to a normal landing.

I think if we had discussed the runway and lighting configuration in more detail, to include potential visual illusions and lack of other visual references, it would have ensured a better common operating picture between me and the Captain. This would have reduced the risk of the Captain attempting to line up on the incorrect runway. Although we were already correcting when we received the ATC alert, the safest and most conservative action at that moment would have been to conduct a go-around.

**Synopsis**

ERJ First Officer reported they received a low altitude alert from ATC on a night visual approach to RIC.
**ACN: 1493528 (12 of 50)**

**Time / Day**
- Date: 201711
- Local Time Of Day: 0601-1200

**Place**
- Locale Reference.Airport: IAH.Airport
- State Reference: TX
- Altitude.MSL.Single Value: 4000

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

**Aircraft**
- Reference: X
- ATC / Advisory.TRACON: I90
- Aircraft Operator: Air Carrier
- Make Model Name: EMB ERJ 170/175 ER/LR
- Crew Size.Number Of Crew: 2
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Mission: Passenger
- Nav In Use: FMS Or FMC
- Flight Phase: Initial Approach
- Route In Use.STAR: LINKK1
- Route In Use.Other
- Airspace.Class B: IAH

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

**Person : 1**
- Reference: 1
- Location Of Person.Facility: I90.TRACON
- Reporter Organization: Government
- Function.Air Traffic Control: Approach
- Qualification.Air Traffic Control: Fully Certified
- Experience.Air Traffic Control.Time Certified In Pos 1 (yrs): 3
- ASRS Report Number.Accession Number: 1493528
- Human Factors: Situational Awareness
- Human Factors: Confusion

**Person : 2**
- Reference: 2
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
I was working Final and cleared Aircraft X on the RNAV approach from a fix at 4000 feet. The next fix had a crossing restriction of 3000 feet. Aircraft X was not descending and I asked the pilot if his FMS shows the fix at 3000 feet, or at or above 3000 feet. The pilot said that his FMS shows that fix is at or above 3000 feet. I indicated that the approach plate has the fix AT 3000 feet and told them to descend. I told the Supervisor on duty about the situation.

There have been multiple E175s having this issue where the FMS shows an "At or Above" altitude on the approach, and the approach plate is an "AT" altitude. Have [Company] double check their FMS to make sure it matches the approach plates.
We were flying the LINKK1 STAR into IAH with the GPS Z 27 approach transition. We were given a different descent clearance to 4000 expedited and slow to 210 kts. We were then cleared for the GPS 27 approach. After passing the fix SYYKO (the last fix before intercepting the final approach course) ATC asked us what our FMS read for the restriction at SYYKO. We stated that it read "at or above 3000 feet." ATC then informed us that it should read a hard altitude of "at 3000 feet." We were then given clearance to descend to 3000 feet and again cleared for the GPS 27 approach. We finished the approach and taxied to the gate without further incident. Once we got to the gate I called the Houston approach controller and spoke with him about the altitude deviation. He stated that this had been a reoccurring issue with our E175s flying the GPS Z 27 approach when crossing the SYYKO fix. We discussed the issue with the FMS database as well as the VNAV logic of the aircraft to want to stay high until it can perform a 3.0 degree glidepath to the next altitude restriction. He was very helpful and I told him I would send an email to the chief pilot to alert the rest of the pilot group to the FMS error and the need to manually input the 3000 foot restriction at the SYYKO fix. He also stated that there was no traffic in the area and we didn’t cause any other disruption to the flow. Also I have never noticed this error using the same fix when on the ILS 27 approach.

We always read through the arrival fixes and verify each waypoint restriction however on most approaches there are not the same kinds of restrictions so verifying each waypoint altitude is not a normal part of the briefing. Also considering that with the use of ATC radar vectors we don't actually fly over many of the points on an approach and our altitude and speed are constantly being amended by ATC. On our CAT 2 checklist though one of the required briefing items is to verify every point on the approach and the associated altitude. This kind of expanded briefing and just always double-checking the approach chart to make sure you don't miss something would help prevent these kinds of deviations. If we would have noticed the discrepancy between the FMS and the chart we could have queried ATC to verify that we should be at 3000 feet at SYYKO.

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

Synopsis

I90 TRACON Controller and EMB175 flight crew reported the E175s have an FMS anomaly where a crossing restriction is programmed as "at or above" when it should be "at."
Time / Day
Date: 201711
Local Time Of Day: 1201-1800

Place
Locale Reference.ATC Facility: ZME.ARTCC
State Reference: TN
Altitude.MSL.Single Value: 4400

Environment
Light: Daylight

Aircraft
Reference: X
ATC / Advisory.Center: ZME
Aircraft Operator: Personal
Make Model Name: Small Aircraft, Low Wing, 1 Eng, Retractable Gear
Crew Size.Number Of Crew: 1
Operating Under FAR Part: Part 91
Flight Plan: IFR
Mission: Personal
Flight Phase: Initial Approach
Route In Use.Other
Airspace.Class E: ZME

Person
Reference: 1
Location Of Person.Facility: ZME.ARTCC
Reporter Organization: Government
Function.Air Traffic Control: Enroute
Qualification.Air Traffic Control: Fully Certified
Experience.Air Traffic Control.Time Certified In Pos 1 (yrs): 4.3
ASRS Report Number.Accession Number: 1493265
Human Factors: Situational Awareness
Human Factors: Confusion
Analyst Callback: Attempted

Events
Anomaly.Airspace Violation: All Types
Anomaly.ATC Issue: All Types
Anomaly.Deviation - Procedural: Published Material / Policy
Detector.Person: Air Traffic Control
When Detected: In-flight
Result.General: None Reported / Taken

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

**Narrative: 1**

Aircraft X was requesting the RNAV 22 into SRB. His destination is at a point where there is a ZTL and ZID low sector. The IAF for the approach is just across the boundary inside ZID Sector 21. The aircraft was level at 5,000 and reported that he had the weather and NOTAMs for the field. After reviewing the NOTAMs myself, I issued a clearance to cross WOTEK at or above 4,400 and cleared for the approach. The MIA in the sector is 3,800 and approach plate had 4,400 so I issued 4,400. However, WOTEK is again just across the boundary where the MIA increases to 4,500. Since the aircraft was landing at its final airport, terrain alerts were already suppressed and I did not notice the issue until I had switched the aircraft to advisory. I did not attempt to have an aircraft relay through UNICOM because the aircraft had already passed the IAF and the event was already over.

Traffic volume was average or above average. Complexity was a little bit higher because there was another approach in progress and I had an additional aircraft holding for an approach with the usual Nashville arrivals and departures. Sector 40 and 41 are combined 99% of the time. The approach plate should always be at least what the MIA is. It doesn't make any sense why it doesn't.

**Synopsis**

ZME Center Controller reported the RNAV Runway 22 Approach at SRB has an IAF altitude 100 feet lower than the minimum IFR altitude.
<table>
<thead>
<tr>
<th><strong>Time / Day</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Date: 201711</td>
</tr>
<tr>
<td>Local Time Of Day: 1201-1800</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Place</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Locale Reference. ATC Facility: SBA.TRACON</td>
</tr>
<tr>
<td>State Reference: CA</td>
</tr>
<tr>
<td>Altitude. MSL. Single Value: 2500</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Environment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Flight Conditions: VMC</td>
</tr>
<tr>
<td>Light: Daylight</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Aircraft : 1</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference: X</td>
</tr>
<tr>
<td>ATC / Advisory. TRACON: SBA</td>
</tr>
<tr>
<td>Aircraft Operator: Personal</td>
</tr>
<tr>
<td>Make Model Name: SR22</td>
</tr>
<tr>
<td>Crew Size. Number Of Crew: 1</td>
</tr>
<tr>
<td>Operating Under FAR Part: Part 91</td>
</tr>
<tr>
<td>Flight Plan: IFR</td>
</tr>
<tr>
<td>Mission: Personal</td>
</tr>
<tr>
<td>Nav In Use: GPS</td>
</tr>
<tr>
<td>Flight Phase: Final Approach</td>
</tr>
<tr>
<td>Flight Phase: Descent</td>
</tr>
<tr>
<td>Airspace. Class C: SBA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Aircraft : 2</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference: Y</td>
</tr>
<tr>
<td>ATC / Advisory. TRACON: SBA</td>
</tr>
<tr>
<td>Aircraft Operator: Corporate</td>
</tr>
<tr>
<td>Make Model Name: Learjet 60</td>
</tr>
<tr>
<td>Crew Size. Number Of Crew: 2</td>
</tr>
<tr>
<td>Operating Under FAR Part: Part 91</td>
</tr>
<tr>
<td>Flight Plan: IFR</td>
</tr>
<tr>
<td>Mission: Utility</td>
</tr>
<tr>
<td>Flight Phase: Descent</td>
</tr>
<tr>
<td>Route In Use: Visual Approach</td>
</tr>
<tr>
<td>Airspace. Class C: SBA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Person : 1</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference: 1</td>
</tr>
<tr>
<td>Location Of Person. Facility: SBA.TRACON</td>
</tr>
<tr>
<td>Reporter Organization: Government</td>
</tr>
<tr>
<td>Function. Air Traffic Control: Approach</td>
</tr>
<tr>
<td>Function. Air Traffic Control: Instructor</td>
</tr>
<tr>
<td>Qualification. Air Traffic Control: Fully Certified</td>
</tr>
<tr>
<td>Experience. Air Traffic Control. Time Certified In Pos 1 (yrs): 4</td>
</tr>
<tr>
<td>ASRS Report Number. Accession Number: 1493257</td>
</tr>
</tbody>
</table>
**Narrative: 1**

Aircraft X was being vectored for the RNAV Approach when Aircraft Y checked in for the Visual Approach. The trainee decided to make Aircraft Y number one and take Aircraft X off their approach. When he did this he gave Aircraft X a right turn, northbound toward higher terrain and the aircraft was at 2500 ft. The aircraft had to ask him if he wanted her to maintain 2500 ft, in which he agreed. I immediately advised him not to turn the aircraft northbound and to continue her turn back southbound. When he gave the aircraft a turn it was to a 100 heading and the aircraft replied with, "Was that for me"? He did not hear her say that and at this point was entering a 3400 ft MVA (Minimum vectoring Altitude).

I took over and proceeded to turn her immediately to a heading of 180 for higher terrain and attained from the pilot that they could maintain their own terrain clearance, to which they answered in the affirmative. This turn to the north has many consequences. One of which the trainee witnessed today. The aircraft can lose radio contact, not hear you, take a late or slow turn or fly into clouds or into terrain. I advised the trainee of several of the issues that can arise from turning aircraft northbound into a higher MVA. More education and experience in radar will help him learn.

**Narrative: 2**

[Report narrative contained no additional information.]

**Synopsis**
SBA TRACON Controller reported ATC trainee vectored an aircraft off the approach into an area with a higher Minimum Vectoring Altitude.
ACN: 1493063 (15 of 50)

**Time / Day**
Date: 201710
Local Time Of Day: 1201-1800

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

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

**Aircraft**
Reference: X
ATC / Advisory.TRACON: ZZZ
Aircraft Operator: Air Carrier
Make Model Name: B757 Undifferentiated or Other Model
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Nav In Use: FMS Or FMC
Nav In Use: GPS
Flight Phase: Initial Approach
Route In Use: Visual Approach
Airspace.Class B: ZZZ

**Person**
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Pilot Not Flying
Function.Flight Crew: First Officer
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Type: 1192
ASRS Report Number.Accession Number: 1493063
Human Factors: Human-Machine Interface
Human Factors: Situational Awareness
Human Factors: Communication Breakdown
Communication Breakdown.Party1: Flight Crew
Communication Breakdown.Party2: Flight Crew

**Events**
Anomaly.Airspace Violation: All Types
Anomaly.Deviation - Speed: All Types
Anomaly.Deviation - Track / Heading: All Types
Anomaly.Deviation - Procedural: Published Material / Policy
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Regained Aircraft Control
Result.Flight Crew : Overcame Equipment Problem

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Airspace Structure
Contributing Factors / Situations : Weather
Primary Problem : Ambiguous

Narrative: 1

This mistake started way out of the arrival before we ever got near the airport. The ATIS was reporting landing Runway XX so the Captain briefed ILS Runway XX. When we checked in with approach they told us to descend via the arrival landing to the south. So now we had to modify the arrival, load in the new approach and brief it, all while flying the arrival. The captain was so swamped with these things that I monitored the aircraft while he was doing all of that. Even so due to time compression we were behind, and while he set up and briefed the RNAV, he never really briefed the [visual approach] that we would be doing. When we were cleared for the visual approach he tried to use the RNAV and for some reason it wouldn't take and he was making changes so fast that I couldn't assess the situation and rectify the RNAV. Rather than try to make it work he turned off the autopilot and auto throttle to hand fly it which was probably the right thing to do (though not the auto throttle), and I believe the flight director was displaying the RNAV correctly at this point. At first he was flying it ok, but what he didn't realize is that on that approach if the winds are out of the west it makes it very difficult. The winds were out of 260 (I forget the knots) as a result instead of staying [on the approach], he was blown way east. I advised him that we needed to [correct for wind]. What that also did was cause us to way overshoot the final. So at low level he was banking it back to the right to try to line it up with the runway. I was watching all of this to make sure we were doing what we should have been and looking outside. When I looked back inside I realized our speed was 5 knots [slow] so I said watch the speed and he added power and we got the speed back. Again, why would you turn off the AT (Auto Throttle) in this situation? I have no idea. It is a tool there to help you especially in a high workload environment. We were also a bit high on the approach but not too bad and from what I could tell we did get the aircraft stabilized at 500 ft but probably just barely. The whole time I was ready to call the go around if it got even more out of line however I felt that if we could get it stabilized in time that would be better than going around and having this captain try to fly another one of these approaches. The landing turned out to be fine, on speed, and in the touchdown zone.

Synopsis

B757 First Officer reported that the Captain hand flew an approach without autothrottles due to wind.
ACN: 1492673 (16 of 50)

Time / Day
Date: 201710
Local Time Of Day: 1201-1800

Place
Locale Reference: Airport: ZZZ.Airport
State Reference: US
Altitude.MSL.Single Value: 2500

Environment
Flight Conditions: VMC
Weather Elements / Visibility: Visibility: 15
Light: Daylight
Ceiling.Single Value: 3000

Aircraft: 1
Reference: X
ATC / Advisory: Tower: ZZZ
Aircraft Operator: FBO
Make Model Name: Cessna 152
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 91
Flight Plan: None
Mission: Training
Flight Phase: Cruise
Airspace.Class D: ZZZ

Aircraft: 2
Reference: Y
ATC / Advisory: Tower: ZZZ
Aircraft Operator: Corporate
Make Model Name: Falcon 20FJF/20C/20D/20E/20F
Crew Size.Number Of Crew: 2
Flight Plan: IFR
Mission: Passenger
Flight Phase: Final Approach
Route In Use: Other
Airspace.Class D: ZZZ

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: FBO
Function.Flight Crew: Instructor
Function.Flight Crew: Pilot Flying
Qualification.Air Traffic Control: Fully Certified
Qualification.Flight Crew: Flight Instructor
Qualification.Flight Crew: Commercial
Qualification. Flight Crew : Multiengine
Qualification. Flight Crew : Instrument
Experience. Air Traffic Control. Radar : 26
Experience. Air Traffic Control. Non Radar : 8
Experience. Flight Crew. Total : 3600
Experience. Flight Crew. Last 90 Days : 120
Experience. Flight Crew. Type : 1500
ASRS Report Number. Accession Number : 1492673

Events
Anomaly. ATC Issue : All Types
Anomaly. Conflict : Airborne Conflict
Anomaly. Deviation - Procedural : Published Material / Policy
Detector. Person : Flight Crew
Miss Distance. Horizontal : 1300
Miss Distance. Vertical : 300
When Detected : In-flight
Result. Flight Crew : Took Evasive Action

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

Narrative: 1

I am a retired ATC specialist and flight instructor. The wind aloft was from the southwest at about 20 knots giving us a ground speed of 115 knots. I was providing instruction to a student in a Cessna 152 and we contacted ZZZ tower to transit the Delta airspace. Our track was 014 degrees to our destination. I had the student advise the tower we would be at 2,500 and passing 1 mile east of the airport. Controller instructed to advise of any altitude changes. As we neared the airport the controller said "no delay thru the arrival corridor." I told the student to respond with "roger." When we were 1-1/2 miles southeast of the airport the controller said to "expedite thru the arrival corridor." I advised the controller we were a C152 and we were doing the best we could. The controller instructed us to turn eastbound for traffic inbound on the RNAV approach. We complied and turned. The controller called traffic to a Falcon jet as a Cessna at 12 o'clock, 4 miles eastbound at 2,500. Realizing the traffic was us, I scanned the sky quickly and spotted the traffic just to the left of our nose. I turned the aircraft to the right and observed the jet climb slightly and pass off our left side very rapidly. I called the traffic in sight and was told to pass behind the traffic before turning northbound. I acknowledged the turn. The controller then advised us to remain eastbound for additional traffic inbound on the RNAV approach 5 miles to our east. I saw the traffic and replied I would not do that and continued northbound to clear the final approach course. I advised that what had just happened was the worst service I'd seen in [over 20 years] of ATC experience. The controller then said I was "outside of class Delta, frequency change approved."

Appalling does not begin to describe this situation. Although the controller meant to keep us south of the approach path with the eastbound turn, it was a) begun too late to keep lateral separation; b) did not take into account the wind drifting our flight path; and c) had the controller simply allowed us to remain at 2,500 MSL (1,500 AGL) our flight paths would have crossed about 1 mile east of the airport with my aircraft north of the final approach course. Additionally, when the Falcon jet would have been 1 mile east of the
airport his altitude would have been around 400-500 AGL (providing for a 3 degree glide path) which would have maintained 1,000 feet of vertical separation when only 500 feet was required between an IFR and VFR aircraft.

The poor judgment displayed by this controller was atrocious. Four different actions could have been taken if the controller was worried about separation. 1) A left turn to put us over the airport, 2) leaving us on course, 3) looking for and applying visual separation by either the pilot or controller, or 4) a right turn to keep us south of the approach course. The fourth option, done in a timely manner, would've worked. However, any of the other three would have been better. I have been flying for [over 40] years and that was the closest I've ever been to another aircraft while airborne.

**Synopsis**

C152 flight instructor reported an airborne conflict with a Falcon jet that was poorly handled by ATC.
ACN: 1492395 (17 of 50)

Time / Day

Date : 201710
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : NCT.TRACON
State Reference : CA
Altitude. MSL. Single Value : 3000

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : NCT
Make Model Name : Light Transport
Crew Size. Number Of Crew : 2
Flight Plan : IFR
Mission : Passenger
Nav In Use : GPS
Flight Phase : Final Approach
Airspace. Class E : NCT

Aircraft : 2

Reference : Y
ATC / Advisory.TRACON : NCT
Aircraft Operator : Personal
Make Model Name : Small Aircraft
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Personal
Flight Phase : Climb
Route In Use : VFR Route
Route In Use : None
Airspace. Class E : NCT

Person

Reference : 1
Location Of Person. Facility : NCT.TRACON
Reporter Organization : Government
Function. Air Traffic Control : Approach
Qualification. Air Traffic Control : Fully Certified
Experience. Air Traffic Control. Time Certified In Pos 1 (yrs) : 1.0
ASRS Report Number. Accession Number : 1492395
Human Factors : Situational Awareness
Human Factors : Communication Breakdown
Communication Breakdown. Party1 : ATC
Communication Breakdown. Party2 : Flight Crew
Events
Anomaly.ATC Issue : All Types
Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued New Clearance
Result.Air Traffic Control : Separated Traffic

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

Narrative: 1
Aircraft X was cleared for the RNAV approach and descending on the approach. I took the radar handoff on Aircraft Y from Tower while Aircraft Y was still not a conflict. Aircraft X was at 3,000 feet and the two aircraft were now on a converging course and appeared likely to merge. Aircraft X had a crossing altitude of 1,500 feet on the next fix on the approach. Aircraft Y was climbing out northeast bound. At approximately 1,500 feet I called Tower and told them to turn Aircraft Y or to transfer communications to me. I told Aircraft X to continue present heading and to maintain 3,000 feet.

At this point Aircraft Y was at 1,700 feet and I was anticipating them to continue climbing. I did not receive communications with Aircraft Y until after the targets merged and Aircraft Y was across the Aircraft X's final approach course. Where the targets merged Aircraft X should have been below 2,400 feet descending to 1,500 feet for their next crossing restriction. After the targets merged I cleared Aircraft X for the Visual Approach. At this point they were on approximately a seven mile final at 3,000 feet, almost to the fix that they should have been at 1,500 feet. This set them up for a less than stable approach to the runway.

I recommend that Tower and TRACON meet to collaborate on a safer and more efficient way to handle VFR departures that are going to cross the OAK finals.

Synopsis
NCT TRACON Controller reported a VFR NORDO aircraft crossed a runway's final approach course with traffic descending on the approach.
ACN: 1491695 (18 of 50)

**Time / Day**
- Date: 201710
- Local Time Of Day: 1201-1800

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

**Environment**
- Flight Conditions: VMC
- Weather Elements / Visibility: Visibility: 10
- Light: Daylight
- Ceiling: Single Value: 5000

**Aircraft**
- Reference: X
- ATC / Advisory.Tower: ZZZ
- Aircraft Operator: Personal
- Make Model Name: Skyhawk 172/Cutlass 172
- Crew Size.Number Of Crew: 2
- Operating Under FAR Part: Part 91
- Flight Plan: None
- Mission: Training
- Flight Phase: Landing

**Component**
- Aircraft Component: Normal Brake System
- Aircraft Reference: X
- Problem: Malfunctioning

**Person**
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Personal
- Function.Flight Crew: Pilot Flying
- Function.Flight Crew: Instructor
- Qualification.Flight Crew: Commercial
- Qualification.Flight Crew: Flight Instructor
- Qualification.Flight Crew: Instrument
- Qualification.Flight Crew: Multiengine
- ASRS Report Number.Accession Number: 1491695

**Events**
- Anomaly.Aircraft Equipment Problem: Less Severe
- Anomaly.Ground Event / Encounter: Loss Of Aircraft Control
Assessments
Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1
After completing an instrument flight training lesson we returned to the airport for landing and I demonstrated the RNAV Instrument Approach to my student. Normally, I would allow my student to land the aircraft but I elected to land the airplane myself because there was a direct crosswind of 15-25 knots being reported at the airport's surface. The approach and landing occurred without incident. However, after landing the aircraft and receiving instruction from ATC to vacate the runway, I realized that the airplane's left brake had failed. I subsequently was unable to taxi clear of [the] runway due to the aircraft’s inability to slow down enough to make the turnoff. I then chose to continue rolling to [the next] taxiway where I again attempted to vacate the runway by making the left turn. The aircraft was slowed sufficiently to turn but upon applying the rudder, it did not turn enough to stay clear of the edge of the taxiway. I managed to bring the aircraft to a full stop by applying full back pressure to the yoke, essentially using the elevator as an air brake. The aircraft came to a rest on the edge of the taxiway. I was unable to make a right turn due to the aircraft's proximity to a taxiway light on the right side. I decided to shut down the aircraft and request assistance from airport operations. Due to the aircraft being disabled on the edge of the runway, [the] runway was closed for approximately 15 minutes, until my student and I were able to manually push the aircraft clear.

Synopsis
C172 instructor pilot reported he was unable to clear the runway as the left brake had locked up during landing roll.
Time / Day
Date: 201710
Local Time Of Day: 1201-1800

Place
Locale Reference.Airport: ORD.Airport
State Reference: IL
Altitude.MSL.Single Value: 4000

Environment
Flight Conditions: VMC
Light: Daylight

Aircraft: 1
Reference: X
ATC / Advisory.TRACON: C90
Aircraft Operator: Air Carrier
Make Model Name: Regional Jet 200 ER/LR (CRJ200)
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Nav In Use: FMS Or FMC
Flight Phase: Initial Approach
Route In Use.STAR: FYTTE4
Airspace.Class B: ORD

Aircraft: 2
Reference: Y
Make Model Name: UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part: Other
Flight Phase: Cruise
Airspace.Class B: ORD

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1489642
Human Factors: Situational Awareness

Events
Anomaly.Conflict: Airborne Conflict
Detector.Person: Flight Crew
When Detected : In-flight  
Result. General : None Reported / Taken  

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

**Narrative: 1**

While flying the FYTTE4 RNAV STAR to ORD, we were on downwind leg for Rwy 27R, level at 4000 MSL and between the VULCN and HIMGO waypoints. I and the First Officer (FO) visually acquired a mostly stationary airborne object ahead of the aircraft and to the right side of our flight path. We quickly closed with the object and then the object passed off the right side of the aircraft at very close range. Although I had initially identified the object as looking like some drifting party-type balloons, as we passed the object the FO stated "I think it's a drone". While I never got a good enough look to be certain that the object was a small unmanned device, the FO was in a much better position to visually track the object so I trust his judgment on the matter. In addition, I noted that the object seemed to be very nearly motionless, which would be unusual for balloons, which are generally ascending at low altitudes such as this one. After passing the object, the FO reported the presence of a possible drone just south of our course at present position. The entire event happened so quickly that as the Flying Pilot I didn't take any evasive action, since it appeared that we would miss the object narrowly off our right-hand side.

The cause of the event would appear to be someone's reckless decision to intentionally or mistakenly operate a small unmanned device in close proximity to air traffic executing arrival procedures to ORD. Education of small UAV operators is paramount to ensure that folks know that a small unmanned device can pose a significant safety hazard for even such a significantly larger aircraft such as a jet airliner. In addition, I'm certain that the technology exists to detect even small unmanned devices and alert the pilots of larger aircraft to their presence. That technology would be hugely helpful in preventing drone strikes and near misses.

**Synopsis**

CRJ200 Captain reported a close encounter with a UAV at 4000 feet on the downwind leg for Runway 27R at ORD.
Time / Day
Date: 201710
Local Time Of Day: 1201-1800

Place
Locale Reference.ATC Facility: ZAU.ARTCC
State Reference: IL
Altitude.MSL.Single Value: 14000

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

Aircraft: 1
Reference: X
ATC / Advisory.Center: ZAU
Aircraft Operator: Air Carrier
Make Model Name: Embraer Undifferentiated or Other Model
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Descent
Route In Use.STAR: WYNDE8
Airspace.Class B: ZAU

Aircraft: 2
Reference: Y
ATC / Advisory.Center: ZAU
Aircraft Operator: Air Carrier
Make Model Name: Large Transport
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Descent
Airspace.Class B: ZAU

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Pilot Not Flying
Function.Flight Crew: First Officer
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1488402
Human Factors: Confusion
Events

Anomaly.Flight Deck / Cabin / Aircraft Event : Illness
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Regained Aircraft Control
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

On the RNAV Arrival into Chicago, we encountered severe turbulence in the descent. We were in the descent at approximately 14000ft over PAITN when we started to feel turbulence. The aircraft violently rolled into a 40 degree right bank which caused the autopilot to disengage. The Captain took controls and leveled the wings. As he got the LNAV set back on the turbulence started again and the aircraft violently rolled into a 40 degree left bank. The Captain continued to hand fly the plane while I contacted ATC. I informed them of the severe turbulence and queried if we were following a heavy aircraft since we saw nothing visually or on TCAS. ATC allowed us to offset to the right, so I set up the autopilot in HDG mode and 30 degree right turn off course. ATC responded that we were following a 737 which was 2000ft below us approximately 12 miles ahead. After flying on the heading for about 2 minutes, I asked ATC for instructions to rejoin the arrival. We never saw any aircraft pass overhead nor were told about any traffic passing overhead. Once the plane was under control, the Captain rang the Fight Attendant (FA) to check on her and passengers. No injuries were reported. ATC queried about injuries and/or aircraft damage to which I replied there were none, but the aircraft would be inspected on the ground. We landed without incident. The Captain wrote up the severe turbulence encounter and had maintenance inspect the aircraft. No deformations were found on my walk around. Maintenance found the Captain side piano hinge rod broken through the safety wire. It was unclear if it was caused by the turbulence. Maintenance re secured the piano hinge. The Captain took himself off the trip to get his wrist looked at since he twisted it during the turbulence encounter.

Synopsis

Embraer First Officer reported encountering severe turbulence while on descent into ORD.
Time / Day
Date: 201710
Local Time Of Day: 1201-1800

Place
Locale Reference.Airport: PSP.Airport
State Reference: CA

Environment
Light: Daylight

Aircraft
Reference: X
ATC / Advisory.Tower: PSP
Aircraft Operator: Air Carrier
Make Model Name: Large Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Final Approach
Route In Use: Visual Approach
Airspace.Class D: PSP

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1487855
Human Factors: Situational Awareness
Human Factors: Confusion
Analyst Callback: Attempted

Events
Anomaly.Aircraft Equipment Problem: Less Severe
Detector.Person: Flight Crew
Were Passengers Involved In Event: N
When Detected: In-flight
Result.Flight Crew: Became Reoriented

Assessments
Contributing Factors / Situations: Chart Or Publication
Contributing Factors / Situations: Human Factors
Primary Problem: Chart Or Publication
**Narrative: 1**

Found an error on the Jeppesen Chart for PSP [Tailored Company Page XX-0-2]. We were landing on RWY 31L as the sun was just slipping below the mountains to the west of the airport, it was VMC. With the shadows and the last bit of sunlight hitting us in the face, it was hard to see the edges for the runways. When landing RWY 31L at PSP, there is no ILS and no straight in approach because of the mountains to the east, so the RNAV Visual brings you in at an angle. The First Officer was flying and it was very easy to see the airport and the PAPIs to both runways. With the shadows from the setting sun, Taxiway C looked a lot like a runway, not a taxiway (in the past it was, in fact, used as a runway while work was being done to 31L). He started to line up on the taxiway, and [I] was easily able to direct him to the left to line up on 31L. He mentioned, however that he lined up on the taxiway because during the brief as he went through the Jeppesen chart, it said that there would be VASIs on the left, and he initially lined up to put the VASIs on his left, thus lining up on the taxiway. The PAPI's, actually, are on the right of 31L, not the left. It does say that correctly on page YY-21, page 10-9A, and page XX-04. The reason for the report is that we were easily able to correct at a safe altitude, but the First Officer did have a moment of confusion and the one page that he had up to help him, had the wrong information on it! Before someone actually does land on the taxiway, please have Jeppesen page XX-0-2 fixed to show that RWY 31L actually has a PAPI on the right, not a VASI on the left.

**Synopsis**

B737 Captain reported that one of the Company Tailored Jeppesen charts for Runway 31L at PSP erroneously indicates that there are VASI lights to the left of the runway which may lead to Taxiway C being mistaken as a runway.
ACN: 1486649 (22 of 50)

Time / Day
Date: 201710
Local Time Of Day: 1801-2400

Place
Locale Reference. ATC Facility: ELP.TRACON
State Reference: TX
Altitude. MSL. Single Value: 11000

Aircraft: 1
Reference: X
ATC / Advisory. TRACON: ELP
Aircraft Operator: Corporate
Make Model Name: Learjet 55
Crew Size. Number Of Crew: 2
Operating Under FAR Part: Part 91
Flight Plan: IFR
Mission: Passenger
Nav In Use: FMS Or FMC
Nav In Use: GPS
Flight Phase: Descent
Route In Use. STAR: MOLLY4
Airspace. Class C: ELP

Aircraft: 2
Reference: Y
ATC / Advisory. TRACON: ELP
Aircraft Operator: Corporate
Make Model Name: Citation II S2/Bravo (C550)
Crew Size. Number Of Crew: 2
Operating Under FAR Part: Part 91
Flight Plan: IFR
Mission: Passenger
Nav In Use: FMS Or FMC
Flight Phase: Cruise
Route In Use: Direct
Airspace. Class C: ELP

Person
Reference: 1
Location Of Person. Facility: ELP.TRACON
Reporter Organization: Government
Function. Air Traffic Control: Approach
Function. Air Traffic Control: Trainee
Qualification. Air Traffic Control: Developmental
ASRS Report Number. Accession Number: 1486649
Human Factors: Confusion
Human Factors: Training / Qualification
Human Factors: Situational Awareness
Events

Anomaly.ATC Issue : All Types
Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Procedural : Clearance
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Air Traffic Control : Issued Advisory / Alert
Result.Air Traffic Control : Issued New Clearance
Result.Air Traffic Control : Separated Traffic

Assessments

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

Narrative: 1

A Citation was level at 10000 feet westbound via MOLLY4. The Learjet checked in descending out of 13000 feet for 11000 feet via MOLLY4 RNAV Arrival. At MOLLY Intersection the Learjet was level at 11000 feet, and then suddenly he started to descend to 9000 feet head on with the Citation. My Instructor noticed the Learjet was descending and in conflict with the Citation. Immediately, he took over the position and instructed the Learjet an expedited descent instruction to 9000 feet to avoid the Citation.

[I should] confirm with the ARTCC Controller if the aircraft has been instructed to maintain altitude above my traffic and/or restate to maintain the altitude I need the aircraft to maintain for traffic. Do not rely on pilots when they report descending to an altitude assigned by other controller. I will ensure and instruct the pilot to maintain the altitude I need the aircraft to maintain.

Synopsis

A Trainee Controller reported an aircraft he thought was descending to 11000 feet continued descending through 11000 feet into opposite direction traffic at 10000 feet.
**ACN: 1486003 (23 of 50)**

**Time / Day**
- Date: 201710
- Local Time Of Day: 1801-2400

**Place**
- Locale Reference: Airport: DEN.Airport
- State Reference: CO
- Altitude: MSL. Single Value: 8600

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

**Aircraft : 1**
- Reference: X
- ATC / Advisory: TRACON: D01
- 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
- Nav In Use: GPS
- Nav In Use: FMS Or FMC
- Flight Phase: Final Approach
- Flight Phase: Initial Approach
- Route In Use: Other
- Airspace: Class B: DEN

**Aircraft : 2**
- ATC / Advisory: TRACON: D01
- Aircraft Operator: Air Carrier
- Make Model Name: B737-700
- Crew Size: Number Of Crew: 2
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Mission: Passenger
- Nav In Use: FMS Or FMC
- Nav In Use: GPS
- Flight Phase: Final Approach
- Flight Phase: Initial Approach
- Route In Use: Visual Approach
- Airspace: Class B: DEN

**Person : 1**
- Reference: 1
- Location Of Person: Facility: D01.TRACON
- Reporter Organization: Government
- Function: Air Traffic Control: Approach
Qualification. Air Traffic Control: Fully Certified
Experience. Air Traffic Control. Time Certified In Pos 1 (yrs): 4
ASRS Report Number. Accession Number: 1486003
Human Factors: Communication Breakdown
Human Factors: Situational Awareness
Human Factors: Workload
Human Factors: Confusion
Communication Breakdown. Party 1: ATC
Communication Breakdown. Party 2: Flight Crew

Person: 2
Reference: 2
Location Of Person. Aircraft: Y
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function. Flight Crew: Captain
Function. Flight Crew: Pilot Flying
Qualification. Flight Crew: Air Transport Pilot (ATP)
Experience. Flight Crew. Last 90 Days: 297
ASRS Report Number. Accession Number: 1486332
Human Factors: Situational Awareness
Human Factors: Confusion
Human Factors: Distraction

Person: 3
Reference: 3
Location Of Person. Aircraft: Y
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function. Flight Crew: First Officer
Function. Flight Crew: Pilot Not Flying
Qualification. Flight Crew: Air Transport Pilot (ATP)
Experience. Flight Crew. Type: 434
ASRS Report Number. Accession Number: 1486978
Human Factors: Distraction
Human Factors: Situational Awareness

Person: 4
Reference: 4
Location Of Person. Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function. Flight Crew: First Officer
Function. Flight Crew: Pilot Not Flying
Qualification. Flight Crew: Air Transport Pilot (ATP)
Experience. Flight Crew. Type: 622
ASRS Report Number. Accession Number: 1486367
Human Factors: Time Pressure
Human Factors: Situational Awareness
Human Factors: Distraction
Human Factors: Communication Breakdown
Human Factors: Confusion
Aircraft X checked in, and was cleared for RNAV Zulu Runway 35R approach. Pilot read back approach clearance correctly and slowed aircraft to 190 KTS to keep separation as Aircraft X was in trail of two other aircraft on [RNP] approaches. Winds were strong out of the south at altitude and needed to control speeds on the downwind and base legs of the approaches.

It appeared Aircraft X was turned in to join the final and so I instructed Aircraft X to contact tower on 133.3. The pilot replied with "Verify Runway 35R" at which point I stated "Yes, Runway 35R and recognized that the aircraft was heading due west bound and not turning onto the final. The controller next to me (working Flight Radar 1) had two aircraft and it appeared that Aircraft X was now going to conflict with both of those aircraft, so he issued traffic and was able to get Aircraft X in sight. I then reached out to Aircraft X and instructed the pilot to turn due northbound to try and avoid a conflict with the aircraft on Runway 34R. The Flight Radar 1 controller issued traffic again and once Aircraft X was in
the turn - I instructed him to climb to get out of the way. Then re-vectored pilot for visual approach to Runway 35R.

Aircraft Y- aircraft that was on final for Runway 35L was issued traffic and saw Aircraft X. Due to aircraft’s TCAS, pilot had to initiate a rapid descent which contributed to the aircraft being much lower than Aircraft X.

If pilot is confused, they need to clarify which runway well before the position the aircraft was in. I observed Aircraft X on a heading turning in, when in reality they turned more westerly after questioning which runway they were going to. Not sure why a pilot would think they were going to cross over 2 different finals to go to a runway on the west side of the airport..., which appeared to be what they were doing.

Procedural: We have maps that show the exact RNAV path that each aircraft is supposed to be flying depending on which runway they are going to - there are SLIGHT variations with the turns to join the finals depending on which runway is assigned - and had I been working with this map displayed (although this is not a requirement) I would definitely have noticed that Aircraft X was not turning in to the correct runway. I will be working with this map displayed on my scope from now on. This should probably become a requirement for all controllers.

Narrative: 2

We were cleared for a straight-in Visual Approach to Runway 35L at DEN. We were lined up with the runway approximately eight miles out. After selecting gear down and flaps to 15, my First Officer sighted traffic at our 1 o'clock position on a heading of approximately 270 degrees, which was 90 degrees perpendicular to our heading. He said, "Wow they are being aggressive." Shortly thereafter, it became apparent they were not lining up with their assigned Runway 35R. They were clearly going to infringe on our airspace on the 35L final.

As this was occurring, the TCAS generated a very aggressive descend RA to avoid colliding with the (other carrier) Aircraft. We had no choice but to assertively follow the Descend RA to avoid a collision. The maneuver was felt by our Flight Attendants and Passengers. The (other carrier) aircraft continued on a westerly heading and conflicted with another 737 that was lining up for 34R. We later learned that the (other carrier) 737 Crew had mistakenly entered 34R into their FMC for the Require Navigation Performance Approach instead of 35R which was the approach and runway they were assigned.

Narrative: 3

Another Carrier flight attempted to fly an approach to the incorrect runway. Caused us an RA. Nothing we could do.

Narrative: 4

Originally, I loaded the WAHUUU 2 RNAV arrival with a transition to a South landing runway at DEN as per current information and flight-planned route while at the departure gate. As we switched to Denver Center, prior to top of descent, they informed us that we would now utilize the KOHOE 3 RNAV arrival for an RNAV Z 35R approach into DEN. The Pilot Flying had the autopilot engaged and made the changes in the FMC. The Pilot Flying loaded the correct arrival but failed to load the proper approach, erroneously loading the RNAV Z 34R (unrealized by either pilot) instead of the RNAV Z 35R. The Pilot Flying then briefed RNAV Z 35R off the EFB (Electronic Flight Bag) and as the Pilot Monitoring; I followed along on my EFB. I put the Barometric Minimums and the final approach course
for the RNAV Z 35 R.

We flew an uneventful arrival and were eventually cleared from the Arrival onto the Approach. Unfortunately, both approaches share the first two points after the Arrival. The Pilot Flying instructed me to put in the FAF altitude once we were cleared for the approach, once we were on the published segment of the approach, the Pilot Flying instructed me to put in the touchdown zone elevation into the Altitude window. It was on our westerly turn towards the FAF that I noticed what looked like an extended straight segment on the MFDU. I looked outside and saw 35R at approximately the 2:30 position and called out for the Pilot Flying to make an immediate right turn. I then scanned down to the FMC and saw two points I didn't recognize and Runway 34R. I told the Pilot Flying this as Denver Approach switched us to tower. I stayed with Denver Approach believing we would have to take immediate corrective actions. Not two seconds later, we got a Resolution Advisory telling us to climb. A second or two later, Denver approach gave us an immediate turn to the north and a climb to 8000 feet. We were then vectored back to an uneventful ILS approach to Runway 35R. I loaded the FMC and set up the approach for the Pilot Flying and we had no further issues.

**Narrative: 5**

Upon initial contact with Denver Center Control we were issued a new arrival and expecting to land north instead of landing south as initially expected and programmed in the FMC. As the flying pilot with Autopilot engaged, I loaded the new arrival and what I thought was the correct RNAV approach to Runway 35R but had actually loaded 34R. All changes were verbalized and verified before executing. The proper RNAV Required Navigation Performance Z Runway 35R was briefed and displayed on both EFBs. Initial way points were checked to ensure the arrival and the approach were connected properly. All checklists and call outs were performed per SOP.

Upon turning, the base leg of the RF (Radius to Fix) leg the First Officer noticed we were on an extended base and he verbalized that to me. This caught my attention and I then realized we had passed the runway for which we were cleared the approach. Immediately we received a TCAS RA and an ATC heading and altitude assignment. I flew the commanded flight path from the RA and the heading from the controller until clear of conflict. We were then issued another heading and altitude to begin the downwind leg for another approach to runway 35R. We realized the mistake of loading the incorrect RNAV Z approach for 34R instead of 35R as the First Officer loaded the ILS 35R approach in the FMC to back up the visual approach. The visual approach was continued uneventfully to landing.

**Synopsis**

Denver Approach Controller and four pilots reported that an aircraft went through assigned final course causing an airborne conflict with two other aircrafts.
**ACN: 1485001 (24 of 50)**

**Time / Day**
Date: 201709
Local Time Of Day: 1201-1800

**Place**
Locale Reference.ATC Facility: CZUL.ARTCC
State Reference: PQ
Altitude.MSL.Single Value: 3000

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

**Aircraft**
Reference: X
ATC / Advisory.Center: CZUL
Aircraft Operator: Personal
Make Model Name: Challenger 300
Operating Under FAR Part: Part 91
Flight Plan: IFR
Flight Phase: Descent

**Component**
Aircraft Component: Squat Switch
Aircraft Reference: X
Problem: Malfunctioning

**Person: 1**
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Personal
Function.Flight Crew: Pilot Flying
Function.Flight Crew: Captain
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1485001
Human Factors: Distraction
Human Factors: Situational Awareness

**Person: 2**
Reference: 2
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Personal
Function.Flight Crew: First Officer
Function.Flight Crew: Pilot Not Flying
ASRS Report Number.Accession Number: 1485521
Human Factors : Distraction
Human Factors : Situational Awareness

Events
Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued Advisory / Alert

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

Narrative: 1
We started a descent to 6000 ft and direct to MIBSO on the RNAV 29. We had not yet reached MIBSO when the airplane started screaming at us saying "GEAR" "GEAR" and flashing red. We could not silence the noise. Our passengers were getting worried. We were at around 7600 ft with the airspeed at 230 kts. My non-flying pilot got out the QRH but it was no help in this situation. The airplane thought it was on the ground with the gear up. The radio alt was reading 0. The weather was clear and we could see the runway. We were cleared for the approach by ATC. My FO scrolled in 3000 ft into the alt selector. I assumed that 3000 ft was the next alt on the approach because the FO had the approach plate in front of him and we had briefed it was going to be a visual backed by this approach. I did not query his decision. I was busy descending and distracted by the gear warning system. Also I was thinking that once we start leveling off this gear issue might right itself and I would have better understanding of this issue. Such as slow down and drop the gear. So, when we did start to level off, sure enough the airplane realized it was flying and went back to normal. At that time ATC contacted us and informed us we were outside radar coverage and too low. We told ATC we were in the clear and could see the rwy. ATC then cleared us for a visual. No further action required.

Lots of different situations happening at the same time. Plus it was VFR. We should have leveled off at 6000 ft and asked ATC for some delay vectors while we worked our problem instead of continuing on the approach. I think maybe because we could see the runway and I did not feel worried about the gear not being available to us, I thought it ok to continue on the approach. The problem was, we were just outside of MIBSO (5 mile or less). I talked with the FO after this situation and he thought we had already passed MIBSO. Had we already had been passed it would have been correct because we had been cleared for the approach.

We should have leveled off at 6000 ft and asked ATC for some delay vectors while we worked our problem instead of continuing on the approach.

Narrative: 2
[Report narrative contained no additional information.]
Synopsis

CL-300 flight crew reported receiving a low altitude alert while distracted by a gear warning horn associated with an air-ground disagreement.
Time / Day
Date : 201709
Local Time Of Day : 1801-2400

Place
Locale Reference.Airport : BTV.Airport
State Reference : VT
Altitude.MSL.Single Value : 5500

Environment
Flight Conditions : IMC
Light : Night

Aircraft
Reference : X
ATC / Advisory.TRACON : BTV
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
Flight Phase : Initial Approach
Airspace.Class E : BTV

Person
Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1484949
Human Factors : Fatigue
Human Factors : Situational Awareness

Events
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued New Clearance
Result.Air Traffic Control : Issued Advisory / Alert
Assessments
Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1
While heading into BTV we were on vectors to RNAV GPS Z Rwy 33. We were at 5500 feet and on a heading to intercept the final course inbound. While on this heading we were cleared for the approach. We intercepted the inbound course and proceeded with the approach. What I failed to realize is that we were outside NIDUQ. The minimum crossing at NIDUQ is 5400 feet. We were lower than the required 5400 ft and just about to level at HONIB when approach stated that we descended below the required crossing restriction of 5400 feet at NIDUQ. At this point, we had the airport in sight and told approach that we had the airport in sight. He cleared us for the visual and we continued and landed safely without issue.

This was the third night. I was tired as I didn't sleep well the night before and I didn't get enough sleep during the day. I definitely tried to sleep during the day, but only slept about 3 hrs. Once on the ground and parked at the gate. I dug into how I missed the fix. I reloaded the approach with vectors and realized that it doesn't load any fixes past HONIB. I have learned my lesson and will always select an IAF instead of vectors. I was also complacent in thinking that it was going to be a visual approach with the RNAV as a backup.

Synopsis
CRJ-200 First Officer reported descending below charted altitude on approach to BTV citing fatigue as a contributing factor.
ACN: 1484895 (26 of 50)

**Time / Day**
- Date: 201709
- Local Time Of Day: 1201-1800

**Place**
- Locale Reference.Airport: PSP.Airport
- State Reference: CA

**Environment**
- Light: Daylight

**Aircraft : 1**
- Reference: X
- ATC / Advisory.TRACON: SCT
- Aircraft Operator: Air Carrier
- Make Model Name: B737 Next Generation Undifferentiated
- Crew Size.Number Of Crew: 2
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Mission: Passenger
- Nav In Use: FMS Or FMC
- Nav In Use: GPS
- Flight Phase: Initial Approach
- Route In Use: Visual Approach
- Airspace.Class E: SCT

**Aircraft : 2**
- Reference: Y
- ATC / Advisory.TRACON: SCT
- Aircraft Operator: Personal
- Make Model Name: Small Aircraft
- Crew Size.Number Of Crew: 1
- Operating Under FAR Part: Part 91
- Mission: Personal
- Flight Phase: Climb
- Airspace.Class E: SCT

**Person**
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function.Flight Crew: Captain
- Function.Flight Crew: Pilot Flying
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number.Accession Number: 1484895
- Human Factors: Situational Awareness

**Events**
Anomaly.Conflict : NMAC
Detector.Automation : Aircraft RA
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : FLC complied w / Automation / Advisory

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

Narrative: 1
We were cleared for the RNAV Visual 31L by SOCAL Approach. Approaching the CEKMA waypoint, Approach advised us of VFR traffic at 11 o'clock and three miles maneuvering below us and climbing. Almost immediately, we received a TA with no bearing as the VFR traffic checked in with SOCAL. He advised that he was in a spiraling climb off Bermuda Dunes airport. SOCAL immediately advised the traffic to stop the climb and fly heading 360. At the same time we received CLIMB RA. I complied with the RA and the FO notified SOCAL. VFR aircraft passed below our aircraft approximately 300 feet below us. Dispatch was notified.

VFR traffic not cognizant of proximity to PSP airport and hazards of inbound traffic. ATC informed the VFR aircraft that the spiral climb "was not a good idea" given his location in relation to PSP.

Synopsis
B737 Captain reported an NMAC with a VFR aircraft in the vicinity of PSP.
ACN: 1483759 (27 of 50)

Time / Day
Date: 201709
Local Time Of Day: 1201-1800

Place
Locale Reference.Airport: CEU.Airport
State Reference: SC
Altitude.MSL.Single Value: 1680

Environment
Flight Conditions: VMC
Light: Daylight

Aircraft
Reference: X
ATC / Advisory.UNICOM: CEU
Make Model Name: Light Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 91
Flight Plan: IFR
Flight Phase: Initial Approach
Route In Use: Visual Approach
Airspace.Class E: CEU

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Function.Flight Crew: Pilot Flying
Function.Flight Crew: Captain
ASRS Report Number.Accession Number: 1483759
Human Factors: Confusion
Human Factors: Workload
Human Factors: Situational Awareness

Events
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: Became Reoriented

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

Narrative: 1
While on arrival to CEU we anticipated the RNAV approach to Runway 7. Weather was clear so instead we briefed a visual approach to Runway 7 with a plan to overfly the departure end and enter the right downwind for runway 7. ATC left us high on the arrival so we were expediting down to get to Traffic Pattern Altitude (TPA). I set 1600 in the altitude alerter since I believed that the TPA was 1600. I believed it to be 1600 because I had mistakenly misread the chart and added 1500 to the Threshold Crossing Height (TCH) instead of the TDZ Elevation on the approach chart for RNAV 7. I entered the downwind and arrested my descent rate but was still gradually descending in the traffic pattern when I noticed that we seemed quite low. I verified the altimeter setting and stopped my descent. While beginning to initiate a climb we received a "Terrain Terrain Pull Up" GPWS warning. I immediately disconnected the autopilot and continued the climb manually. It was at this time the GPWS warning stopped and since the weather was clear VFR, I could see that there was no threat of terrain so I continued my visual approach to the runway and did not fly an escape maneuver.

When I briefed the visual approach, we should have read and cross verified the APT ELEV number instead of looking at the number on the approach chart and assuming that was the airport elevation. I will be more vigilant in the future to do so.

**Synopsis**

Light Jet Captain reported a GPWS Terrain warning after descending to a traffic pattern altitude based upon a mistaken airport elevation.
Time / Day
Date : 201709
Local Time Of Day : 1801-2400

Place
Locale Reference.Airport : MEM.Airport
State Reference : TN
Altitude.MSL.Single Value : 13200

Environment
Flight Conditions : VMC
Light : Night

Aircraft
Reference : X
ATC / Advisory.Center : ZME
Aircraft Operator : Air Carrier
Make Model Name : Large Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Nav In Use : FMS Or FMC
Flight Phase : Descent
Route In Use.STAR : BLUZZ1
Airspace.Class E : ZME

Person : 1
Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1482868
Human Factors : Human-Machine Interface

Person : 2
Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1482876
Human Factors : Human-Machine Interface

Events
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Procedural : Clearance
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.Flight Crew : Became Reoriented
Result.Flight Crew : FLC Overrode Automation
Result.Flight Crew : Returned To Clearance

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

Narrative: 1
We were descending on the BLUZZ1 Rnav arrival. We had been cleared to Descend Via and had set 3000 in the attitude window. We were in LNAV and VNAV. We had just reviewed a new ATIS that indicated Runway 9 and the 36s were in use. Previously it had been 27 and the 36s. We had loaded 27 thinking it was a possibility. We received a drag required message. Our position was passing SPKER at about 14,500. Our speed was about 10 knots fast. Speed brake was extended to slow the aircraft. Understanding that we were where we needed to be, I began to load 36R in the FMS. While doing this the aircraft continued to descend instead of lose airspeed. As a result we got down to 13200 at the BLUZZ intersection before returning to 14000 at LTOWN. I can only think that changing the approach while near an altitude restriction had resulted in a negative outcome. We corrected back to the path as soon as we realized the deviation.

On the human error side I believe I chose a poor time to change the approach in the FMS. I should have done a better job monitoring the correction to the proper speed. I made the mistake of thinking the frag required message would be resolved by the speed brake without any altitude deviation. The system issue is that it appears that changing the approach may have affected the ability of the aircraft to maintain the path.

Narrative: 2
We realized we were at 13200 feet prior to LTOWN, disconnected the autopilot and climbed back to 14000 ft. We are not sure why the autopilot did not respect the altitude restriction, but the Captain and I surmise that it might have something to do with him loading the FMS approach because there was a change in runways from what was expected (27 changed to 36R).

Synopsis
Air carrier flight crew reported their aircraft descended below an RNAV Arrival crossing restriction when a runway change was entered in the FMC.
Time / Day
Date: 201709
Local Time Of Day: 1801-2400

Place
Locale Reference: ATC Facility: N90.TRACON
State Reference: NY
Altitude.MSL.Single Value: 2000

Aircraft
Reference: X
ATC / Advisory.TRACON: N90
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
Airspace.Class B: N90

Person: 1
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Commercial
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1482841
Human Factors: Communication Breakdown
Human Factors: Situational Awareness
Communication Breakdown.Party1: Flight Crew
Communication Breakdown.Party2: ATC

Person: 2
Reference: 2
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: First Officer
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1483279
Human Factors: Situational Awareness
Human Factors: Communication Breakdown
Communication Breakdown.Party1: Flight Crew
Communication Breakdown.Party2: ATC
Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : Clearance
Detector.Automation : Air Traffic Control
Detector.Person : Flight Crew
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Provided Assistance

Assessments

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

Narrative: 1

We were on radar vectors for the RNAV GPS RWY 31 Approach into LGA. We were communicating on frequency 134.9. On the downwind northeast of LGA, the controller cleared us "Direct To" CHALN IAP on the RNAV GPS RWY 31. We were not cleared to intercept the final, nor cleared for the visual, nor cleared for the approach. Approaching CHALN IAP myself and my FO (First Officer) noticed an aircraft approaching the final inside CHALN from the south side of the final approach course approximately 1.5 to 2 NM at our 2 O'clock position. Reaching CHALN at approximately 90 degree intercept to final my FO and I both concluded that the controller was taking us through the final for spacing on the preceeding Aircraft. Of note the frequency was congested and we could not get a word in to get clarification from the controller on what he wanted after passing CHALN IAP. We continued on the heading we were on after passing CHALN until it became apparent that we were approaching JFK airspace. I, at this point, was telling the FO that we needed to tell the controller we needed a right turn back towards LGA. Before the FO could do this the controller came up and gave us an immediate right turn to heading 360 with a climb to 3000 feet from 2000 feet. The controller then made a comment to the effect "I thought you were smart enough to intercept final". I then indicated we would call TRACON when on the ground. The controller then made a comment to the effect that "yes if we could figure out how to use the phone". Once on the ground I called NY TRACON and spoke with a controller. I asked for a supervisor and it was indicated to me that there was no supervisor present. I explained the situation my Flight was in while on Radar vectors. He indicated to me that it was EXPECTED of me to turn final after reaching the IAP. I told him that was not our clearance and he reiterated that this is what most pilots do operating in this airspace. I realize after reaching CHALN IAP I should have entered a standard holding pattern on the course that I was on inbound to CHALN IAP. This in my mind was a dangerous proposition because once back inbound to CHALN at 2000 feet I would have been nose to nose with the aircraft that was following me causing without a doubt an RA maneuver.

This event occurred because of an improper clearance in the terminal environment along with the fact the frequency was quite congested at the time. As a crew we were assuming what the controller was trying to do with us when we should have immediately upon
receiving the clearance direct to this waypoint questioned what was expected once arriving over the waypoint.

To prevent this from happening in the future it is my opinion that the controllers should comply with their handbook with regards to issuing ambiguous clearances and we as pilots should not assume what the controller may be wanting to do with us especially in a crowded frequency congested terminal environment.

**Narrative: 2**

[Report narrative contained no additional information.]

**Synopsis**

The flight crew of a Boeing 737 reported that ATC cleared them "Direct To" a way point without further instructions or clearances after they arrived at the way point.
**ACN: 1482290 (30 of 50)**

**Time / Day**
- Date: 201709
- Local Time Of Day: 1201-1800

**Place**
- Locale Reference.Airport: SDF.Airport
- State Reference: KY
- Relative Position.Distance.Nautical Miles: 7
- Altitude.MSL.Single Value: 2500

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

**Aircraft**
- Reference: X
- ATC / Advisory.Tower: SDF
- Aircraft Operator: Air Carrier
- Make Model Name: Widebody Transport
- Crew Size.Number Of Crew: 2
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Mission: Cargo / Freight
- Nav In Use: FMS Or FMC
- Flight Phase: Initial Approach
- Airspace.Class C: SDF

**Person: 1**
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function.Flight Crew: Captain
- Function.Flight Crew: Pilot Not Flying
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- Experience.Flight Crew.Total: 11000
- Experience.Flight Crew.Last 90 Days: 50
- Experience.Flight Crew.Type: 3000
- ASRS Report Number.Accession Number: 1482290
- Human Factors: Human-Machine Interface
- Human Factors: Confusion

**Person: 2**
- Reference: 2
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function.Flight Crew: First Officer
- Function.Flight Crew: Pilot Flying
Narrative: 1

SDF was down to one runway, 35R for arrivals and departures. The First Officer (FO) wanted to practice for his upcoming training by accomplishing the RNAV35R approach. The tower gave us a vector from the southeast of the arrival course to the northeast to join the localizer. We opted to do an intercept leg to the course once established on the heading so that we could NAV to the inbound course and shoot the RNAV approach in VFR conditions. I entered the LOC frequency in the nav/rad so that we could monitor the ILS indications to make sure the RNAV approach in NAV/PROF would be within the ILS parameters. Once on the intercept heading, we were cleared for the approach, told to contact tower and slow to 170 or less. We were descending and once NAV was engaged we opted to select the Decision Altitude (DA) of 909 in the altitude window. We were configuring at this point and trying to go down and slow to 170 or less. Once established inbound, descending and trying to slow the FO mentioned that the descent rate was too high and that it was honoring the hard altitudes that we had entered on the RNAV and that matched the indications I was showing on the glideslope (GS) that were showing below GS. We let it go for another couple of seconds to analyze what we had done wrong and the FO decided it wasn't going to stop the descent and that he was going to click off the Auto Pilot and climb back up to the GS and just abort the RNAV which was the correct maneuver. As he started to climb we got a landing gear warning, the tower announced an altitude alert, the gear was in transit and the FO was climbing back up visually to the glideslope. We rejoined the glideslope, flew the visual approach with the ILS backup and were stable by 1000 feet. I believe the aircraft came out of prof or it didn't quite know where it was and was diving for the DA of 909 which we recognized and corrected. I called the tower upon leaving the airport and discussed what we were doing and that corrective action was taken and asked if they had any issue or paperwork or needed any information. They said it was all computer generated and was more of a cautionary advisory to us as it was VFR and they saw the corrective action in taking place.

Narrative: 2

[Report narrative contained no additional information.]
Synopsis

Air carrier flight crew reported difficulty in executing an RNAV approach using aircraft systems automation which resulted in going below glideslope mid-approach at SDF.
**ACN: 1481926 (31 of 50)**

**Time / Day**
- Date: 201709
- Local Time Of Day: 1801-2400

**Place**
- Locale Reference.Airport: ZZZ.Airport
- State Reference: US
- Altitude.MSL.Single Value: 30000

**Environment**
- Light: Night

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

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

**Person: 1**
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function.Flight Crew: First Officer
- Function.Flight Crew: Pilot Flying
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- Experience.Flight Crew.Last 90 Days: 200
- Experience.Flight Crew.Type: 550
- ASRS Report Number.Accession Number: 1481926
- Human Factors: Human-Machine Interface
- Human Factors: Situational Awareness

**Person: 2**
- Reference: 2
- Location Of Person.Aircraft: X
- Function.Flight Crew: Pilot Not Flying
- Function.Flight Crew: Captain
Qualification: Flight Crew: Air Transport Pilot (ATP)
Experience: Flight Crew. Last 90 Days: 270
Experience: Flight Crew. Type: 11000
ASRS Report Number. Accession Number: 1481947
Human Factors: Human-Machine Interface
Human Factors: Situational Awareness

**Events**

Anomaly. Aircraft Equipment Problem: Less Severe
Anomaly. Deviation - Altitude: Overshoot
Anomaly. Deviation - Altitude: Crossing Restriction Not Met
Anomaly. Deviation - Speed: All Types
Anomaly. Deviation - Procedural: Clearance
Detector. Automation: Aircraft Other Automation
Detector. Person: Flight Crew
When Detected: In-flight
Result. Flight Crew: Overcame Equipment Problem

**Assessments**

Contributing Factors / Situations: Aircraft
Primary Problem: Aircraft

**Narrative: 1**

Approaching the Arrival, we were directed by ATC to cross ZZZZZ intersection at or above FL300. Normal crossing depicted for the ZZZZZ intersection is FL240-FL320. We discussed and loaded the FMC by first erasing the preloaded speed/altitudes and loading only 280 for speed. The FMC Update 13 (U13) software calculated a crossing of approximately 28750 confirming we would be able to meet the follow on restrictions, if cleared, with a little work. Next we loaded 280/30,000 ft, verified VNAV path, Top of Descent, etc. We were satisfied with the setup. We anticipated a clearance of "cross ZZZZZZ intersection at or above FL300 and then descend via the Arrival", which were given halfway through our descent to ZZZZZZ intersection and placed the bottom altitude of the arrival in the MCP with verification of VNAV PATH.

As we monitored the automation on descent we started to notice an erratic action of the autopilot attempting to stay on path with pitch and the airspeed was 20-30 knots fast. I deployed speedbrakes smoothly for a few thousand feet to aid in the controllability and attempt to return the speed to 280. As we approached FL300 in an idle descent, we both felt we were going to cross at FL300 and, with past experience, that the aircraft would go to VNAV Speed if unable and slow its descent. Instead, the aircraft stayed in VNAV PATH idle descent and before I could slow the descent, I noted a deviation 29,600 ft approximately 0.3 from ZZZZZZ intersection. The VNAV continued the high speed issue causing deployment of speedbrakes at different times through the rest of the descent and pitch and path seemed erratic, even though it stayed in VNAV PATH. Overall, it was having a difficult time. We had a shared mental model and were truly attempting to be in "its head", but it was giving mixed signals.

We had no other altitude crossing issues until flying final on the RNAV Y Runway XXL and it attempted to stop at 1800 ft in path and cause us to go high. We recognized it, I disengaged the automation, re-acquired path, and hand flew the rest of the approach without incident. The indications were odd, showing us low per VNAV, by approximately 500 ft, yet visually on glideslope. At about 150 ft AGL, the indications returned to a VNAV
"on path" norm.

U13 software: It seemed inaccurate and misleading during this VNAV descent. If this were IMC, the indications and actions of the software would have intensifying confusion and result in task saturation. On final, if IMC, it would have caused a go around without the VMC references. These issues in the software are a cause for concern and need further attention. In reference to the altitude deviation: In hindsight, I could have put some back pressure on the yoke and been more aggressive to attempt to prevent the deviation as I did later with the anomaly on final.

**Narrative: 2**

[Report narrative contained no additional information.]

**Synopsis**

B737 flight crew reported the aircraft automation had an erratic action with the autopilot trying to stay on path.
**ACN: 1481818**

**Time / Day**
- Date: 201709
- Local Time Of Day: 1201-1800

**Place**
- Locale Reference.Airport: PAH.Airport
- State Reference: KY
- Relative Position.Angle.Radial: 045
- Relative Position.Distance.Nautical Miles: 5
- Altitude.MSL.Single Value: 2000

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

**Aircraft : 1**
- Reference: X
- ATC / Advisory.Tower: PAH
- Aircraft Operator: Personal
- Make Model Name: Small Aircraft, Low Wing, 1 Eng, Retractable Gear
- Crew Size.Number Of Crew: 1
- Operating Under FAR Part: Part 91
- Flight Plan: IFR
- Mission: Personal
- Flight Phase: Initial Approach
- Route In Use: Visual Approach
- Airspace.Class D: PAH

**Aircraft : 2**
- Reference: Y
- ATC / Advisory.Tower: PAH
- Aircraft Operator: Personal
- Make Model Name: Small Aircraft, High Wing, 1 Eng, Fixed Gear
- Crew Size.Number Of Crew: 1
- Operating Under FAR Part: Part 91
- Mission: Personal
- Flight Phase: Initial Approach
- Airspace.Class D: PAH

**Person**
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Personal
- Function.Flight Crew: Single Pilot
- Qualification.Flight Crew: Instrument
- Qualification.Flight Crew: Commercial
- Qualification.Flight Crew: Multiengine
Experience: Flight Crew: Total: 2828
Experience: Flight Crew: Last 90 Days: 24
Experience: Flight Crew: Type: 2137
ASRS Report Number: Accession Number: 1481818
Human Factors: Workload
Human Factors: Distraction
Human Factors: Situational Awareness

Events
Anomaly: ATC Issue: All Types
Anomaly: Conflict: Airborne Conflict
Anomaly: Inflight Event / Encounter: CFTT / CFIT
Detector: Automation: Aircraft TA
Miss Distance: Horizontal: 2500
Miss Distance: Vertical: 500
Were Passengers Involved In Event: N
When Detected: In-flight
Result: Flight Crew: Took Evasive Action
Result: Air Traffic Control: Issued Advisory / Alert

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

Narrative: 1

About midway through an IFR trip, I was at 4000 feet in visual conditions as I approached my refueling stop, PAH, from the southeast. At my request, the Memphis Center controller cleared me direct to JIPGO (the initial approach fix for the RNAV (GPS) Approach to RWY 32) and instructed me to enter a hold there as published to the southeast. As I completed my second turn in the hold, Center said he was working a jet inbound to PAH about 50 NM to the northwest and a switch to RWY 22 might help a little bit but not much.

I then asked Center if it would help if I cancelled IFR and went VFR. He said it would, cancelled my IFR clearance and approved a frequency change to PAH Tower. I switched to Tower, who requested my location and told me to report a two mile final for RWY 32. Passing JIPGO, I could clearly see PAH about 12 nm to the northwest. Assuming I would be cleared to land on RWY 22, I disengaged my autopilot, began a gradual descent to 2000 feet and continued inbound. About then, the jet told Tower he was entering a six mile right base for RWY 22. When Tower requested my position and altitude. I reported that I was approaching VUCUC at about 2000 feet. Given the traffic situation, I offered to switch to RWY 22 behind the jet. Tower approved the RWY change and asked me to advise when I had the jet in sight and could follow him to RWY 22. I acknowledged those instructions and turned to the north.

As I continued northbound, Tower asked if I had the jet in sight. I advised that the jet was not yet in sight and that I was turning to the northeast to enter a left downwind for RWY 22. Tower then said the jet had turned about a five mile final and confirmed he was over the Ohio River. As I continued downwind for RWY 22, a GA aircraft advised Tower they were five miles to the northeast inbound for landing. Tower acknowledged the aircraft’s transmission and told them that they were number three behind our aircraft. The aircraft then advised that he had the jet in sight and was going to enter a left 360.
At that point, my Garmin Aera 660 portable GPS sounded a "Caution - Obstacle" alert, presumably for the 1325 foot obstacle located about 5 nm east of PAH. I then advised Tower I still had not made visual contact with the jet. Tower said the jet was on a three mile final for RWY 22. I entered a left base for RWY 22 at about 2000 feet and observed the GA aircraft on my Skywatch TCAD. He appeared to be maneuvering about two or three miles to the north. As I continued on the left base, I told Tower I had the GA aircraft in sight, about 500 feet below me. Tower cleared me to land on RWY 22 and advised the GA aircraft I had him in sight. The GA aircraft said he could not see me and requested my position. I replied that I was just about abeam his location and off his left wing. At that point, my TCAD issued an aural "Traffic, Traffic!" alert and my Garmin GMX 200 multifunction display switched from normal map view to its traffic alert format. I deviated about 10 degrees to my left to increase my separation from the other aircraft. The GA aircraft again asked for my location, and I replied that I was abeam their aircraft and about 500 feet above them. I assume their view was blocked by their high wing configuration. The GA aircraft then told Tower they wanted to deviate to the east. At that point, I was approaching the extended centerline of RWY 22, and I advised Tower I was turning final. Tower cleared me to land on RWY 22, and advised he had both my aircraft and the GA aircraft in sight. The GA aircraft also confirmed that he had me in sight. The rest of our approach and landing were uneventful.

As soon as Tower authorized my change to RWY 22, I should have:
1. Reengaged my autopilot and climbed back up to the 3000 foot Terminal Arrival Area/Terminal Area Altitude (TAA) depicted on the approach plates for the RNAV (GPS) approaches to RWYs 22 and 32.
2. Highlighted on the approach plate the 1325 foot obstacle about five nm east of PAH.
3. Loaded the RNAV (GPS) RWY 22 approach in my Garmin CNX-80 GPS WAAS mapcom (which would automatically load it on my MFD).
4. Maintained an altitude sufficient for obstacle clearance until I began my base-to-final turn.

**Synopsis**

GA pilot reported maneuvering to increase separation from traffic on approach to Runway 22 at PAH. He descended below the Terminal Area Altitude and received an obstacle warning on his portable GPS unit.
ACN: 1481817 (33 of 50)

Time / Day

Date: 201709
Local Time Of Day: 1201-1800

Place

Locale Reference.Airport: LMO.Airport
State Reference: CO
Altitude.MSL.Single Value: 8500

Environment

Flight Conditions: VMC
Light: Daylight

Aircraft

Reference: X
ATC / Advisory.CTAF: LMO
Aircraft Operator: Personal
Make Model Name: Any Unknown or Unlisted Aircraft Manufacturer
Crew Size.Number Of Crew: 1
Operating Under FAR Part: Part 91
Flight Plan: None
Mission: Personal
Flight Phase: Descent
Route In Use: Direct
Airspace.Class E: D01

Person

Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Personal
Function.Flight Crew: Pilot Flying
Function.Flight Crew: Single Pilot
Qualification.Flight Crew: Flight Instructor
Qualification.Flight Crew: Air Transport Pilot (ATP)
Qualification.Flight Crew: Multiengine
Qualification.Flight Crew: Instrument
Experience.Flight Crew.Total: 4200
Experience.Flight Crew.Last 90 Days: 35
Experience.Flight Crew.Type: 1200
ASRS Report Number.Accession Number: 1481817
Human Factors: Workload
Human Factors: Situational Awareness
Human Factors: Distraction

Events

Anomaly.ATC Issue: All Types
Anomaly.Deviation - Procedural: Published Material / Policy
Anomaly.Inflight Event / Encounter: Other / Unknown
Assessments

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

Narrative: 1

On a frequently flown direct-route round-trip route to and from BDU from the north, three open parachutes were encountered at or very near HYGEN intersection. There is a parachute symbol southwest of LMO between the LMO runway depiction and the HYGEN depiction on the sectional chart. HYGEN is also depicted on the IFR Low chart. The A/FD (Airport/Facilities Directory) for LMO states "Parachute jumping on and inof arpt primarily of rwy, avoid overflights mid fld." Also in the A/FD there is a "Parachute Jumping Area" depicted as being nearly adjacent to taxiway B at LMO.

In my opinion, parachute operations southwest of LMO are extremely hazardous and should be terminated. Parachutists drop paths vary considerably depending on winds, altitude, and other factors, and in this encounter their paths were very near HYGEN intersection, a crossing-point of two significant airways, V-220 and V-85. During a common VFR practice of tracking along and over airway routes and intersections such as HYGEN, airplanes' altitudes are often flown that are lower than IFR minimum crossing altitudes and that fact could put aircraft in conflict with free-falling parachutists that had exited their jump planes but had not yet descended to where they open their chutes, and therefore would be very difficult to see and avoid in time. HYGEN is less than a mile from the parachute depiction on the sectional chart.

The parachute symbol is only about 1/3 of a mile from the approach path for the VOR-DME-A instrument approach for LMO, for which the approach path, based on a VOR, is variable since it is based on the positional limitations of BJC VOR that is 15 miles distant. The parachute symbol is similarly 1/3 of a mile from the approach path for the RNAV (GPS)-B approach into LMO. Both of these approaches are favorites for practice by locals in VMC, when parachutists are frequently active. The approach paths for both of these approaches crosses exactly over the "Parachute Jumping Area" that is depicted adjacent to taxiway B at LMO. In other words, a practice instrument approach would pass exactly through the parachutist's landing area at the airport essentially at the missed approach point. The AFD admonition to "avoid overflights mid fld" is in direct conflict with the instructions to be followed when practicing these two instrument approach procedures.

The jump plane pilot routinely makes a call on the CTAF frequency when his jumpers are away, but a pilot approaching the airport may miss that one warning if he or she is listening to the LMO AWOS-3. Additionally, the jump plane pilot's communication could be blocked by other voice traffic on the CTAF. The "jumpers away" call is easily missed. If an aircraft is cruising just a thousand or two thousand feet below the jump plane when the "jumpers away" call is made, the aircraft's pilot may not be able to see free-fallers in time,
and not have time to avoid free-falling parachutists.

I believe this situation is a disaster waiting to happen and I hope you can influence the powers that be to take action. I do not wish to publish this recommendation at some future time because of hearing of the death of a parachutist and possibly the occupants of an aircraft if a parachutist goes through the windscreen of an aircraft.

**Synopsis**

Pilot reported parachute operations in the vicinity of LMO put skydivers and aircraft in danger because of the zone's proximity to V220 and V85. Reporter also stated, regular CTAF communications may interfere with the "jumpers away" call.
**ACN: 1481262 (34 of 50)**

**Time / Day**

Date : 201709  
Local Time Of Day : 1201-1800

**Place**

Locale Reference: ATC Facility : NCT.TRACON  
State Reference : CA  
Altitude.MSL.Single Value : 5000

**Environment**

Light : Daylight

**Aircraft**

Reference : X  
ATC / Advisory.TRACON : NCT  
Aircraft Operator : Air Carrier  
Make Model Name : B737-800  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Passenger  
Nav In Use : GPS  
Nav In Use : FMS Or FMC  
Flight Phase : Descent  
Flight Phase : Initial Approach  
Airspace.Class E : NCT

**Person**

Reference : 1  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Captain  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Experience.Flight Crew.Last 90 Days : 153  
ASRS Report Number.Accession Number : 1481262  
Human Factors : Confusion  
Human Factors : Situational Awareness

**Events**

Anomaly.Deviation - Speed : All Types  
Anomaly.Deviation - Procedural : FAR  
Anomaly.Deviation - Procedural : Published Material / Policy  
Detector.Person : Flight Crew  
When Detected : In-flight

**Assessments**
Narrative: 1

On the OAKES 2 Arrival to OAK, following the 28L transition, the final fix is BBUBB at 5000 ft. This waypoint at this altitude is well below the floor of the SFO Class B airspace, and as such turbojet aircraft are required by regulation to be at 200 KIAS or minimum clean maneuvering speed at (actually, slightly before) this point. As loaded in the FMC and as published, there is no airspeed associated with the BBUBB waypoint, nor any speed restriction at any prior waypoint that would have the aircraft slowed to the required 200 KIAS. This omission creates several unnecessary threats.

First, a Crew that doesn't pull up the SFO range rings may fail to notice that BBUBB is in fact below the SFO Class B airspace and fail to slow. Second, a crew that DOES note the relationship between BBUBB and the Class B airspace will have to override the plan in VNAV in order to be in compliance with the speed requirement. This might involve manually entering a speed restriction of 200 KIAS at BBUBB, or using Speed Intervention and additional drag. Third, when a leading aircraft is aware of the need to be slowed by BBUBB but a following aircraft is not, this sets up a scenario for compression.

This happened to us. I noted the relationship to the Class B airspace fairly close to BBUBB and slowed abruptly to 200 KIAS using speedbrakes. The aircraft following behind us was told by ATC to slow to 200 knots, and may have been given vectors for spacing subsequently. There is absolutely no excuse for an arrival designed such that flying it as charted will lead to a Crew violating the below-Class-B speed restrictions. The automation and procedures, in this case VNAV and the charted arrivals, should support the Crews, rather than setting them up for a violation. Some fraction of Crews will miss the not-published-on-the-chart requirement for 200 knots at BBUBB, some fraction will add the speed into the LEGS page and descend accordingly, and some fraction will note the requirement late and slow close-in and aggressively using drag. These differing actions are not predictable by ATC, and set up potentially hazardous situations.

The OAKES 2 Arrival specifically, and all arrivals and departures generally, should be scrutinized for places where compliance with the charted speeds and altitudes will place a Crew out of compliance with the below-Class-B speeds, and the procedures should be revised so that the appropriate speeds are coded for the necessary waypoints. For the OAKES 2 Arrival, a NOTAM should be published stating the 200-knot requirement at BBUBB, and the Company weather packet cover page for OAK should state this requirement as well. Don't leave our Crews out there having to guess what restrictions LNAV/VNAV isn't going to meet, with each Crew on their own to (hopefully) adjust their profile to meet the 200-knot requirement. This should be done once and done right at the level of airspace design, rather than leaving it to dozens of Crews each day to "catch" or not.

Synopsis

A Pilot expressed concern about an RNAV Arrival which requires the aircraft to descend below Class B airspace and reduce speed to 200 knots unexpectedly.
ACN: 1480931

Time / Day

Date: 201709
Local Time Of Day: 1201-1800

Place

Locale Reference.Airport: AVL.Airport
State Reference: NC
Altitude.MSL.Single Value: 6000

Environment

Flight Conditions: VMC
Light: Daylight

Aircraft

Reference: X
ATC / Advisory.TRACON: AVL
Aircraft Operator: Air Taxi
Make Model Name: Light Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 91
Flight Plan: IFR
Mission: Ferry
Flight Phase: Initial Approach
Route In Use: Vectors
Airspace.Class E: AVL

Person

Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Taxi
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Total: 5300
Experience.Flight Crew.Last 90 Days: 100
ASRS Report Number.Accession Number: 1480931
Human Factors: Confusion
Human Factors: Communication Breakdown
Communication Breakdown.Party1: ATC
Communication Breakdown.Party2: Flight Crew

Events

Anomaly.ATC Issue: All Types
Anomaly.Deviation - Track / Heading: All Types
Anomaly.Deviation - Procedural: Clearance
Anomaly.Deviation - Procedural: Published Material / Policy
Detector.Person: Air Traffic Control
When Detected: In-flight
Result.Flight Crew: Requested ATC Assistance / Clarification
Result.Air Traffic Control: Issued New Clearance

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

Narrative: 1
We were expecting vectors for the RNAV RWY 17 approach into Asheville. We were cleared to ONZIQ, told to cross at 6000, cleared for the approach, and told to report inbound. We turned inbound over ONZIQ and began our descent. After descending and flying final for a few miles, Approach called and asked us to climb to 8000, which we did. After some vectors and clearing us for the full RNAV 17 approach, they asked us to call their phone number after landing.

I called, and the supervisor told me that we should have flown the full approach instead of flying it as vectors. I explained that we didn't recall any phraseology that indicated a full approach, and we were simply told to report inbound. He admitted that they probably should have worded it properly like "cleared full approach" and "report procedure turn inbound." He also admitted that since they rarely do full approaches into Asheville, and that the radar issues they were having had them off guard, so to speak. This was indeed my observation, because there were a lot of non-standard ATC phraseology and procedures used today in Asheville by approach control and tower/ground.

Synopsis
Air taxi pilot reported not flying the full approach into AVL as ATC intended due to a poorly worded clearance.
**ACN: 1480561 (36 of 50)**

### Time / Day
- **Date**: 201709
- **Local Time Of Day**: 1201-1800

### Place
- **Locale Reference.Airport**: THV.Airport
- **State Reference**: PA

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

### Aircraft
- **Reference**: X
- **ATC / Advisory.CTAF**: THV
- **Make Model Name**: EMB-505 / Phenom 300
- **Crew Size.Number Of Crew**: 2
- **Operating Under FAR Part**: Part 91
- **Flight Plan**: IFR
- **Mission**: Passenger
- **Flight Phase**: Final Approach
- **Route In Use**: Visual Approach
- **Airspace.Class E**: THV

### Person : 1
- **Reference**: 1
- **Location Of Person.Aircraft**: X
- **Location In Aircraft**: Flight Deck
- **Function.Flight Crew**: Pilot Not Flying
- **Function.Flight Crew**: Captain
- **Qualification.Flight Crew**: Air Transport Pilot (ATP)
- **ASRS Report Number.Accession Number**: 1480561
- **Human Factors**: Situational Awareness

### Person : 2
- **Reference**: 2
- **Location Of Person.Aircraft**: X
- **Location In Aircraft**: Flight Deck
- **Function.Flight Crew**: First Officer
- **Function.Flight Crew**: Pilot Flying
- **Qualification.Flight Crew**: Air Transport Pilot (ATP)
- **ASRS Report Number.Accession Number**: 1480559
- **Human Factors**: Situational Awareness

### Events
- **Anomaly.Inflight Event / Encounter**: CFTT / CFIT
- **Detector.Person**: Flight Crew
Assessments

Contributing Factors / Situations: Airport
Contributing Factors / Situations: Chart Or Publication
Contributing Factors / Situations: Procedure
Primary Problem: Ambiguous

Narrative: 1

I was the PIC, and the Pilot Monitoring. The SIC was flying a briefed visual approach backed up with a RNAV (GPS) Rwy 17 approach which has a 3 degree Glidepath. Inside of a mile from the end of Runway 17, the SIC verbalized and adjusted aircraft pitch and rate of descent because a tree appeared to be close off the right nose. There were no Terrain, Obstacle, or Descent Rate warnings. A normal landing was made over a blast fence that was not noted on the 10-9 page.

It was Day VFR when we flew this approach. If we had continued the approach as depicted, the tree on short final would have been very close to the 3 degree glidepath. This approach (THV 12-1) was dated 18 Jul 14, and it's possible this tree had grown in the past 3 years. The PAPI is shown on the 10-9 page to be 4.5 degrees, quite a bit different than 3.0 degrees on the RNAV (GPS) 17 approach. Flying the PAPI angle at 120 knots would result in a descent rate of close to 1000 fpm. In addition, the blast fence was not mentioned on NOTAMS or on the 10-9 page. The 10-9 page also does not show the tree on short final. The 12-1 page for the RNAV (GPS) 17 does mention in note 3, that landing on Rwy 17 at night is not authorized. I feel that this approach is also not safe in IFR conditions.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

Phenom 300 flight crew reported that a tree protrudes into the normal 3 degree glideslope for Runway 17 at THV.
Time / Day
Date : 201709
Local Time Of Day : 1801-2400

Place
Locale Reference.Airport : APA.Airport
State Reference : CO
Altitude.MSL.Single Value : 15000

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

Aircraft
Reference : X
ATC / Advisory.TRACON : D01
Aircraft Operator : Corporate
Make Model Name : Challenger CL600
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Personal
Nav In Use : FMS Or FMC
Nav In Use : GPS
Flight Phase : Descent
Route In Use : Vectors
Route In Use.STAR : DUNNN2
Airspace.Class E : D01

Person
Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Corporate
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Flight Engineer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 31000
Experience.Flight Crew.Last 90 Days : 50
Experience.Flight Crew.Type : 30
ASRS Report Number.Accession Number : 1480145
Human Factors : Situational Awareness

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

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

Narrative: 1

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

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

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

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

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

**Synopsis**

CL60 Captain reported he noticed a deviation from assigned altitude when the autopilot disconnected, and observed that automation dependency was a factor in the excursion.
Aircraft X inbound to Boise from the northwest down to 8,000 on the STAR. Aircraft X turned to downwind for vectors to an RNAV Y Runway 28L approach. I descended him to
7,100 (the lowest MVA to the northeast of Boise). Had training on the other radar position. Casual jokes and talking going on between the controllers. I didn't like the way some of my brightness settings for my maps on my radar display looked so I went into the [scope configuration] and started to adjust some settings for weather and maps. Totally forgot about Aircraft X on the downwind vector and he entered another MVA of 8,000 to the east of Boise at 7,100. No low altitude alert tone since he was in level flight. I issued a low altitude alert, climbed him to 8,000 and turned him to NESLE (FAF) for the RNAV Approach and cleared him for the approach.

I was thinking "how could I've done that?" There were only two airplanes in my airspace at the time! I can't blame it on any one thing. Sure, I had a quick turn from the prior shift, I worked my whole shift and was winding down with 25 minutes to go, there was joking and humorous banter between the control positions when it happened, I decided at that exact time to start tinkering with my radar map settings. This was my fault, I need to pay attention to the aircraft that I have, not be sidetracked by joking around with other controllers or screwing around with my radar settings when I have traffic. This could've all been avoided if I was just watching my airplanes!

There is not and "black and white" fix for this. Just need to pay attention and not get sidetracked by other things. Keeping airplanes safe is our main job.

**Synopsis**

BOI TRACON Controller was distracted by peer jokes, discussions and fixing the setting on the RADAR scope and forgot about an aircraft that went below a Minimum Vectoring Altitude.
**Time / Day**
- Date: 201708
- Local Time Of Day: 1201-1800

**Place**
- Locale Reference.Airport: MKT.Airport
- State Reference: MN
- Altitude.MSL.Single Value: 2000

**Environment**
- Flight Conditions: VMC
- Weather Elements / Visibility:
  - Visibility: 10
- Light: Daylight
- Ceiling: Single Value: 12000

**Aircraft: 1**
- Reference: X
- ATC / Advisory.CTAF: MKT
- Aircraft Operator: FBO
- Make Model Name: PA-28 Cherokee/Archer/Dakota/Pillan/Warrior
- Crew Size.Number Of Crew: 1
- Operating Under FAR Part: Part 91
- Flight Plan: None
- Mission: Training
- Flight Phase: Final Approach
- Route In Use.Other
- Airspace.Class E: MKT

**Aircraft: 2**
- Reference: Y
- ATC / Advisory.CTAF: MKT
- Aircraft Operator: Personal
- Make Model Name: Helicopter
- Crew Size.Number Of Crew: 1
- Operating Under FAR Part: Part 91
- Nav In Use.Localizer/Glideslope/ILS: Runway 33
- Flight Phase: Final Approach
- Airspace.Class E: MKT

**Person**
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: FBO
- Function.Flight Crew: Check Pilot
- Function.Flight Crew: Instructor
- Qualification.Flight Crew: Instrument
- Qualification.Flight Crew: Commercial
- Qualification.Flight Crew: Flight Instructor
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 860
Experience.Flight Crew.Last 90 Days : 200
Experience.Flight Crew.Type : 500
ASRS Report Number.Accession Number : 1479568
Human Factors : Situational Awareness

**Events**

Anomaly.Conflict : NMAC
Detector.Person : Flight Crew
Miss Distance.Horizontal : 500
Miss Distance.Vertical : 0
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

**Assessments**

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

**Narrative: 1**

On about a 5 NM [final to] Runway 15, a helicopter (who had made no previous calls) announced 3 NM final ILS Runway 33. I let him know our position specifically to avoid an incident. The helicopter said he was going to go missed and stay at 500 AGL to avoid me and the traffic in the pattern. Once I reached 2000 MSL (1000 AGL) I told my student to look up, all of the sudden I saw the helicopter climbing through our altitude within 500 ft then broke off direct IKIBY for the RNAV 22. The helicopter was over Runway 33, and we were over Taxiway A.

**Synopsis**

PA28 flight instructor reported an NMAC with a helicopter on approach to MKT airport.
**ACN: 1477924**

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

**Place**
- Locale Reference: Airport: MGGT.Airport
- State Reference: FO
- Altitude.AGL.Single Value: 0

**Environment**
- Light: Daylight

**Aircraft**
- Reference: X
- ATC / Advisory.Tower: MGGT
- Aircraft Operator: Air Carrier
- Make Model Name: B737 Next Generation Undifferentiated
- Crew Size: Number Of Crew: 2
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Mission: Passenger
- Nav In Use: FMS Or FMC
- Nav In Use: GPS
- Flight Phase: Takeoff
- Flight Phase: Final Approach
- Route In Use: Other

**Person**
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function: Flight Crew: Captain
- Qualification: Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number: Accession Number: 1477924
- Human Factors: Communication Breakdown
- Human Factors: Distraction
- Human Factors: Situational Awareness
- Human Factors: Training / Qualification
- Human Factors: Other / Unknown
- Human Factors: Confusion
- Communication Breakdown.Party1: Flight Crew
- Communication Breakdown.Party2: ATC
- Analyst Callback: Completed

**Events**
- Anomaly: ATC Issue: All Types
- Anomaly: Deviation - Procedural: Published Material / Policy
- Anomaly: Deviation - Procedural: Clearance
I have been flying to MG GT for many years and I love it. The country, the people, the food. However, the flying environment is very demanding and the controllers add to that stress.

1. On approach the night before, we were just 13 miles from the final approach fix when he asked us to speed up to 250 kts. We respectfully declined and he was good with it.

2. Every time we call for departure clearance, he always gives us a different SID than we filed. So, we asked for the filed SID he gave it to us. It is the same every trip.

Ok, these two points are minor, but I wanted to mention them. However, the next three points are very important and need to be addressed.

3. Holding short for runway 02, he said, "Aircraft X, you are cleared immediate takeoff. Fly runway heading and maintain 8,000 feet until 10 DME." And that is all he said. I looked at my FO and his mouth dropped open and he shook his head. He looked at me as I was also now shaking my head and then I keyed the mike and said "we are not going to fly runway heading and maintain 8,000 feet." He backed off and said, "OK, OK hold short."

4. We did a bleeds off takeoff at 159,000 pounds. My first officer did the takeoff. I asked him to run the power up to max and make it shake before releasing the brakes. Everything seemed OK but with slow acceleration because of the altitude and weight. During the roll it became evident that we were far down the runway when the V1 call came and I made the "rotate" call right after that. The FO rotated and I said "look how far down we are" and it appeared to be about only about 2,000 feet left. The aircraft did not jump off the runway and it slowly lifted off and climbed after what seemed like a little hesitation. After we cleaned up the aircraft, we discussed it and the FO said that "the controls seemed sluggish at rotation." We both discussed that if we had lost an engine, it would have been very, very bad. We double checked what we did with flaps, N1, TPS, etc, but we think it was all correct. Then I thought about it and we had asked about the wind right at taxi about 20 minutes earlier. He had said calm. I did not ask for an updated wind on takeoff and he did not offer a wind readout. I suspect that we had a 5 to 7 knot tailwind on takeoff and he did not tell us.

5. Something is wrong with the design/geometry of RNAV (RNP) Y Rwy 20. The first time I
flew it a couple of months ago at night in the weather I broke out at minimums and it seemed that I was screaming low right over the runway end identifier lights with 4 red PAPIs. Two days later I flew the same approach during the day down to minimums again. When we broke out I looked around and noticed that we seemed low with of course 4 red PAPIs again and really close to the buildings and antennas. I said to my FO "Does it seem like we are a little low?" He right away loudly said "We ARE LOW!" I said it's strange because everything looks perfect on the HUD. Later we went to Duty Free and talked with a guy from another airline who landed just before us. He said that his stepfather is a Captain and briefed him that everybody knows when you get to DA on this approach, hesitate for a couple of seconds and then continue visually. Well, the PAPI is 3.5 degrees and the approach is 3.2, so you never get up to the PAPI. However, it appears to many of us pilots that the approach takes you to land on the displaced threshold instead of the runway.

Callback: 1

Reporter stated that he recognized that his points 1 and 2 are a function of the local, foreign flying environment. Of his point 3, he stated that he believed that the revised, dangerous takeoff clearance into mountainous terrain was not issued maliciously, but that it happens routinely and needs to be recognized by those who fly in that environment. On his point 4, he stated that he believes that the Tower Controller intentionally did not provide wind information with the takeoff clearance because it would have likely caused the reporter to use the opposite runway. The reporter stated that he was so upset by the revised, dangerous takeoff clearance issue (point #3), that he forgot to ask the wind when he was given clearance to takeoff. On his point 5, he stated that the MGGT RNAV (RNP) Y Rwy 20 approach was flown on the HUD and was "centered." He stated that his "centered" approach definitely put him low on the PAPIs at the decision altitude where he broke out. Other pilots complain of the same flaw in the approach. He explained that the approach, if flown as published, appears to set you up to land on the runway past the beginning of the pavement, but short of the displaced threshold which he stated was what he was trying to say in the last statement of his report. He stated that it was definitely a hazard and reiterated that it has to be addressed.

Synopsis

B737 Captain reported difficulty and stress in working with Guatemalan controllers. He was given a revised, unacceptable takeoff clearance by MGGT Tower and did not receive the winds for takeoff. Captain also stated the RNAV (RNP) Runway 20 Approach is allegedly flawed in its design. It consistently positions the aircraft low when on the glidepath at the decision altitude.
**ACN: 1477818 (41 of 50)**

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

**Place**
- Locale Reference. Airport: TTD.Airport
- State Reference: OR
- Altitude. MSL. Single Value: 2500

**Environment**
- Flight Conditions: IMC
- Weather Elements / Visibility: Haze / Smoke
- Weather Elements / Visibility. Visibility: 10
- Light: Daylight
- Ceiling. Single Value: 1300

**Aircraft**
- Reference: X
- ATC / Advisory. TRACON: P80
- Aircraft Operator: Personal
- Make Model Name: Small Aircraft, High Wing, 1 Eng, Fixed Gear
- Crew Size. Number Of Crew: 1
- Operating Under FAR Part: Part 91
- Flight Plan: IFR
- Mission: Personal
- Nav In Use: GPS
- Flight Phase: Initial Approach
- Route In Use: Vectors
- Airspace. Class E: P80

**Component**
- Aircraft Component: GPS & Other Satellite Navigation
- Aircraft Reference: X
- Problem: Malfunctioning

**Person**
- Reference: 1
- Location Of Person. Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Personal
- Function. Flight Crew: Pilot Flying
- Qualification. Flight Crew: Commercial
- Qualification. Flight Crew: Instrument
- Experience. Flight Crew. Total: 410
- Experience. Flight Crew. Last 90 Days: 16
- Experience. Flight Crew. Type: 17
- ASRS Report Number. Accession Number: 1477818
- Human Factors: Training / Qualification
- Human Factors: Human-Machine Interface
Events
Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Procedural : Clearance
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : VFR In IMC
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Provided Assistance

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

Narrative: 1

There were two instances of concern on this flight:

1. Vectors were provided from HHOOD to the RNAV-A approach into KTTD. This plane's GPS was a recently upgraded to a Garmin 650, with which I have very little practice beyond one approach in VFR conditions, and some time on a simulator. The tops were at about 3,000 feet.

After being cleared for the approach and stated to maintain at or above 2,500 MSL over WOODD, I continued on. The GPS was set to vectors. The GPS did not increment to the next fix, and I did not know how to increment it to the next leg. The controller stated I was on course, so I just turned to follow the course, rather than asking for missed vectors while I get the GPS sorted out. Fortunately, the ceiling was plenty high, so when I broke out about 1/4 mile off course, I was able to cancel IFR and land VFR.

-The biggest learning item was that I need to become more familiar with this GPS prior to flying an approach in IFR conditions. This could have been dangerous, had the clouds been lower.

2. Also, on this same flight, the haze northeast of the airport was quite severe, although it was VFR. As I was eating lunch, the haze suddenly became much darker and it went to solid IFR conditions. I called and received an IFR clearance from Seattle Center. Fortunately I was on flight following, so the clearance came quickly. Lessons learned: If it is at all marginal, just get an IFR clearance. Don't try to push on into questionable VFR conditions. It was amazing how fast the haze from the forest fires just slowly became more and more dense until it was too dense to see.

Synopsis
General aviation pilot reported difficulty with new navigation equipment while on a RNAV approach and experiencing rapidly deteriorating visibility while on a VFR flight.
**Time / Day**

Date: 201708  
Local Time Of Day: 0601-1200

**Place**

Locale Reference: Airport: MIA. Airport  
State Reference: FL

**Environment**

Flight Conditions: VMC  
Light: Daylight

**Aircraft**

Reference: X  
ATC / Advisory: TRACON: MIA  
Aircraft Operator: Air Carrier  
Make Model Name: A300  
Crew Size: Number Of Crew: 2  
Operating Under FAR Part: Part 121  
Flight Plan: IFR  
Mission: Cargo / Freight  
Flight Phase: Initial Approach  
Route In Use: STAR: HILEY6  
Route In Use: Other  
Airspace: Class B: MIA

**Person**

Reference: 1  
Location Of Person: Aircraft: X  
Location In Aircraft: Flight Deck  
Reporter Organization: Air Carrier  
Function: Flight Crew: Pilot Not Flying  
Function: Flight Crew: Captain  
Qualification: Flight Crew: Air Transport Pilot (ATP)  
ASRS Report Number: Accession Number: 1477738  
Human Factors: Fatigue  
Human Factors: Situational Awareness

**Events**

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

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

**Narrative: 1**

On arrival into MIA landing 26R we were told to expect the RNAV 26R. We mistakenly edited the HILEY6 arrival with the instructions on the procedure that were listed in the Lost Comm Box for landing west operations. After waypoint HILEY we proceeded to HOXIL. After we turned to HOXIL, Approach Control asked us if he had given us a heading. We responded that he had not but we were following the landing west procedure. We said that we were incorrect and that crews often make this same mistake. He told us not to worry about it and cleared us direct to NAYIB for the RNAV 26R. We landed, taxied, and shutdown uneventfully.

Fatigue was a big factor for us. This was the second leg of [a day that included] holding and heavy storms. Many planes were delayed inbound and or required to divert due to low fuel. The presentation of the arrival chart also added to our misinterpretation, as well as other prior crews apparently. This chart was especially confusing and counter intuitive during landing west ops in MIA. More careful review of the arrival and more effective awareness of our state of fatigue.

**Synopsis**

A300 Captain reported a track deviation on arrival into MIA. Chart design and fatigue were cited as contributing.
ACN: 1477704

**Time / Day**
- Date: 201708
- Local Time Of Day: 0001-0600

**Place**
- Locale Reference: Airport: CVG.Airport
- State Reference: KY
- Altitude: MSL. Single Value: 2400

**Environment**
- Light: Night

**Aircraft**
- Reference: X
- ATC / Advisory: TRACON: CVG
- 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: Cargo / Freight
- Nav In Use: FMS Or FMC
- Nav In Use.Localizer/Glideslope/ILS: Runway 9
- Flight Phase: Initial Approach
- Airspace: Class B: CVG

**Component**
- Aircraft Component: Navigational Equipment and Processing
- Problem: Improperly Operated

**Person**
- Reference: 1
- Location Of Person: Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function: Flight Crew: Pilot Not Flying
- Function: Flight Crew: First Officer
- Qualification: Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number: Accession Number: 1477704
- Human Factors: Situational Awareness
- Human Factors: Workload

**Events**
- Anomaly: Aircraft Equipment Problem: Less Severe
- Anomaly: Deviation - Track / Heading: All Types
- Anomaly: Deviation - Procedural: Clearance
- Anomaly: Deviation - Procedural: Published Material / Policy
- Anomaly: Inflight Event / Encounter: Unstabilized Approach
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Executed Go Around / Missed Approach
Result.Flight Crew : Became Reoriented

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

Narrative: 1

We were proceeding direct to JADOP at 5000 feet and had been cleared for the ILS 9 approach at CVG. The Captain asked if I had identified the localizer. I replied that I was listening for it, but had not yet heard it, and remarked that as we were getting close to the localizer, I should be able to hear it. I informed Approach Control that we were not receiving the Runway 9 localizer. Approach Control asked the Tower, and the Tower said that it was up and in the green. We turned inbound on the final approach course based on FMS RNAV data and I was able to see the runway at that point. We were descending on the final approach course and configuring for landing. At this point, the exact sequence becomes very hazy because my task loading was fairly high - listening through the ambient noise (the packs in this aircraft are noisier than most, even in single pack operation) for the Captain's configuration commands and responding to ATC questions about our status. It eventually reached a point where I had to tell Approach Control to standby, prioritizing the first item of "aviate, navigate, communicate" over the third. Approach Control called with a low altitude alert somewhere around 2,400 feet and the Captain called for a go-around. We had visual contact with the runway throughout this event and were not in IMC at any time prior to the go-around. After the go-around, the Captain found that the localizer frequency had been changed from 111.9 to 110.9. I do not know how that could have happened, as I had not been doing anything in that area. I had changed frequencies on the left comm radio a number of times during the arrival, but I don't remember ever reaching for or turning the wrong knob during that time. I was able to identify the localizer, so we informed Approach Control that we could take vectors for the approach again. While being vectored, the Captain had me set up the ILS 9 in the FMS again, and while doing that, I saw in the scratchpad a runway/localizer frequency mismatch message. I did not see that, an "FMC Message" EICAS message, or the FMC discrete light at any time before then. We completed the approach and landed normally.

Reviewing the event afterward, I don't know why it didn't occur to me to check the localizer frequency on the ILS receiver. It seems so obvious a thing to check, but I suppose there was a bias toward believing that it was set correctly since it had already been set up and briefed prior to top of descent. That in combination with being at a point where there was a lot of intra-cockpit communication, aircraft configuration, and the flurry of non-routine ATC communications left me without a lot of brain cycles to do logical troubleshooting of what is a relatively uncommon occurrence.

Synopsis

B767 First Officer reported executing a go-around after TRACON issued a low altitude alert on approach to CVG. The localizer was later found to be mistuned.
**ACN: 1477252 (44 of 50)**

**Time / Day**
- Date: 201708
- Local Time Of Day: 1201-1800

**Place**
- Locale Reference: Airport: MIA Airport
- State Reference: FL
- Altitude: MSL: Single Value: 1300

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

**Aircraft**
- Reference: X
- ATC / Advisory: TRACON: MIA
- Aircraft Operator: Air Carrier
- Make Model Name: Widebody Transport
- Crew Size: Number Of Crew: 2
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Mission: Cargo / Freight
- Nav In Use: FMS Or FMC
- Nav In Use: GPS
- Flight Phase: Final Approach
- Route In Use: Other
- Airspace: Class B: MIA

**Component**
- Aircraft Component: Autoflight System
- Aircraft Reference: X
- Problem: Improperly Operated

**Person: 1**
- Reference: 1
- Location Of Person: Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function: Flight Crew: Pilot Flying
- Function: Flight Crew: Captain
- Qualification: Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number: Accession Number: 1477252
- Human Factors: Distraction
- Human Factors: Situational Awareness

**Person: 2**
Reference : 2
Location Of Person . Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function . Flight Crew : First Officer
Function . Flight Crew : Pilot Not Flying
Qualification . Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number . Accession Number : 1477254

Events
Anomaly . Deviation - Altitude : Excursion From Assigned Altitude
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 : Returned To Clearance
Result . Flight Crew : Became Reoriented

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

Narrative: 1
Uneventful descent into Miami while avoiding thunderstorms. Vectors to intercept final course for RNAV/GPS Rwy 26R. We kept the speed up to get on the ground before a series of thunderstorms got to the airport and received shortened vectors to final inside the NAYIB fix on the approach. On final and after confirming FMS speed, Nav, and profile MDA, while consulting with each other about rain showers close to the airport, we noticed that the airplane was descending below the profile glidepath and I disconnected the Autopilot to arrest the descent.

We descended to 1300, below the minimum 1500 ft for that portion of the approach before the Final Approach Fix ZARER. We immediately started a correction back to published altitude. At that point we received a yellow GROUND PROXIMITY alert for several buildings 2 to 3 miles in front and on both sides of the approach course. After confirming we were well clear of all obstacles and still in a safe position for landing we opted to visually continue the approach and landing.

Distraction with weather during the approach. Clarify before the approach the duties (i.e. who will be looking at the radar and who will be closely monitoring the instruments).

Narrative: 2
[Report narrative contained no additional information.]

Synopsis
Air carrier flight crew reported descending below the MIA Runway 26R RNAV Approach profile. The autopilot did not capture the vertical path and the crew did not detect it until they were low causing a GPWS warning.
**Time / Day**

Date: 201708
Local Time Of Day: 1201-1800

**Place**

Locale Reference.Airport: MDW.Airport
State Reference: IL
Altitude.MSL.Single Value: 3000

**Environment**

Light: Daylight

**Aircraft**

Reference: X
ATC / Advisory.TRACON: C90
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
Flight Plan: IFR
Mission: Passenger
Flight Phase: Initial Approach
Route In Use: Visual Approach
Airspace.Class B: MDW

**Person: 1**

Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: First Officer
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1477156

**Person: 2**

Reference: 2
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Not Flying
Experience.Flight Crew.Last 90 Days: 487
Experience.Flight Crew.Type: 11000
ASRS Report Number.Accession Number: 1477100

**Events**
Anomaly.ATC Issue : All Types
Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Automation : Aircraft TA
Detector.Automation : Aircraft RA
Detector.Person : Air Traffic Control
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Air Traffic Control : Issued Advisory / Alert

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

Narrative: 1

Inbound from waypoint STERE on the RNP Y 22L at 3000'; we heard ATC communicating with an aircraft northwest of our position about the several [other aircraft] lined up flying the approach into MDW. As we approached that aircraft our TCAS display indicated that the target aircraft was 100' below us and level, heading south towards our lateral course. The Pilot Monitoring communicated this to ATC. ATC cleared us to deviate north (right) of course to avoid the aircraft. I Pilot Flying (PF) immediately engaged CWS and began a right turn, level at 3000'.

While in the turn we received a TA alert. The Pilot Monitoring called out we were clear of the aircraft so I turned left and intercepted the approach course and engaged LNAV/VNAV and setting the altitude window to 1500'. Approaching waypoint SAILZ, ATC alerted us to another aircraft approaching our path ahead. At SAILZ this aircraft triggered a Resolution Advisory (RA). The RA red command box indicated I could not descend. So I disconnected the autopilot and maintained 3000'-3100'. After we were "Clear of Conflict" I accessed and communicated that we were high on the approach path. Still hand flying I began to descend to intercept the descent path.

Approaching the lake shore, we encountered another Traffic Alert (TA) alert. Both Pilot Monitoring and I looked but could not see either an aircraft outside or on our displays. This third traffic alert distracted us just as we approached the FMS descent path. I then realized we were approaching 2100' MSL just outside KEEEL. I corrected our flight path and rejoined our descent path at KEEEL. I then continued to hand fly the approach to a landing.

Trying to fly an instrument approach procedure in VFR weather with several VFR aircraft flying in the vicinity of the approach creates challenges not encountered when in IMC. Abandoning the RNAV Y Approach and requesting vectors to a visual approach would have decreased our workload on the approach. When I began my descent to recapture the glidepath after the RA, I should have called for the Pilot Monitoring to reset the altitude window to 2400.

Narrative: 2

While cleared direct to SAILZ at 3000', we heard Approach talking to VFR general aviation traffic at 2900'. They pointed out three aircraft, including us, to him as potential conflicts
as he was crossing our approach path. The 2900' traffic was pointed out to us at two miles just as it showed as a Traffic Alert (TA). We called visual and were given permission to turn as required to avoid the traffic. The First Officer (FO) did a great job of turning right towards his tail avoiding a certain RA. We then re-engaged automation direct SAILZ to finish the approach. Over SAILZ we got another TA which quickly changed to an RA to "Monitor Vertical Speed" preventing the necessary descent on the approach out of SAILZ.

Once again, the (FO) did a great job of complying with the RA but found himself high on profile inside SAILZ when we were "Clear of Conflict". He announced his selection of vertical speed to try to get back on profile. I informed ATC that we were off profile on the approach due to an RA. While correcting, we got another TA with no target shown. There was a moment of confusion as the traffic info was shown in text on the right side of the PFD but not displayed as a target (behind us). These few seconds of uncertainty distracted us long enough to descend below profile, which I announced.

The FO corrected and crossed KEEEL at 2100', 300 below the 2400' crossing. The FO hand-flew the remainder of the approach to an uneventful landing. There was no comment from ATC on the altitude deviation for the third TCAS event on final as we were still maneuvering for the second event. This also occurred right with the switch to Tower over KEEEL. I heard no comments from any Passengers about the event. When on the ground we debriefed the event. I was then distracted by operational events during the turn and neglected to inform Dispatch of the RA.

Establish a VFR corridor to de-conflict general aviation traffic from this often-used approach procedure. At a minimum ATC should direct altitude de-confliction to general aviation traffic under flight following over the lake front.

Synopsis

B737 flight crew experienced three separate TCAS events during a visual approach into MDW.
**ACN: 1476869 (46 of 50)**

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

**Place**
- Locale Reference, ATC Facility: M98.TRACON
- State Reference: MN
- Altitude, MSL, Single Value: 3000

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

**Aircraft**
- Reference: X
- ATC / Advisory, TRACON: M98
- 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 E: M98

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

**Person: 1**
- Reference: 1
- Location Of Person, Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function, Flight Crew: Captain
- Function, Flight Crew: Pilot Not Flying
- Qualification, Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number, Accession Number: 1476869

**Person: 2**
- Reference: 2
- Location Of Person, Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Air Carrier
- Function, Flight Crew: First Officer
- Function, Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number. Accession Number: 1477262

Events
Anomaly. Aircraft Equipment Problem: Less Severe
Anomaly. Deviation - Track / Heading: All Types
Anomaly. Inflight Event / Encounter: Weather / Turbulence
Detector. Person: Flight Crew
When Detected: In-flight
Result. Flight Crew: Executed Go Around / Missed Approach

Assessments
Contributing Factors / Situations: Aircraft
Primary Problem: Aircraft

Narrative: 1
On approach with IMC weather into MSP for RNAV Z 12R we had a failure to sequence problem with FMS load 27.1. I was PIC with pilot monitoring duties. We were cleared direct ZESTY cross ZESTY at 4000' cleared RNAV Z 12R. LNAV / VNAV were both active and APP was selected. 3000 ft was selected for KINNS and altitudes verified in FMS. Our course to ZESTY was approximately 100 deg heading. Reaching ZESTY the aircraft remained on the current heading of approximately 100 deg and failed to join final approach course. VNAV did capture and was descending on profile. The vertical profile view on the MFD was frozen. The CDI was deflecting to the left which was the opposite direction that we needed to fly. Both myself and the SIC recognized this immediately. After a quick verification that all modes of navigation were armed correctly and the correct runway was selected we recognized it as a failure to sequence of the FMS load 27.1. I immediately called for missed approach. We conducted a missed approach in heading mode with ATC instructions. I notified tower that we had a RNAV problem and needed vectors for the ILS 12L. We flew approach ILS 12L and landed without further incident.

With the weather being IMC with bases of 600 ft and the possibility of parallel traffic on RWY 12L this failure of FMS load 27.1 had the potential to quickly become a CFIT or air to air collision. Luckily we recognized the problem and didn't waste any time executing a missed approach. Immediate correction of the known issues with FMS load 27.1. I currently do not feel safe relying on it for navigation.

Narrative: 2
[Report narrative contained no additional information.]

Synopsis
EMB-175 Crew reported the FMS failed to sequence on an RNAV approach which resulted in a missed approach and were vectored for an ILS approach.
Time / Day

Date: 201708
Local Time Of Day: 1201-1800

Place

Locale Reference.Airport: MCO.Airport
State Reference: FL
Altitude.MSL.Single Value: 1600

Environment

Flight Conditions: VMC
Light: Daylight

Aircraft

Reference: X
ATC / Advisory.Tower: MCO
Aircraft Operator: Air Carrier
Make Model Name: Large Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Nav In Use: FMS Or FMC
Flight Phase: Final Approach
Route In Use: Visual Approach
Airspace.Class B: MCO

Person: 1

Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: First Officer
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1476000
Human Factors: Workload
Human Factors: Confusion
Human Factors: Fatigue
Human Factors: Human-Machine Interface
Human Factors: Situational Awareness

Person: 2

Reference: 2
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Not Flying
Qualification: Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number: Accession Number : 1475997
Human Factors : Confusion

Events

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

Assessments

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

Narrative: 1

We were assigned the PIGLT Four RNAV Arrival to land Runway 36L. 36L only has an RNAV approach so that's what I set up for even though the conditions were VFR. On the downwind leg of the PIGLT arrival we were given clearance to descend to 1600 ft and turn to a heading for an intercept to the final approach course 36L. When we reported the runway in sight we were cleared for the visual 36L. I set the VNAV for the RNAV approach and shortly after the captain noted that it might've just been easier to go direct to BERDY (the outer fix). I checked to make sure that the course line was going to intercept the extended centerline which it did. As we rolled onto final the captain asked "why are we still descending?" At that point I realize that even though I had selected VNAV it had not engaged. I disconnected the autopilot, applied power, and initiated a climb. While I was in the process of this procedure the tower announced an altitude alert for us. When we leveled off, due to the fact that we were in VFR conditions, no other traffic around, and in clear view of the runway I elected to continue the approach visually.

We continued to configure the aircraft for landing but before I could call for flaps 30 (final flap configuration) the aircraft announced 1000 feet. At that point, we were on the extended centerline, on the visual glidepath, configured, and on airspeed. I elected to continue the approach and made a normal landing.

At the point of this event we were on day four of a four-day trip. All of our sign ins had been late with long overnights. However, the night before this event we were scheduled to have a 10:35 overnight which got reduced to 10 hours as we were running late. We were three hours out of Home Base Time, getting up early in the morning. In hindsight, and after a good night's sleep, I can't believe that I didn't execute a go around at the first sign of trouble. Obviously, I was more fatigued than I realized at the time.

Narrative: 2

[Report narrative contained no additional information.]
Synopsis

Air carrier flight crew reported getting low while on a visual approach to MCO Runway 36L when VNAV was selected, but it did not engage.
**Time / Day**
Date: 201708
Local Time Of Day: 1801-2400

**Place**
Locale Reference.Airport: MDW.Airport
State Reference: IL
Relative Position.Distance.Nautical Miles: 10
Altitude.MSL.Single Value: 3000

**Environment**
Flight Conditions: Mixed
Weather Elements / Visibility.Visibility: 3
Light: Daylight
Ceiling.Single Value: 3500

**Aircraft: 1**
Reference: X
ATC / Advisory.TRACON: C90
Aircraft Operator: Air Carrier
Make Model Name: Commercial Fixed Wing
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Initial Approach
Airspace.Class E: C90

**Aircraft: 2**
ATC / Advisory.TRACON: C90
Make Model Name: Small Aircraft
Flight Phase: Cruise
Airspace.Class E: C90

**Person: 1**
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days: 404
Experience.Flight Crew.Type: 10000
ASRS Report Number.Accession Number: 1473906
Human Factors: Situational Awareness

**Person: 2**
Events

Anomaly.ATC Issue : All Types
Anomaly.Conflict : NMAC
Detector.Automation : Aircraft RA
Detector.Person : Flight Crew
Miss Distance.Vertical : 300
When Detected : In-flight
Result.Flight Crew : FLC complied w / Automation / Advisory
Result.Flight Crew : Took Evasive Action

Assessments

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

Narrative: 1

Flying to SAILZ at 3,000 ft on the RNAV Y 22L, a light aircraft caused an RA by descending into our flight path. ATC was too slow to offer de-conflicting vectors because she was too busy with multiple inbounds. The light single aircraft was behaving in a random manner, and when TCAS demanded a descent there was a lot of erroneous information on the radio. ATC finally called for a descent at the same time as the TCAS demanded avoiding action. The First Officer was calling out the traffic, I saw him, disengaged the autopilot and throttles, and we ended up avoiding him by about 300 ft with negligible horizontal separation. I’m pretty sure I complied with the RA, although ATC called a descent at exactly the same time, and the TCAS voice was garbled as a result. I started the descent and went head down for TCAS guidance and the F/O said "descend to 2500 ft", which was a bit confusing because I assumed he knew I was now following TCAS guidance only. Any passengers who may have seen the light aircraft on the left side of the aircraft would have been very concerned.

The pilot of the other aircraft needs to be warned of the dangers of flying in the approach airspace at MDW. He seriously jeopardized the safety of all onboard my aircraft.

Narrative: 2

We were cleared off PANGG 3 arrival direct to SAILZ intersection at 3,000 ft as cleared by Chicago Approach. The RA event occurred at approximately 10 to 15 miles south/southeast of SAILZ. Preceding company aircraft was provided an avoidance vector by ATC to the east to avoid GA aircraft (Cessna 172 or equivalent) in vicinity of SAILZ at 3,000 ft and proceeding across approach corridor heading south. We were not given avoidance vectors but told to continue toward SAILZ at 3,000 ft. Chicago Approach advised us that GA aircraft was cleared to 3,500 ft. Moments later we received an RA to
descend which the Captain (PF) executed while Chicago Approach simultaneously directed us to descend to 2,500 ft. At that instant we saw the GA aircraft break out of the ragged ceiling approximately 300 ft above and to the left of our aircraft. We leveled at 2,500 ft and reported the RA to ATC and proceeded on the RNAV (RNP) Y Runway 22L and landed.

Synopsis

Air Carrier Captain reported an NMAC with a light aircraft on approach to MDW.
**Time / Day**

Date: 201708
Local Time Of Day: 1801-2400

**Place**

Locale Reference.ATC Facility: NCT.TRACON
State Reference: CA

**Environment**

Flight Conditions: IMC
Light: Daylight

**Aircraft**

Reference: X
ATC / Advisory.TRAYON: NCT
Aircraft Operator: Personal
Make Model Name: Skylane 182/RG Turbo Skylane/RG
Crew Size. Number Of Crew: 1
Operating Under FAR Part: Part 91
Flight Plan: IFR
Mission: Personal
Nav In Use: GPS
Flight Phase: Final Approach
Route In Use: Vectors
Airspace. Class E: NCT

**Person: 1**

Reference: 1
Location Of Person. Facility: NCT.TRACON
Reporter Organization: Government
Function. Air Traffic Control: Approach
Qualification. Air Traffic Control: Fully Certified
Experience. Air Traffic Control. Time Certified In Pos 1 (yrs): 3.0
ASRS Report Number. Accession Number: 1473203
Human Factors: Human-Machine Interface
Human Factors: Situational Awareness
Human Factors: Confusion

**Person: 2**

Reference: 2
Location Of Person. Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Personal
Function. Flight Crew: Pilot Flying
Qualification. Flight Crew: Private
Qualification. Flight Crew: Instrument
Experience. Flight Crew. Total: 665
Experience. Flight Crew. Last 90 Days: 52
Experience. Flight Crew. Type: 476
Aircraft X was cleared for the ZZZ RNAV approach, was given cancellation instructions, and was switched to advisory frequency. On short final I observed the aircraft make a left turn consistent with the published missed approach. The Low Altitude Alert began flashing with the aural alarm as the aircraft was still descending. I reached out to the aircraft to see if he was on my frequency, but with no response. I continued working my other traffic.

Aircraft X started to make a left turn to the east no longer consistent with the published missed approach. I reached out to the aircraft and this time he was now on my frequency. The pilot advised he was "trying to get back on top". I told the aircraft to fly his present heading and climb and maintain 3000 feet. The aircraft was at 1000 feet and the Minimum Vectoring Altitude (MVA) is 2300 feet. I should have issued a safety alert for a climb immediately. The aircraft began making a left turn to the North. Again I advised the pilot to fly his present heading and climb and maintain 3000 feet. This was a vector below the MVA but as the pilot continued to make turns, I was trying to help the pilot get above the layer. I obtained pilot reports that nearby airports were clear despite the low ceiling indicated on the ATIS. Once the pilot was back above the layer I turned him toward a
different airport. I gave him the weather and pilot reports and asked for his intentions. The pilot decided to land at ZZZ1. I re-cleared the pilot and coordinated with the Tower to make a Visual Approach with no restrictions. The pilot landed safely.

I need to make sure that I issue the correct safety alerts. I felt the pilot was in distress and treated him as an emergency although I did not ask the pilot if this was the case I only advised them of an IFR change of destination. I was still trying to comprehend what I was seeing and my judgment was a little bit behind. I try to think of what to do in situations like these but the stress of the moment is hard to be prepared for.

**Narrative: 2**

I was established on an approach inside FAF, stabilized and flying in a cloud with autopilot engaged. The ceiling was about 1200 feet and there was VFR traffic in pattern landing runway 20. I was still over the ocean and the ceiling was lower than at the airport and visibility essentially zero. I was flying the RNAV Approach (opposing pattern traffic) monitoring approach and CTAF and making position reports on CTAF as I approached airport.

We recently installed Aspen evolution 1000 pro glass panel including adding a flight director to display. The AP/FD switch was installed by avionics shop in a position in the airplane that allows inadvertent disconnection of autopilot. Apparently I bumped the AP/FD switch disconnecting autopilot and the autopilot signaled disconnect. I was startled by the autopilot disconnect and I temporarily lost control of airplane beginning a turn and continuing to descend. When I regained control I was off course and all I wanted to do was climb back on top. When I was on top of the cloud and shaken up the Approach controller was very helpful in directing me to an airport that was in the clear. I flew uneventfully to that airport and landed.

As I think back on this incident I realize that I need more help in transitioning to the recently installed avionics. I thought I could handle the transition without help, but I was mistaken. I am proficient with the avionics for VFR flight, but I need help developing a better scan for IMC. I also need help dealing with unexpected problems in IMC. I have scheduled time with my CFII to assist with my transition to glass panel.

**Synopsis**

C182 pilot and TRACON Controller reported a pilot deviation from the published missed approach and flight below Minimum Vectoring Altitude.
ACN: 1473165 (50 of 50)

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

**Place**
- Locale Reference: Airport: SBRJ.Airport
- State Reference: FO
- Altitude: MSL. Single Value: 3800

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

**Aircraft**
- Reference: X
- ATC / Advisory Center: SBCW
- Aircraft Operator: Corporate
- Make Model Name: Medium Large Transport, Low Wing, 2 Turbojet Eng
- Crew Size: Number Of Crew: 2
- Operating Under FAR Part: Part 91
- Flight Plan: IFR
- Mission: Passenger
- Flight Phase: Initial Approach
- Route In Use: Other

**Person**
- Reference: 1
- Location Of Person: Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Corporate
- Function: Flight Crew: Captain
- Function: Flight Crew: Pilot Flying
- Qualification: Flight Crew: Flight Engineer
- Qualification: Flight Crew: Air Transport Pilot (ATP)
- Qualification: Flight Crew: Flight Instructor
- Qualification: Flight Crew: Multiengine
- Qualification: Flight Crew: Instrument
- Experience: Flight Crew: Total: 13258
- Experience: Flight Crew: Last 90 Days: 37
- Experience: Flight Crew: Type: 765
- ASRS Report Number: Accession Number: 1473165
- Human Factors: Situational Awareness
- Human Factors: Confusion

**Events**
- Anomaly: Airspace Violation: All Types
- Anomaly: ATC Issue: All Types
- Anomaly: Deviation - Track / Heading: All Types
- Anomaly: Deviation - Procedural: Clearance
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued New Clearance

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

Narrative: 1

During our descent into SBRJ, my colleague, a highly experienced Captain, listened to the ATIS and advised the approach in use was the RNAV (GNSS) Y 02R. ATC issued us instructions to fly the UGRAD 1A RNAV arrival to the RNAV (GNSS) Y 02R, and to descend on the arrival. We had anticipated both of these procedures, and I conducted a thorough briefing. We descended on the arrival when instructed to do so, and were subsequently cleared for the approach. At some point during our initial descent, my colleague mentioned that there was a new ATIS but that all remained essentially as we'd briefed. He did note, however, that we now had a slight tailwind (4 kts) on 02R, which is only 4341 ft in length. We both agreed that this would not present any operational difficulty for our aircraft, but it should have been our first clue that the runway in use might be subject to change. The controller re-cleared us for the RNAV (GNSS) Y, and we both "heard" Rwy 02R. In retrospect, the controller had stated 20L, which my colleague read back. We failed to notice that the runway had changed, and we continued flying the approach to 02R.

At fix RJ031 (4000 ft mandatory for 02R vs at or above 3500 ft for 20L), the RNAV (GNSS) Y 02R and 20L diverge. The 02R procedure continues along a 114 degree course to cross RJ032 at 2800 ft, and the 20L procedure continues along a 083 course to cross 2.2 nm prior to RJ107 at 2500 ft. As we continued the approach to 02R, the controller advised that the runway in use was 20L. Believing that the runway and approach had been changed at the last moment, we requested a vector. The controller instructed us to fly heading 075, and shortly thereafter I visually acquired the airport. I told my colleague to "call the field in sight", and the controller cleared us for a visual approach to 20L. No conflict with other traffic occurred at any point during our approach in VMC, and we landed without incident. After shutting down engines, I contacted ground control to inquire about the "last minute runway change", and to ensure that we had not missed something. The controller said that we had made a "small mistake" regarding the runway in use, but that it was "no problem."

In reflecting upon our error, there were numerous contributing factors, from which I have learned several lessons:
1. Although both of us are highly experienced, and had flown to this airport several times in the past, we treat this challenging airport with respect. Nevertheless, we were comforted to be flying together, and complacent in not challenging one another when some of the cues "didn't add up".
2. The accented English spoken by ATC made it difficult for us to perceive the change in Runway from 02R to 20L. Both runways contain a "2" and a "0".
3. The approach to both runways is an RNAV (GNSS) Y, which made it more difficult for us to perceive the runway change.
4. We'd briefed the RNAV (GNSS) Y 02R, and our expectations overrode the instructions. In short, our heads were "up and locked".
Although all ultimately went well, these lessons will heighten my situational awareness in the future.

Synopsis

Corporate jet Captain reported missing a change to the approach clearance by ATC into SBRJ due to expectation bias, changing weather conditions and the Controller's foreign accent.