ASRS Database Report Set

Cabin Smoke, Fire, Fumes, or Odor Incidents

Report Set Description...........................................A sampling of air carrier reports concerning cabin smoke, fire, fumes or odor related events.

Update Number..................................................10.0

Date of Update..................................................November 30, 2016

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 disclaimer 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
<table>
<thead>
<tr>
<th>ACN: 1391875 (1 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>C172 pilot reported they had a fire shortly after landing. The pilot shutdown everything and exited the plane. Ground personnel helped extinguish the fire.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACN: 1391412 (2 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>B737 First Officer reported executing a rapid descent when they lost cabin pressure following the failure of #2 engine pneumatic bleed air.</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>ACN: 1390739 (3 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>A320 flight crew reported a #2 engine failure just after rotation and successful diversion to a nearby airport.</td>
</tr>
</tbody>
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<thead>
<tr>
<th>ACN: 1390322 (4 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>B777 flight crew reported diverting after receiving reports from the flight attendants of a strong electrical burning smell in the cabin.</td>
</tr>
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<table>
<thead>
<tr>
<th>ACN: 1389799 (5 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>CRJ-900 flight crew reported experiencing fumes in the cockpit and cabin during initial takeoff. Crew executed a rejected takeoff and returned to the gate. There was no mechanical issue other than residual wash fluid in the engine.</td>
</tr>
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<table>
<thead>
<tr>
<th>ACN: 1389023 (6 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>Learjet 35 Captain reported hearing an unusual sound and detected smoke in the cockpit and cabin. They returned to their departure airport.</td>
</tr>
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<thead>
<tr>
<th>ACN: 1389013 (7 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>PA-32 pilot reported an engine fire resulted from a backfire while attempting an engine start.</td>
</tr>
</tbody>
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<tr>
<th>ACN: 1388808 (8 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
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</table>
B737-700 flight crew reported a severe fuel leak during engine start and aborted the start due to the large amount of fuel on the ground versus the correct procedure of idling the engine. Maintenance successfully started the engine and signed off the discrepancy.

<table>
<thead>
<tr>
<th>ACN: 1385549 (9 of 50)</th>
</tr>
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</table>

**Synopsis**
B737-900 Captain was asked by the lead Flight Attendant to file a report on the possible overheating of flammable items stored in the compartment above the coffee maker. After being shown how hot it was from the previous flight the Captain agreed.

<table>
<thead>
<tr>
<th>ACN: 1385414 (10 of 50)</th>
</tr>
</thead>
</table>

**Synopsis**
MD-11 flight crew reported landing at a foreign airport and during the landing roll, engine one fire warning alerted. The aircraft rolled into the runway overrun where the fire warning continued after all QRH procedures and two fire bottles were applied. A fire detection system fault was discovered.

<table>
<thead>
<tr>
<th>ACN: 1384918 (11 of 50)</th>
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**Synopsis**
A319 Captain reported "dirty sock" fumes in the aircraft.

<table>
<thead>
<tr>
<th>ACN: 1384079 (12 of 50)</th>
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</table>

**Synopsis**
CRJ200 First Officer reported that the Captain was asked by Maintenance to start the left engine to assess a write up for slow N2 rotation and no starter cut out during start. When the Captain attempted to terminate the left start, he activated the right starter. The First Officer terminated both starters, but not before the left starter disintegrated causing a fire warning.

<table>
<thead>
<tr>
<th>ACN: 1383133 (13 of 50)</th>
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</table>

**Synopsis**
A320 First Officer reported diverting to an alternate airport after experiencing several engine rollbacks along with a smoke odor in the cabin.

<table>
<thead>
<tr>
<th>ACN: 1382483 (14 of 50)</th>
</tr>
</thead>
</table>

**Synopsis**
GIV Captain reported being informed by Tower after takeoff that there appeared to be an excessive venting of fluid from the left side of the aircraft. The aircraft was being ferried to repair a leaking right main gear actuator. No anomalies could be detected in the cockpit, but the Captain elected to return to the departure airport.
<table>
<thead>
<tr>
<th>ACN: 1382285</th>
<th>(15 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
<td>B737NG Captain reported diverting to an alternate airport after passengers complained of a &quot;strong caustic chemical smell&quot;.</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>ACN: 1380984</th>
<th>(16 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
<td>A321 Flight Attendant reported that before, during, and after boarding, everyone on board the aircraft complained of a pungent fuel, fish, and kerosene/paint thinner odor. The crew and passengers were taken off the aircraft which was moved to the hangar. Medical tests found no apparent ill effects.</td>
</tr>
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<thead>
<tr>
<th>ACN: 1380770</th>
<th>(17 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
<td>The flight crew of an A320 reported, during climb the First Officer's eyes became irritated then a floor vibration developed, then the cockpit and cabin filled with sulfur smelling smoke. A diversion was made to the nearest suitable airport. An air conditioning system fault was suspected.</td>
</tr>
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<thead>
<tr>
<th>ACN: 1380767</th>
<th>(18 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
<td>While flying in Oceanic airspace, a Boeing 777 flight crew was made aware of a strong chemical odor coming from one of the forward lavatories. As the source of the odor could not be readily determined the crew elected to leave the Oceanic track and divert to a suitable airfield.</td>
</tr>
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<tr>
<th>ACN: 1379401</th>
<th>(19 of 50)</th>
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<tbody>
<tr>
<td><strong>Synopsis</strong></td>
<td>PA-28 pilot reported that he was unable to start the aircraft after multiple tries. While waiting for the starter to cool down he noticed smoke coming from the cowling and extinguished the fire. The plane had previously experienced a similar problem.</td>
</tr>
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<tr>
<th>ACN: 1379278</th>
<th>(20 of 50)</th>
</tr>
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<tbody>
<tr>
<td><strong>Synopsis</strong></td>
<td>A CRJ-700 engine was shut down shortly after takeoff because of a high engine vibration and the cabin smoke.</td>
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<tr>
<th>ACN: 1379006</th>
<th>(21 of 50)</th>
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<tbody>
<tr>
<td><strong>Synopsis</strong></td>
<td></td>
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</tbody>
</table>
CRJ-700 flight crew reported smoke in the cabin on short final resulted in an evacuation on the taxiway via the main cabin door stairs.

**ACN: 1378941 (22 of 50)**

**Synopsis**
B777 Captain reported enduring fueling difficulties at an international station resulting in the cancellation of the trip.

**ACN: 1378204 (23 of 50)**

**Synopsis**
PA-28 pilot reported experiencing an engine fire while attempting a hot engine start on the ground.

**ACN: 1377187 (24 of 50)**

**Synopsis**
MD11 First Officer lamented the use of insecticide sprays on his aircraft with crew members on board and believes the company should be provided better training.

**ACN: 1376832 (25 of 50)**

**Synopsis**
Twin Cessna Pilot reported a an electrical fire in flight. Pilot shut down all electrics and landed at a nearby field.

**ACN: 1376629 (26 of 50)**

**Synopsis**
An A321 Captain reported refusing an aircraft due to fumes and an oil smell in the cabin.

**ACN: 1376415 (27 of 50)**

**Synopsis**
A320 Flight Attendant reported the Emergency ALL CALL lights and chimes were flashing during taxi to the gate along with an odd smell and cabin mist. The pilots did not return repeated intercom calls and did not debrief the crew or Maintenance after deplaning.

**ACN: 1376024 (28 of 50)**

**Synopsis**
B737 Captain reported after takeoff there were fumes and smoke in the cabin. Captain returned for an expeditious landing and reported that after number 2 engine shut down on ground, smoke and fumes ceased.
<table>
<thead>
<tr>
<th>ACN: 1375971 (29 of 50)</th>
</tr>
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<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>B767-300 First Officer reported crew refusing aircraft due to residual fumes following previous chemical spill clean up.</td>
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<tr>
<th>ACN: 1374356 (30 of 50)</th>
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<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>A320 First Officer and a Flight Attendant described a passenger evacuation when a hydraulic leak turned into dense smoke and fumes in the cabin and cockpit during taxi out.</td>
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<thead>
<tr>
<th>ACN: 1374341 (31 of 50)</th>
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<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>A321 Flight Attendant reported a strange and strong chemical odor while deplaning. Subsequently the aircraft was taken out of service.</td>
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<tr>
<th>ACN: 1374340 (32 of 50)</th>
</tr>
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<tbody>
<tr>
<td><strong>Synopsis</strong></td>
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<tr>
<td>B737 Flight Attendant reported the crew and passengers were unknowingly exposed to pesticide spray in the form of a heavy fog when they boarded the aircraft.</td>
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<tr>
<th>ACN: 1374205 (33 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>The flight crew of an air cargo aircraft reported that after takeoff the cockpit filled with smoke accompanied by an acrid odor.</td>
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<thead>
<tr>
<th>ACN: 1374065 (34 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>A Heavy Transport carrier Captain reported a Cabin Smoke alert and pungent odor in the cockpit due to insecticide sprayed in the upper cargo deck.</td>
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<thead>
<tr>
<th>ACN: 1373670 (35 of 50)</th>
</tr>
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<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>EMB-145 Captain reported fumes and smoke in the cockpit due to a faulty air cycle machine. The crew diverted without incident.</td>
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<tr>
<th>ACN: 1373637 (36 of 50)</th>
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</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
</tbody>
</table>
B777 Captain reported a strange smell near door 3L prior to engine start and Maintenance evaluated with nothing identified. The smell returned several times during the flight, and when the odor returned as a burning smell, the flight diverted.

ACN: 1373530 (37 of 50)

Synopsis
PA28 instructor pilot reported an engine fire while trying to start the engine on a hot day. The fire occurred on the fourth attempted start and was put out with two halon bottles.

ACN: 1373428 (38 of 50)

Synopsis
CRJ-700 flight crew reported experiencing a #2 engine starter malfunction on the first flight of the day and returned to the gate. All subsequent #2 engine starts produced high Interstage Turbine Temperature. On the second takeoff the day, the #2 engine fire warning alerted at 2,000 feet climbing so the QRH was completed and the flight returned to the departure airport for an uneventful single engine landing.

ACN: 1372297 (39 of 50)

Synopsis
B777-200 Captain reported that during the climb fumes in the cabin were so extreme they had to return to the departure airport.

ACN: 1372295 (40 of 50)

Synopsis
B737-800 flight crew reported being informed by the lead Flight Attendant of an overheated battery charger. Fifteen minutes later he was informed that some of the flight attendants were experiencing headaches and nausea and the Captain elected to divert to a suitable airport.

ACN: 1372251 (41 of 50)

Synopsis
EMB190 Captain experienced a lavatory smoke EICAS at 500 feet AGL after takeoff and returned to the departure airport.

ACN: 1372124 (42 of 50)

Synopsis
Learjet 35 flight crew reported a right engine fire warning during initial climb. The crew shutdown the engine and returned to the departure airport.

ACN: 1371199 (43 of 50)
Synopsis
EMB-175 copilot reported a burning odor from a failed water compressor that caused the crew to divert.

ACN: 1370875 (44 of 50)

Synopsis
Air carrier flight crew was informed during descent that a cell phone had caught fire and was dropped in the aisle. Nearby passengers had poured drinks on the fire to extinguish it and the flight continued to destination.

ACN: 1370866 (45 of 50)

Synopsis
B737 flight crew reported rejecting the takeoff somewhere between 100 kts and V1 in response to commotion in the cabin related to a lithium battery fire. The brakes were damaged and fused after the reject procedure.

ACN: 1370557 (46 of 50)

Synopsis
A B777 Flight Attendant reported detecting a sweaty feet/old sock odor toward the flight's end and during taxi. The Captain held a post flight debrief and announced the crew considered a diversion because of a strong flight station odor. Someone mentioned an inflight APU failure.

ACN: 1369632 (47 of 50)

Synopsis
A320 Captain reported returning to the gate after shutting down the APU because of an APU exhaust fire.

ACN: 1369359 (48 of 50)

Synopsis
Hawker 800 flight crew reported heavy smoke in the cockpit and cabin shortly after takeoff. The flight returned to point of origin.

ACN: 1368992 (49 of 50)

Synopsis
Air carrier Flight Attendant reported smoke outside the aircraft after the cabin doors had been closed. This caused some worry in the cockpit and cabin until it was discovered that the smoke was coming from a belt loader.

ACN: 1368682 (50 of 50)
Synopsis
B737-800 flight crew reported diverting to an alternate airport after smoke in the cabin was traced to the inflight entertainment box below a passenger seat.
Report Narratives
**ACN: 1391875** (1 of 50)

**Time / Day**
- Date : 201609
- 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 : 12000

**Aircraft**
- Reference : X
- ATC / Advisory.CTAF : ZZZ
- Aircraft Operator : FBO
- Make Model Name : Skyhawk 172/Cutlass 172
- Crew Size.Number Of Crew : 1
- Operating Under FAR Part : Part 91
- Flight Plan : None
- Mission : Personal
- Flight Phase : Landing
- Route In Use : Visual Approach

**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 : 854
- Experience.Flight Crew.Last 90 Days : 75
- Experience.Flight Crew.Type : 49
- ASRS Report Number.Accession Number : 1391875
- Human Factors : Troubleshooting

**Events**
- Anomaly.Aircraft Equipment Problem : Critical
- Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
- Detector.Person : Flight Crew
When Detected: Taxi
Result.General: Evacuated
Result.Aircraft: Aircraft Damaged

Assessments
Contributing Factors / Situations: Aircraft
Primary Problem: Aircraft

Narrative: 1
Landed with all equipment appearing to operate normal. Immediately after landing I noticed a white smoke coming from the pilot's side window vent. I pulled off the runway at midfield taxiway. I immediately shut off all electrical equipment, battery master and alternator off, pulled fuel mixture to cutoff and removed the key. At that time the smoke was black and when I exited I noticed fire drip from beneath the console. Thanks to the immediate response of other pilots at their hangars near the taxiway and airport employees who brought fire extinguishers to put out the fire. Fire rescue was called and responded.

Unable to determine what caused the problem at this time. The aircraft just came out of a 100 hour inspection.

Synopsis
C172 pilot reported they had a fire shortly after landing. The pilot shutdown everything and exited the plane. Ground personnel helped extinguish the fire.
**Time / Day**
Date: 201609  
Local Time Of Day: 0601-1200

**Place**
Locale Reference.Airport: ZZZ.Airport  
State Reference: US  
Altitude.MSL.Single Value: 36000

**Environment**
Light: Daylight

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

**Component : 1**
Aircraft Component: Pneumatic Control Valves  
Aircraft Reference: X  
Problem: Malfunctioning

**Component : 2**
Aircraft Component: Pressurization System  
Aircraft Reference: X  
Problem: Malfunctioning

**Person**
Reference: 1  
Location Of Person.Aircraft: X  
Location In Aircraft: Flight Deck  
Reporter Organization: Air Carrier  
Function.Flight Crew: First Officer  
Function.Flight Crew: Pilot Flying  
Qualification.Flight Crew: Air Transport Pilot (ATP)  
Experience.Flight Crew.Last 90 Days: 135  
ASRS Report Number.Accession Number: 1391412

**Events**
Anomaly.Aircraft Equipment Problem: Less Severe  
Anomaly.Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments
Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1
Approaching top of descent about 150 NM from [destination] we had Bleed Trip light on the right number 2 engine. We were starting to proceed with QRH when Cabin Altitude Warning horn sounded. We donned our oxygen masks and established Crew communications. Cabin altitude was climbing rapidly and we started an emergency descent coordinated with ATC. I remained Pilot Flying with Captain concurrence, and I flew the aircraft while he coordinated with ATC, Flight Attendants and Checklists.

We [advised ATC] and proceeded to [destination]. Kept our speed up and landed without any issues. After landing we did notice the faint smell of something burning. Source was never determined; probably coming from hot oxygen generators in the cabin. Emergency Crews on ground gave us the all clear after an external inspection and we then proceeded to the gate.

Synopsis
B737 First Officer reported executing a rapid descent when they lost cabin pressure following the failure of #2 engine pneumatic bleed air.
**Time / Day**
Date: 201609
Local Time Of Day: 0601-1200

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

**Environment**
Flight Conditions: VMC
Light: Dusk

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

**Component**
Aircraft Component: Turbine Engine
Aircraft Reference: X
Problem: Failed

**Person : 1**
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1390739
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
Events

Anomaly. Aircraft Equipment Problem : Critical
Anomaly. Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Detector. Automation : Aircraft Other Automation
Detector. Person : Flight Crew
Detector. Person : Flight Attendant
When Detected : In-flight
Result. Flight Crew : Landed in Emergency Condition
Result. Flight Crew : Inflight Shutdown
Result. Flight Crew : Diverted
Result. Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

I was the pilot flying and just after V1 during rotation we heard a loud popping sound from the right side of the aircraft. Just after I observed the EPR roll back on engine 2 and ENG 2 EGT overlimit ECAM. I stated "I have control and ATC, ECAM actions", which said to reduce thrust under the limit. So we brought back thrust on # 2 engine. Maybe 20 sec after I spoke with the FA as the FO was continuing to get more ECAMS. The lead FA said that they have a fire and an explosion in the rear of the aircraft. I said I would call back in a few minutes. At that point I switched from CTAF to departure control and [advised them]. I believe I told him we are having engine 2 issues and the FA reported a fire on the right side of aircraft. I told him I want to divert to ZZZ. He ended up giving us vectors to runway XX after he offered YY. Runway XX was longer with an ILS. I believe I started the APU at this point. We also had some autoflight ECAMS. I called the FA back and asked her about the fire. She stated the FAs in the back had said there was fire but not currently sure. I said we would be landing in ZZZ in less the 5 min and we would be stopping on the runway to assess the situation about evacuating with regards to Fire Rescue. We ended up finally getting an ENG 2 shut down ECAM which we accomplished.

My biggest concern was to get the aircraft on the ground safely because of a possible fire. We landed shortly after on Runway XX and stopped on the runway. Fire rescue took a good amount of time to assess the aircraft. They stated to me that they thought engine 2 to be still running. I looked at the Eng 2 master and it was off so I pushed the ENG 2 fire push button to make sure. During the assessment of the aircraft I spoke to the passengers and FAs and told them at this time there was no visible fire but to please stay seated with seat belts on. A few min later with coordination with ZZZ tower we taxied to a remote area. We were then met with air stairs and busses took the passengers to the terminal. There were no injuries and the FAs did a great job of keeping the passengers calm during the short 10 minute flight.

Narrative: 2

ZZZ is a controlled airport, had great weather and the captain decided to divert. We climbed at around 3000 feet and with the runway in sight we started the approach to runway XX at ZZZ. Captain prepared the airplane to land with flaps 3 and medium brake. Captain touched down smoothly and stopped the airplane without any difficulties. After
landing firefighters checked the airplane on the runway to make sure there was no fire around the engine since passengers confirmed seeing fire to the flight attendants. After we received the clear from the fire crew, we exited the runway and parked in a remote area where passengers were disembarked. Nobody was injured.

Synopsis

A320 flight crew reported a #2 engine failure just after rotation and successful diversion to a nearby airport.
<table>
<thead>
<tr>
<th><strong>Person</strong> 1</th>
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<tr>
<td>Reference : 1</td>
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<tr>
<td>Location Of Person.Aircraft : X</td>
<td></td>
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<tr>
<td>Location In Aircraft : Flight Deck</td>
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<tr>
<td>Reporter Organization : Air Carrier</td>
<td></td>
</tr>
<tr>
<td>Function.Flight Crew : Pilot Not Flying</td>
<td></td>
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<tr>
<td>Function.Flight Crew : First Officer</td>
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<td>Qualification.Flight Crew : Air Transport Pilot (ATP)</td>
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<td>Reporter Organization : Air Carrier</td>
<td></td>
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<tr>
<td>Function.Flight Crew : Captain</td>
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<tr>
<td>Function.Flight Crew : Pilot Flying</td>
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<td>Qualification.Flight Crew : Air Transport Pilot (ATP)</td>
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Events
Anomaly: Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Detector: Person: Passenger
Detector: Person: Flight Attendant
When Detected: Taxi
When Detected: In-flight
Result: General: Maintenance Action
Result: Flight Crew: Diverted
Result: Flight Crew: Landed As Precaution

Assessments
Contributing Factors / Situations: Aircraft
Primary Problem: Aircraft

Narrative: 1
Shortly after leveling off at cruise altitude, the flight attendant in the rear of the aircraft called and spoke to the Captain. She stated that they smelled a strong electrical burning smell coming from under the floor at row 46, left side of the aircraft. She also said that she and two other flight attendants had heard a loud "shuddering" and noise coming from under the airplane shortly after pushback and shortly before takeoff. The Captain asked me to handle the radios as he went on the Satellite Phone to get a patch to maintenance control. Shortly thereafter, the flight attendants called again to say the smell was stronger, and that the passengers in 46 Rows DEF got out of their seats because of the smell. As the situation seemed to be worsening, the captain and I made the decision to [divert].

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

Synopsis
B777 flight crew reported diverting after receiving reports from the flight attendants of a strong electrical burning smell in the cabin.
**Time / Day**
Date: 201609
Local Time Of Day: 0601-1200

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

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

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

**Person: 1**
Reference: 1
Location Of Person: Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function: Flight Crew: Captain
Function: Flight Crew: Pilot Flying
Qualification: Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number: Accession Number: 1389799
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: 1389800
Human Factors: Troubleshooting

**Events**
Anomaly.Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Anomaly.Deviation - Procedural: Published Material / Policy
Anomaly.Deviation - Procedural: Maintenance
Detector.Person: Flight Crew
When Detected: In-flight
Result.Flight Crew: Returned To Gate
Result.Flight Crew: Rejected Takeoff

Assessments

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

Narrative: 1

We were cleared for takeoff and I (captain) called set thrust. Thrust was set by the FO and we began the takeoff roll. The FO’s air vent was open and at around 80 kts he noticed smoke and fumes coming from his gascar that was getting thicker. He called "abort" and I glanced over to his side, noticed the smoke, and performed the rejected takeoff procedure. I slowed the aircraft and taxied clear of the runway because there was another aircraft on short final that I wanted to make sure would not be a conflict and that he would go around.

After pulling off the runway we assessed the situation to see if an evacuation would be appropriate. The Flight Attendants stated that there was a hazy smoke in the cabin but that it was dissipating after clearing the runway. With no EICAS indications we referenced the QRH and assessed that the source was not present anymore and the haze and smoke was clearing the cabin. We told ATC we needed no assistance and asked to taxi back to the gate. We deplaned and called MX control.

Narrative: 2

Smoke in the cockpit lead to a rejected takeoff, later being told it was probably caused by engine wash solution remaining in the system. After engine wash the remaining solution residue is required to be burned off following the established maintenance procedure. Apparently the left engine had wash solution remaining, leading to the rejected take off. After returning to the gate, there was only 1 mechanic on shift, preventing maintenance from conducting the required procedure. At a maintenance base, where the majority of the work is conducted at night, there should still be 2 mechanics on shift during the day to expedite troubleshooting of multiple aircraft at a time, or to conduct complex maintenance procedures that require both maintainers.

[Suggest a] notification process for maintenance to notify pilots an engine wash that was recently conducted. Company providing basic info about possibility of occurrence after engine wash. Maintenance procedure modification to run the engines at takeoff power for 2 minutes with packs on max cold, in addition to the current procedure in place.

Synopsis

CRJ-900 flight crew reported experiencing fumes in the cockpit and cabin during initial takeoff. Crew executed a rejected takeoff and returned to the gate. There was no mechanical issue other than residual wash fluid in the engine.
Time / Day

Date: 201609
Local Time Of Day: 1801-2400

Place

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

Environment

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

Aircraft

Reference: X
ATC / Advisory. Tower: ZZZ
AirCraft Operator: Air Taxi
Make Model Name: Learjet 35
Crew Size. Number Of Crew: 2
Operating Under FAR Part: Part 135
Flight Plan: IFR
Mission: Passenger
Flight Phase: Takeoff
Airspace. Class D: ZZZ

Component

Manufacturer: Lear
Aircraft Reference: X
Problem: Malfunctioning

Person

Reference: 1
Location Of Person. Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Taxi
Function. Flight Crew: Captain
Function. Flight Crew: Pilot Flying
Qualification. Flight Crew: Multiengine
Qualification. Flight Crew: Air Transport Pilot (ATP)
Qualification. Flight Crew: Instrument
Experience. Flight Crew. Total: 15400
Experience. Flight Crew. Last 90 Days: 90
Experience. Flight Crew. Type: 7800
ASRS Report Number. Accession Number: 1389023
Human Factors: Troubleshooting
Human Factors: Time Pressure
Human Factors: Situational Awareness
Human Factors : Workload  
Analyst Callback : Completed

Events
Anomaly.Aircraft Equipment Problem : Critical  
Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Diverted  
Result.Flight Crew : Landed in Emergency Condition  
Result.Flight Crew : Returned To Departure Airport  
Result.Air Traffic Control : Issued New Clearance  
Result.Air Traffic Control : Provided Assistance

Assessments  
Contributing Factors / Situations : Aircraft  
Primary Problem : Aircraft

Narrative: 1  
We departed and upon rotation we heard a blowing sound similar to the cabin blowers except significantly louder. We had also noticed that extremely hot air was getting into the cabin. I glanced down at all the environmental controls and noticed that they were in their appropriate position. We advised ATC of our situation and leveled off around 5,000 feet momentarily to troubleshoot. At that point, we noticed what seemed like smoke in the cabin and cockpit. We [advised ATC of the situation] and decided it would be best to land back at [our departure airport]. I started to run through the associated checklist for smoke in the cockpit, but never got a chance to finish the checklist due to other cockpit activities that took priority and the flight itself was less than 10 minutes. We landed safely, and the crew and passengers exited the aircraft.

Callback: 1  
Pilot stated he did not complete the checklist as his priority was to land the aircraft safely. He stated two infants on board were crying and other passengers were also yelling and in an agitated state creating a greater sense of urgency.

Synopsis  
Learjet 35 Captain reported hearing an unusual sound and detected smoke in the cockpit and cabin. They returned to their departure airport.
ACN: 1389013 (7 of 50)

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

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

Environment
Flight Conditions: VMC
Weather Elements / Visibility: Visibility: 10
Light: Daylight
Ceiling: Single Value: 10000

Aircraft
Reference: X
Aircraft Operator: Personal
Make Model Name: PA-32 Cherokee Six/Lance/Saratoga/6X
Crew Size.Number Of Crew: 1
Operating Under FAR Part: Part 91
Flight Plan: VFR
Mission: Personal
Flight Phase: Parked

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

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Personal
Function.Flight Crew: Single Pilot
Qualification.Flight Crew: Private
Experience.Flight Crew.Total: 81
Experience.Flight Crew.Last 90 Days: 18
Experience.Flight Crew.Type: 17
ASRS Report Number.Accession Number: 1389013

Events
Anomaly.Aircraft Equipment Problem: Critical
Anomaly.Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Detector.Person: Flight Crew
When Detected: Pre-flight
Result.Aircraft: Aircraft Damaged
Assessments
Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1
Upon start-up of the engine, a backfire occurred that ignited the air filter causing a fire to break out in the upper left quadrant of the engine. A fire truck was dispatched by the nearby terminal and it was promptly extinguished. No injuries occurred. The cause of the backfire is unknown.

Synopsis
PA-32 pilot reported an engine fire resulted from a backfire while attempting an engine start.
Time / Day
Date: 201609
Local Time Of Day: 0601-1200

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

Environment
Light: Daylight

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

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

Person: 1
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days: 179
ASRS Report Number.Accession Number: 1388808

Person: 2
Reference: 2
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Pilot Not Flying
Function.Flight Crew: First Officer
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days: 193
Experience.Flight Crew.Type : 4000
ASRS Report Number.Accession Number : 1388809

Events
Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Ground Event / Encounter : Other / Unknown
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Ground Personnel
When Detected : Taxi
Result.General : Maintenance Action
Result.Flight Crew : Returned To Gate

Assessments
Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

On our originator, I noticed the aircraft had two recent logbook discrepancies due to fuel leaking during engine start. I made a mental note to review the procedure for motoring the engine in case we had a leak during start as well. I got a little behind during my flight preparation and the procedure review slipped my mind.

At pushback the number two engine started normally. During the number one engine start and soon after ignition, I noticed a very strong smell of fuel. As I looked outside at the Tug Driver (they were at an angle preparing to disconnect) I noticed the Ramp Agent riding on the tug yank the headset from the driver and inform us that we had a severe fuel leak on the number one engine. I asked how bad the leak was, and he said the engine was pumping fuel onto the ground and to look out my window. I noticed a pool of fuel on the ground that started out my window and continued toward the now running engine. With the strong smell of fuel, a very anxious Ramp Agent on the interphone and visual conformation of a fairly major fuel spill, I instructed the FO to abort the engine start. We accomplished the Aborted Engine Start Checklist and motored the engine.

We searched for the procedure for a fuel leak during engine start, and found that we were supposed to run the engine at idle instead of aborting the start and motoring it. The fuel that spilled onto the ground was big enough that I was uncomfortable attempting another start, but after contacting MX Control, we determined that another engine start was a reasonable course of action. As we were blocking the alleyway, ATC asked us to clear the alleyway for other traffic as we worked our issue. They also noticed the large fuel spill and called Airport Ops to check it out and after seeing the amount of fuel, they called the Fire Department. I estimated the leak to be at least 40 x 8 feet.

We towed the aircraft back to the gate to clear the area for ATC and attempted another engine start. On this attempt, the engine failed to ignite, so we aborted that start and coordinated with MX Control for contract MX to come check it out. I coordinated with MX Control on the proper write-up for the logbook. Since I did not accomplish the proper procedure during the original fuel leak (motored the engine versus idling it) they instructed me to write it up for the ignition issue versus the fuel leak for now and if it leaked again we would do the proper procedure and make the appropriate logbook entry at that time. Contract MX successfully attempted the number one engine start and signed
off the discrepancy. We flew the aircraft for two legs with no issues.

Prevention:
I don't recall seeing anywhere the allowable amount of fuel that could leak during a start. In my mind it would not have been anywhere near the amount of fuel that leaked during our start attempt. I think a note should be added to the procedure to better prepare the Flight deck Crew as to what they might expect to see. That would help us calm a panicked Ground Crew and also help us with our decision making. Also, I should have immediately stopped my Preflight Flow and reviewed the procedure since the aircraft had a history of fuel leaks during start issues. Had I been better prepared and done the procedure correctly, the leak may have stopped and been a non-issue."

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

Synopsis
B737-700 flight crew reported a severe fuel leak during engine start and aborted the start due to the large amount of fuel on the ground versus the correct procedure of idling the engine. Maintenance successfully started the engine and signed off the discrepancy.
ACN: 1385549 (9 of 50)

Time / Day
Date: 201609
Local Time Of Day: 1201-1800

Place
Locale Reference.Airport: EWR.Airport
State Reference: NJ
Altitude.AGL.Single Value: 0

Environment
Flight Conditions: VMC

Aircraft
Reference: X
Aircraft Operator: Air Carrier
Make Model Name: B737-900
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Parked

Component
Aircraft Component: Galley Furnishing
Aircraft Reference: X
Problem: Design

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Galley
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Total: 21674
Experience.Flight Crew.Last 90 Days: 240
Experience.Flight Crew.Type: 8927
ASRS Report Number.Accession Number: 1385549

Events
Anomaly.Aircraft Equipment Problem: Less Severe
When Detected: Aircraft In Service At Gate

Assessments
Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

**Narrative: 1**

During preflight the lead Flight Attendant asked me to file a report on a possible fire Hazard in our B737-900 aircraft. As he showed me, in the Forward Galley, there is a storage compartment located directly above [the] Coffee Maker. When [the] Coffee Maker is in use the heat rises and warms Storage Compartment up to the point that the items in Storage Compartment get hot. The lead Flight Attendant demonstrated this to me and showed me how hot the paper towels being stored in the Storage Compartment had gotten from the aircraft's previous leg when Coffee Maker had been in use. He tells me this happens all the time and although he has not thankfully had a fire he has experienced melting plastic trash bags and burning smells as a result of this issue. He states that because of the rising heat from Coffee Maker, the Storage Compartment above should NOT be utilized for storage, especially for paper or plastic items. Although not an expert, I tend to agree with him.

**Synopsis**

B737-900 Captain was asked by the lead Flight Attendant to file a report on the possible overheating of flammable items stored in the compartment above the coffee maker. After being shown how hot it was from the previous flight the Captain agreed.
ACN: 1385414 (10 of 50)

**Time / Day**

Date: 201609  
Local Time Of Day: 0601-1200

**Place**

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

**Environment**

Flight Conditions: VMC  
Light: Daylight

**Aircraft**

Reference: X  
ATC / Advisory: Tower: ZZZZ  
Aircraft Operator: Air Carrier  
Make Model Name: MD-11  
Crew Size.Number Of Crew: 4  
Operating Under FAR Part: Part 121  
Flight Plan: IFR  
Mission: Cargo / Freight  
Nav In Use: FMS Or FMC  
Flight Phase: Landing

**Component**

Aircraft Component: Fire/Overheat Warning  
Aircraft Reference: X  
Problem: Malfunctioning

**Person : 1**

Reference: 1  
Location Of Person.Aircraft: X  
Location In Aircraft: Flight Deck  
Reporter Organization: Air Carrier  
Function.Flight Crew: First Officer  
Function.Flight Crew: Pilot Not Flying  
Qualification.Flight Crew: Instrument  
Qualification.Flight Crew: Air Transport Pilot (ATP)  
Qualification.Flight Crew: Flight Instructor  
Qualification.Flight Crew: Multiengine  
Experience.Flight Crew.Total: 3270  
Experience.Flight Crew.Last 90 Days: 103  
Experience.Flight Crew.Type: 103  
ASRS Report Number.Accession Number: 1385414  
Human Factors: Workload  
Human Factors: Time Pressure  
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 : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 10000
Experience.Flight Crew.Last 90 Days : 35
Experience.Flight Crew.Type : 460
ASRS Report Number.Accession Number : 1385318
Human Factors : Workload
Human Factors : Situational Awareness
Human Factors : Confusion
Human Factors : Distraction

Person : 3
Reference : 3
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Relief Pilot
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 5200
Experience.Flight Crew.Last 90 Days : 117
Experience.Flight Crew.Type : 350
ASRS Report Number.Accession Number : 1385304
Human Factors : Situational Awareness
Human Factors : Distraction

Person : 4
Reference : 4
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Relief Pilot
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 4000
Experience.Flight Crew.Last 90 Days : 65
Experience.Flight Crew.Type : 220
ASRS Report Number.Accession Number : 1385314
Human Factors : Situational Awareness
Human Factors : Distraction

Events
Heavy crew flight. 3 First Officers (FO). 1 Captain. 1 Mechanic. 1 Loadmaster. I was FO sitting in seat 2 acting as Second In Command with the duty of Pilot Monitoring. After the Captain touched down on ILS runway 35, we received an "Engine 1 Fire" Aural Warning with tri-tone and red illuminated Engine 1 fuel switch. Using all the standard callouts and procedures we brought the aircraft to a controlled stop at the end of the runway. At 60 knots IAS I called 60 knots, the aircraft was no longer decelerating, I quickly called 60 knots two more times. The Captain reengaged all three thrust reversers to max. I assisted with the braking. The airplane came to rest in the overrun area of the runway on extended centerline. The nose wheel came to rest on a paved area at the end of the runway. At no point did the aircraft leave a paved surface. The captain called for the memory item and "Engine Fire or Severe Damage" QRH checklist. I performed the checklist items as per the QRH and secured the engine. The "Engine 1 Fire" aural warning and tri-tone continued indefinitely. Meanwhile the Captain [advised] the tower and requested firefighting equipment. The 4th seat FO opened the L1 door to check for smoke or fire, he reported to us none was witnessed. The fire department arrived in minutes and confirmed there was no fire. The mechanic exited through the cockpit floor/nose gear and verified the aircraft was not damaged. The 3rd Seat FO called the tower for a tug. The airport authority arrived with air stairs and two military tow trucks. There was coordination between the military and the airport authority. The military pulled the aircraft back to abeam the beginning of the turning pad. At this point we were given clearance to start engines, complete the 180 deg turn and taxied to the ramp under our on power.

Narrative: 2

Landing [we] had an engine fire warning on the number 1 engine. [Advised ATC and] went through the memory items and QRH. Runway was wet and overran the runway but remained on the pavement was towed back to a hammer head turn around and taxi in.

Narrative: 3

On landing we received a number one engine fire warning, the Captain and FO did a control stop on the runway, and because of the emergency the aircraft came to a stop on the overrun at the end of the runway. After we came to a stop the Captain [advised ATC] to have the fire trucks rolled. The Captain and FO ran through the QRH and blew both of the fire bottles into engine number one. We were still getting the fire alert so I opened the L1 door to verify if we had a fire to initiate emergency evacuation if there was a in fact a
fire in the number 1 engine. We verified that it was a faulty alert. At that time we shut the aircraft down to await a tug to be able to push us back so we could be either tugged or taxi the aircraft back to the ramp.

**Narrative: 4**

[Report narrative contained no additional information.]

**Synopsis**

MD-11 flight crew reported landing at a foreign airport and during the landing roll, engine one fire warning alerted. The aircraft rolled into the runway overrun where the fire warning continued after all QRH procedures and two fire bottles were applied. A fire detection system fault was discovered.
ACN: 1384918  (11 of 50)

**Time / Day**
- Date: 201609
- Local Time Of Day: 0001-0600

**Place**
- Locale Reference: Airport: ZZZ.Airport
- State Reference: US
- Altitude.MSL.Single Value: 11000

**Environment**
- Flight Conditions: VMC

**Aircraft**
- Reference: X
- ATC / Advisory: TRACON: ZZZ
- Aircraft Operator: Air Carrier
- Make Model Name: A319
- Crew Size.Number Of Crew: 2
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Mission: Passenger
- Nav In Use: FMS Or FMC
- Flight Phase: Descent
- Airspace.Class E: 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: Captain
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number.Accession Number: 1384918
- Human Factors: Distraction
- Human Factors: Situational Awareness
- Human Factors: Workload

**Events**
- Anomaly.Aircraft Equipment Problem: Less Severe
- Anomaly.Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
- Anomaly.Deviation - Speed: All Types
- Anomaly.Deviation - Procedural: FAR
- Detector.Person: Flight Attendant
- Detector.Person: Flight Crew
- When Detected: In-flight
- Result.Flight Crew: Became Reoriented

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

Narrative: 1

["Dirty sock" fumes were] initially identified in cabin and then cockpit. Turned off Pack 2 and did not improve air quality as reported by the cabin crew. Turned off all packs and bleeds and opened ram air. Event was first discovered at about 11,000 feet descending. Had emergency oxygen masks on until the gate and then opened cockpit windows.

Also at about 9,700 we were at about 275 knots as the First Officer selected speed. Immediately I adjusted the speed to 250 knots and ensured we were back to the best normal operating we could be under the circumstances. This happened due to the fume event. The speed was missed for a short time by me as I was occupied conducting checklists and removing the toxic fumes from the cockpit and cabin.

It is worth noting that after the flight the Flight Attendants told me that they had smelled the dirty sock smell at the gate in [departure airport] and they had told the gate agents "who did not care" when informed. The fumes must have subsided as no one told the cockpit crew any of this until the flight was over in ZZZ.

More cockpit training is needed to identify and handle fume events. Proactive maintenance is desperately needed because reactive does not help a crew and passengers that have already been exposed to the fumes.

Synopsis

A319 Captain reported "dirty sock" fumes in the aircraft.
ACN: 1384079 (12 of 50)

Time / Day
Date: 201608
Local Time Of Day: 1201-1800

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

Environment
Light: Daylight

Aircraft
Reference: X
Aircraft Operator: Air Carrier
Make Model Name: Regional Jet 200 ER/LR (CRJ200)
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Parked

Component
Aircraft Component: Engine Air Starter
Aircraft Reference: X
Problem: Improperly Operated
Problem: Malfunctioning

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: First Officer
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1384079

Events
Anomaly.Aircraft Equipment Problem: Critical
Anomaly.Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Anomaly.Deviation - Procedural: Published Material / Policy
Detector.Person: Flight Crew
When Detected: Aircraft In Service At Gate
Result.General: Maintenance Action
Result.Aircraft: Aircraft Damaged

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

Narrative: 1

When the captain and I arrived at the airplane, the airplane was in maintenance. The airplane had 2 write-ups that were written by the previous crew. To the best of my knowledge, the first write-up was for the left engine had a slow N2 rotation and had no starter cut out. The second write-up was for the cockpit emergency escape hatch making a squealing noise on climb out. Maintenance personnel arrived at the airplane. I (First Officer) observed maintenance personnel ask the captain if he could start the left engine for them. The captain agreed to start the left engine. After the maintenance personnel gave the okay to start the left engine, the captain initiated the start. At this point I (First Officer) observed all indications were normal. At the appropriate starting limits, the captain advanced the thrust levers from shut off to idle. The engine light off appeared to be slower than normal, approaching the starter limit N2 was approximately 55% or above, and it appeared the starter was not going to cut out. From my observations, the captain was going to select the stop button on the starter, and inadvertently selected the start for the number 2 engine. I (First Officer) said to the captain no, you want to hit the starter stop button on the number 1 engine just as there was a loud noise coming from outside the airplane. This happened within seconds, and in my opinion I do not think the captain heard me because of the loud noise from outside the airplane. At that point, I observed the fire warning switch and warning bell going off. I (First Officer) selected both starters to stop once I heard the fire warning switch and warning bell. The captain and I started running the immediate action checklist for engine fire or severe damage on ground and then we ran the appropriate QRH checklist.

Synopsis

CRJ200 First Officer reported that the Captain was asked by Maintenance to start the left engine to assess a write up for slow N2 rotation and no starter cut out during start. When the Captain attempted to terminate the left start, he activated the right starter. The First Officer terminated both starters, but not before the left starter disintegrated causing a fire warning.
ACN: 1383133 (13 of 50)

Time / Day
Date: 201608
Local Time Of Day: 1201-1800

Place
Locale Reference.Airport: ZZZ.Airport
State Reference: US
Altitude.MSL.Single Value: 36000

Environment
Flight Conditions: IMC
Weather Elements / Visibility: Thunderstorm

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

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

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Pilot Flying
Function.Flight Crew: First Officer
Experience.Flight Crew.Last 90 Days: 150
Experience.Flight Crew.Type: 1059
ASRS Report Number.Accession Number: 1383133

Events
Anomaly.Aircraft Equipment Problem: Less Severe
Anomaly.Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Anomaly.Inflight Event / Encounter: Weather / Turbulence
Detector.Person: Flight Crew
Detector.Person: Flight Attendant
When Detected: In-flight
Result. General: Maintenance Action
Result. Flight Crew: Diverted
Result. Flight Crew: Landed As Precaution

Assessments
Contributing Factors / Situations: Aircraft
Primary Problem: Aircraft

Narrative: 1
Cruise flight deviations for weather and trying to top weather number one engine rolled back two times briefly. One brief ECAM, engine fail stall, then cleared without pilot action. Requested lower altitude [FL320] and assistance from ATC with weather deviations. We discussed the indications and options. We determined that this was not an indication issue and requested divert to nearest suitable. The flight attendant in the aft cabin called and reported smell of smoke. We [advised ATC]. No ECAMS or smell of smoke present on the flight deck. Clear of the weather we reviewed smoke and engine failure QRH while proceeding to [alternate]. Later, the flight attendants reported they no longer smelled smoke, and that they had smelled smoke on takeoff but also had gone away. Number one engine continued to be stable [and] no other smell of smoke. [After landing] Maintenance found bite stator valve failure.

Synopsis
A320 First Officer reported diverting to an alternate airport after experiencing several engine rollbacks along with a smoke odor in the cabin.
Time / Day
Date: 201608
Local Time Of Day: 1201-1800

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

Environment
Flight Conditions: VMC
Weather Elements / Visibility.Visibility: 10
Light: Daylight
Ceiling.Single Value: 10000

Aircraft
Reference: X
ATC / Advisory.Tower: ZZZ
Aircraft Operator: Corporate
Make Model Name: Gulfstream IV / G350 / G450
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 91
Flight Plan: IFR
Mission: Ferry
Flight Phase: Climb
Airspace.Class D: ZZZ

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Corporate
Function.Flight Crew: Captain
Qualification.Flight Crew: Flight Engineer
Qualification.Flight Crew: Air Transport Pilot (ATP)
Qualification.Flight Crew: Flight Instructor
Qualification.Flight Crew: Multiengine
Experience.Flight Crew.Total: 5500
Experience.Flight Crew.Last 90 Days: 100
Experience.Flight Crew.Type: 1500
ASRS Report Number.Accession Number: 1382483
Human Factors: Situational Awareness

Events
Anomaly.Aircraft Equipment Problem: Less Severe
Anomaly.Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Detector.Person: Air Traffic Control
When Detected: In-flight
Result.General: Maintenance Action
Aircraft had just been prepped for a ferry flight by Maintenance for a leak in the right main gear actuator. The mechanics followed the authorized procedure, the FAA issued a ferry permit and the aircraft was released to fly to ZZZ for additional repairs. The preflight and taxi were uneventful and no abnormalities were noted. After rotation on climb out, approximately 400-600 feet tower communicated that there appeared to be an excessive venting of fluid from the left side of the aircraft. There were no associated cautions or warning indications and all systems pressures, qualities and temperatures appeared normal. The aircraft [commander] relayed back that everything appeared normal and asked if we were still venting? Tower replied yes and said that it now appeared to be smoke and liquid billowing from the left engine and left side of the aircraft. Tower then queried our intentions. The aircraft was now leveling at 3000 feet per the SID. There were no abnormal indications however because the crew was unable to isolate the cause of the reported smoke and venting fluid elected to do an air return to further investigate instead of proceeding to destination. The crew communicated that we would return to land. The aircraft made left traffic for runway 34. The aircraft landed without incident and there were no abnormal indications or failure of any system. After a thorough postflight, the crew was unable to determine the cause of smoke or fluid, everything appeared to be normal. The [safety] team was notified and the repairs for the right main landing gear actuator and investigation into the cause of tower's observation of smoke and fluid coordinated.

Synopsis

GIV Captain reported being informed by Tower after takeoff that there appeared to be an excessive venting of fluid from the left side of the aircraft. The aircraft was being ferried to repair a leaking right main gear actuator. No anomalies could be detected in the cockpit, but the Captain elected to return to the departure airport.
ACN: 1382285 (15 of 50)

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

Place
Locale Reference.Airport: ZZZ.Airport
State Reference: US
Altitude.MSL.Single Value: 9000

Environment
Flight Conditions: VMC

Aircraft
Reference: X
ATC / Advisory.TRACON: ZZZ
Aircraft Operator: Air Carrier
Make Model Name: B737 Next Generation Undifferentiated
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Nav In Use: FMS Or FMC
Flight Phase: Descent
Airspace.Class B: ZZZ

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Type: 881
ASRS Report Number.Accession Number: 1382285

Events
Anomaly.Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Detector.Person: Passenger
When Detected: In-flight
Result.Flight Crew: Diverted
Result.Flight Crew: Landed As Precaution

Assessments
Contributing Factors / Situations: Aircraft
Primary Problem: Aircraft

Narrative: 1
On descent between 8000 and 10000 feet we were notified of a strong caustic chemical smell between rows 9 and 10. It was causing distress to passengers in those rows with some complaining of burning eyes and throats. We [advised ATC] to get priority handling [to an alternate] which was less than 10 min away and [the] closest airport. After landing we were informed that the smell had somewhat dissipated. Airport Rescue and Fire Fighting (ARFF) crews met the aircraft and we had them check the cargo compartment since some passengers had complained of a burning smell in the back. No indications at all on flight deck. After being parked for a few minutes the smell came back much stronger and throughout the cabin and up to cockpit. ARFF had closed the cargo and [we] were clear so we opted to move onto our gate to get passengers off as quickly as possible.

**Synopsis**

B737NG Captain reported diverting to an alternate airport after passengers complained of a "strong caustic chemical smell".
ACN: 1380984 (16 of 50)

Time / Day

Date: 201607
Local Time Of Day: 0601-1200

Place

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

Environment

Light: Daylight
Ceiling: CLR

Aircraft

Reference: X
Aircraft Operator: Air Carrier
Make Model Name: A321
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Parked
Cabin Lighting: High
Number Of Seats.Number: 187
Passengers On Board.Number: 25
Crew Size Flight Attendant.Number Of Crew: 4

Component

Aircraft Component: Air Conditioning Distribution System
Aircraft Reference: X
Problem: Malfunctioning

Person

Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: General Seating Area
Cabin Activity: Boarding
Reporter Organization: Air Carrier
Qualification.Flight Attendant: Current
Experience.Flight Attendant.Total: 20
Experience.Flight Attendant.Airline Total: 20
Experience.Flight Attendant.Type: 98
ASRS Report Number.Accession Number: 1380984
Human Factors: Physiological - Other
Human Factors: Time Pressure
Human Factors: Workload
Human Factors: Distraction
Events
Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Flight Deck / Cabin / Aircraft Event : Illness
Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Detector.Person : Flight Crew
Detector.Person : Flight Attendant
Were Passengers Involved In Event : Y
When Detected : Aircraft In Service At Gate
Result.General : Flight Cancelled / Delayed
Result.General : Maintenance Action
Result.General : Physical Injury / Incapacitation
Result.General : Release Refused / Aircraft Not Accepted
Result.Flight Crew : Took Evasive Action

Assessments
Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1
Upon entering aircraft, the entire cabin crew and flight deck crew smelled a mixture of pungent odors of fuel, fish, and kerosene/paint thinner. The crew assumed it was an outside odor that would dissipate since the rear door and forward doors were open. Within 10 minutes of the boarding process, many first class customers complained of either a headache or nausea symptoms from the odors. In addition, a few of the customers seated in the rear of the aircraft and all four cabin crew members also began feeling symptoms of headaches, nausea, and throat dryness. Once the Captain was notified of all complaints, he immediately asked for the gate agents to deplane all onboard customers and crew members.

Paramedics examined one crew member and believed the crew had no significant illness emergency treatment. However, the cabin crew was taken to a facility for baseline blood and pulmonary testing. The cabin crew was later released approximately two hours later with no further treatments. Aircraft maintenance personnel tested the air packs of the airplane, determining that no outside fumes or odors were the result of the cause. It was determined that the odors and or fumes were coming from the air vents inside the aircraft. The plane was grounded and taken to the hangar for further review and the flight was canceled. No information of the customers who had complained of the same symptoms as the crew were publicized or addressed.

Synopsis
A321 Flight Attendant reported that before, during, and after boarding, everyone on board the aircraft complained of a pungent fuel, fish, and kerosene/paint thinner odor. The crew and passengers were taken off the aircraft which was moved to the hangar. Medical tests found no apparent ill effects.
Time / Day
Date: 201608
Local Time Of Day: 0601-1200

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

Environment
Flight Conditions: VMC
Light: Daylight

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

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

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

Person: 2
Reference: 2
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: First Officer
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Type: 397
ASRS Report Number.Accession Number: 1370764
Human Factors: Troubleshooting
Human Factors: Workload
Analyst Callback: Attempted

Events
Anomaly.Aircraft Equipment Problem: Critical
Anomaly.Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Detector.Person: Flight Attendant
Detector.Person: Flight Crew
When Detected: In-flight
Result.Flight Crew: Diverted
Result.Flight Crew: Landed in Emergency Condition
Result.Flight Crew: Requested ATC Assistance / Clarification
Result.Flight Crew: Took Evasive Action
Result.Air Traffic Control: Provided Assistance

Assessments
Contributing Factors / Situations: Aircraft
Primary Problem: Aircraft

Narrative: 1

Total event time approximately 15-18 minutes.

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

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

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

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

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

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

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

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

We then taxied into a ramp position and evacuation was kept on hold, but flight attendants were advised that at any time they saw the need to evacuate to do so, engines were off and only APU with electric no PACKS on. It took some effort and time to get an RJ airstair, but it would not safely allow for deplaning, so I requested we be towed to the jet bridge suitable for our airplane. We were towed, jet bridge brought up and all passengers were deplaned safely. We secured the aircraft, I spoke with local Police and emergency personnel, Dispatch, Maintenance (filled a smoke report), Assistant Chief Pilot, discussed
The crew I had, First Officer and flight attendants, on this particular event was nothing short of professional and executed their safety items in a very effective manner in spite of the many challenges and time constraint, their experience and CRM training was evident (First Officer, although a new hire, certainly used his prior experience in this event). We confirmed that the passengers were safe in the terminal, offering them all available food/drinks from the airplane and once we were told that a rescue jet would be landing shortly to get them safely to [the intended destination] we went to get rest at a hotel.

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

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

Narrative: 2

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

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

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

Synopsis

The flight crew of an A320 reported, during climb the First Officer's eyes became irritated then a floor vibration developed, then the cockpit and cabin filled with sulfur smelling smoke. A diversion was made to the nearest suitable airport. An air conditioning system fault was suspected.
Time / Day
Date : 201608

Place
Altitude.MSL.Single Value : 38000

Environment
Flight Conditions : VMC

Aircraft
Reference : X
Aircraft Operator : Air Carrier
Make Model Name : B777 Undifferentiated or Other Model
Crew Size.Number Of Crew : 3
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Flight Phase : Cruise
Route In Use : Oceanic

Component
Aircraft Component : Toilet Furnishing
Aircraft Reference : X
Problem : Malfunctioning

Person : 1
Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 10177
Experience.Flight Crew.Last 90 Days : 200
Experience.Flight Crew.Type : 5808
ASRS Report Number.Accession Number : 1380767
Human Factors : Distraction
Human Factors : Physiological - Other
Human Factors : Troubleshooting
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 Not Flying
Qualification: Flight Crew : Air Transport Pilot (ATP)
Experience: Flight Crew. Total : 5382
Experience: Flight Crew. Last 90 Days : 200
Experience: Flight Crew. Type : 587
ASRS Report Number. Accession Number : 1380760
Human Factors: Distraction
Human Factors: Physiological - Other
Human Factors: Troubleshooting
Human Factors: Confusion

Events
Anomaly: Aircraft Equipment Problem : Less Severe
Anomaly: Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Detector: Person : Flight Attendant
When Detected : In-flight
Result: Flight Crew : Diverted
Result: Flight Crew : Landed As Precaution
Result: Flight Crew : Requested ATC Assistance / Clarification
Result: Air Traffic Control : Issued New Clearance

Assessments
Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1
Shortly after entering NAT V, one of our first class Flight Attendants (FA) called the cockpit to notify us of strong fumes emanating from Lavatory 101 (First Class inboard lav) directly behind the cockpit. I stepped back (using SOP security protocols) to investigate and immediately smelled a strong chemical odor which I could not identify. It was a cross between iodine, chlorine and some kind of disinfectant. In a matter of 1 minute, I had a sore throat and headache. I immediately returned to the cockpit, donned O2 mask, and asked the Purser to see if the fumes were anywhere else in the cabin. Specifically checked every other lav on the aircraft, with no trace of the odor. The odor was localized to Lav 101, with occasional whiffs finding their way into the cockpit. Contacted Dispatch and [Maintenance], and followed all suggestions and recommendation, but odor did not diminish.

I discussed the problem and options with the Pilot Flying and IRO, and sent IRO back to further investigate. He returned in about 5 minutes and reported feeling very nauseous. At this point I made the determination to divert, because there was not enough O2 to continue to destination, the source and nature of the noxious fumes was unknown, and we already had some negative physiological effects.

Put entire crew on O2 and diverted to the south off NAT V following all SOPs (altitudes, exterior lights, transmitting in blind, etc.). IRO initially had difficulty communicating with ATC to coordinate clearance to ZZZZ. Descended to FL300, picked up IFR clearance to ZZZZ, used Diversion Checklist and landed uneventfully at ZZZZ. Crew O2 was 1760 PSI at preflight, 470 PSI on landing.

ATC (and Customs when they came aboard the aircraft several hours after landing) told us
that [police] had been alerted that we were diverting because there was a suspect item on board, but we had not reported any such issue.

Contract maintenance checked Lav 101 thoroughly, and could not find the source of the fumes (which also affected the maintenance technician.) We washed down the lav top to bottom, including inside all cabinets and behind all doors and panels. The odor was almost gone, and was not emanating as before. Discussed with Dispatch and [Maintenance], and opted to return to [the departure airport]. Did so uneventfully. AMT that came on board could smell slight traces of the fumes after aircraft was deplaned, but could not identify what they were.

Also of interest was the presence of two punctured holes in the forward wall of Lav 101. I do not know whether they were present before departure, but in retrospect, I wonder if (however unlikely) this incident might have a security component to it, in terms of bringing a small amount of a volatile compound on board, breaching the cockpit wall, and incapacitating the pilots with the fumes.

**Narrative: 2**

[Report narrative contained no additional information.]

**Synopsis**

While flying in Oceanic airspace, a Boeing 777 flight crew was made aware of a strong chemical odor coming from one of the forward lavatories. As the source of the odor could not be readily determined the crew elected to leave the Oceanic track and divert to a suitable airfield.
ACN: 1379401

Time / Day
Date: 201608
Local Time Of Day: 1201-1800

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

Environment
Flight Conditions: VMC
Work Environment Factor: Temperature - Extreme
Light: Daylight

Aircraft
Reference: X
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: Personal
Flight Phase: Parked

Component
Aircraft Component: Engine Electric Starter
Aircraft Reference: X
Problem: Improperly Operated

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
Experience.Flight Crew.Total: 460
Experience.Flight Crew.Last 90 Days: 12
Experience.Flight Crew.Type: 120
ASRS Report Number.Accession Number: 1379401

Events
Anomaly.Aircraft Equipment Problem: Less Severe
Anomaly.Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Detector.Person: Flight Crew
When Detected: Pre-flight
Result.General: Maintenance Action
Result. Flight Crew: Overcame Equipment Problem
Result. Flight Crew: Took Evasive Action
Result. Aircraft: Aircraft Damaged

Assessments

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

Narrative: 1

After second flight of day (total of 2.9 hours) with OAT of approximately 35 degrees C, attempted start using normal procedures, suspecting that "hot" start might be required. Using normal checklist procedures, after approximately 10-15 seconds of cranking, there was no indication of start at all. Discontinued normal start, and waited approximately 30 seconds. I sniffed to see if there were any indication of fuel/flooding, but detected none from service window. Attempted "hot start" as I had been instructed by owner/maintenance personnel to be done in such circumstances: full throttle, fuel pumps off, mixture to idle. Engine had indication of start after approximately 5-10 seconds, so I advanced mixture, but engine did not "catch" and continue. After a total starter engagement of approximately 15-20 seconds, I discontinued the start.

I shut down all switches, including master switches, and began a 5 minute waiting period due to temperature outside and to protect starter motor. After approximately 20-30 seconds, I saw black smoke coming from passenger side cowling. I removed fire extinguisher, went to passenger side cowling and opened it, seeing a "small cantaloupe" sized flame ball more on the port side under the engine. I went to port side and opened cowling, spraying extinguisher three different times into bay area and flames all subsided. I called [the FBO] immediately thereafter, sending photos of damage and answering questions. I subsequently returned home via rental car, leaving aircraft at FBO since [the aircraft's FBO] was sending mechanic up the following morning to repair. This aircraft has had similar starting problems in the past, including an incident last fall to which I was witness/participant, following almost exactly the same scenario, resulting in extinguisher needed and fire damage to engine and cowling.

Synopsis

PA-28 pilot reported that he was unable to start the aircraft after multiple tries. While waiting for the starter to cool down he noticed smoke coming from the cowling and extinguished the fire. The plane had previously experienced a similar problem.
ACN: 1379278 (20 of 50)

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

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

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

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

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

**Person**
Reference: 1
Location Of Person. Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function. Flight Crew: First Officer
Function. Flight Crew: Pilot Not Flying
Qualification. Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number. Accession Number: 1379278
Human Factors: Distraction
Human Factors: Situational Awareness
Human Factors: Workload

**Events**
Anomaly. Aircraft Equipment Problem: Critical
Anomaly. Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Anomaly. Deviation - Procedural: Published Material / Policy
Aircraft departed on time. Weather was VFR 3 knot winds out of the southwest. We taxied out to runway 23 for departure. All aircraft indications were normal and in the green.

We were cleared for takeoff. The Captain called set thrust. Thrust was set and everything appeared normal on the gauges. I noticed a noise I have not heard before but I thought it might be noise from the runway or possibly bearings in the nose wheel. As the speed increased I glanced down at the N2 vibe and noticed that it was higher than it had been on previous legs but it was not indicating in the yellow arc. The indications were still in the normal range. My eyes darted up to the EICAS and noticed it had unboxed and R FADEC FAULT 2 was now posted but it was after 80kts and it is a white advisory message. Because I was scanning carefully to see if I could determine the source of the noise, I missed my 80kts call and the captain said 80kts as I was saying 100kts. V1 and VR were about 134kts.

After we rotated and were climbing out initially, the noise became a rumble the Captain asked if I heard that noise. I said yes. We looked at the instruments. The N2 vibe was now in the yellow arc and climbing slowly. I think it had been only 2 or 3 seconds after rotation and I had just put the gear up. We continued climbing. I said "we need to shut the engine down." About that time we got a SMOKE AFT LAV message and a flight attendant call. The Captain told me to answer the call. The flight attendant reported smoke in the cabin. I told her we were returning to the airport immediately.

I started to run the SMOKE AFT LAV checklist and noticed the engine vibe was very high and the ITT on the right engine had just turned red. The Captain instructed me to run the Engine Fire/Severe Engine damage checklist. The Captain pulled the right engine back to idle. I pulled out the immediate action items card and we shut down the right engine. We followed the QRH procedure which concluded with the Single Engine Procedures checklist. We planned to land overweight.

As I was reading the checklist the Captain received vectors back to the airport to land on Runway 5. The Captain notified the flight attendants that it would be a normal landing. We touched down in the beginning of the touchdown zone and exited the runway before the end. As we taxied to the gate, the firetrucks followed and didn't see any outward indications of a fire.
When we parked, the firemen came onboard and checked the AFT LAV for fire indications. No fire indications were found. The Captain spoke with them and they departed. We deplaned and I conducted a post flight walk around. I saw no outward indications of a fire, no indications of a bird strike or any other abnormality. The threats during the event were SMOKE AFT LAV, smoke reported in the cabin and possible severe engine damage. I missed the 80kts call because I was trying to figure out where the strange noise was coming from. I was really thinking it must be the runway surface. I see the N2 vibration all the time so that didn’t concern me much. The R FADEC FAULT 2 advisory started a concern in the back of my mind, but we were already past 80kts when it came to my attention. The R FADEC FAULT 2 is a white advisory message.

**Synopsis**

A CRJ-700 engine was shut down shortly after takeoff because of a high engine vibration and the cabin smoke.
Time / Day
Date: 201608
Local Time Of Day: 0601-1200

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

Environment
Light: Daylight

Aircraft
Reference: X
ATC / Advisory.Tower: ZZZ
Aircraft Operator: Air Carrier
Make Model Name: Regional Jet 700 ER/LR (CRJ700)
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Final 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: Captain
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1379006
Human Factors: Situational Awareness
Human Factors: Time Pressure

Person : 2
Reference: 2
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: First Officer
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1379007

Events
Anomaly. Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Detector. Person : Flight Attendant
When Detected : In-flight
Result. General : Evacuated

Assessments
Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1
Event started on short final in the landing phase. Roughly 1,000 feet. FA called up emergency light/chimes. Stated visible smoke/fumes mid cabin. I was pilot flying, (no EICAS messages observed) FO asked if the smoke was building and if they'd recommend an evacuation. Both FAs answered yes. We [advised] tower and landed. We exited the runway and ran the evacuation checklist. Passengers were deplaned using the main cabin door stairs. Passengers were bussed back to the terminal, no reported injuries.

After the fire department/ops/ground crews were done they allowed us back on to get our gear and gather our belongings. They wanted us to ride in the airplane back to the gate so that we could release the brake so they could tow the airplane in. Climbing back into the airplane I saw the emergency lights were still on. I turned those off and saw the fire bottle lights on the glare shield were illuminated. I believe, in my haste to reset the aircraft/remove lights, I must have pushed the discharge buttons instead of releasing the fire-push switch lights. Maintenance had notified me the bottles were discharged.

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

Synopsis
CRJ-700 flight crew reported smoke in the cabin on short final resulted in an evacuation on the taxiway via the main cabin door stairs.
ACN: 1378941 (22 of 50)

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

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

Environment
Flight Conditions: VMC
Light: Daylight

Aircraft
Reference: X
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: Parked

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

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)
Experience.Flight Crew.Total: 26326
Experience.Flight Crew.Last 90 Days: 105
Experience.Flight Crew.Type: 465
ASRS Report Number.Accession Number: 1378941
Human Factors: Communication Breakdown
Human Factors: Troubleshooting
Human Factors: Training / Qualification
Communication Breakdown.Party1: Flight Crew
Communication Breakdown.Party2: Ground Personnel

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

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

Narrative: 1
After leaving the flight planning area and arriving at the aircraft, we observed that fueling was under way. Approximately 52K Short of our planned gate fuel, we noticed that fueling stopped. A short time later the fueler came to the cockpit and informed us that electrical power to the fueling panel had failed, and he was unable to continue fueling. We contacted Maintenance. The MT (Maintenance Technician) tried resetting circuit breakers but was unsuccessful in restoring power to the fueling panel. I contacted Maintenance Control by phone and he informed me they were looking at the situation, but that they saw no legal way to defer the fueling panel. When I asked if the plane was being taken out of service, he said that was likely if power could not be restored to the fueling panel. Maintenance Control made no reference to trying to fuel the aircraft with the manual fuel valves. A short time later the local MT came to the cockpit and said he was going to remove all electrical power from the aircraft in an attempt to reboot the fueling panel. We went through this process three times to no avail. Removing all External, APU, and Battery power from the aircraft. It became very hot onboard the aircraft during this process. It was not successful, and we once again restarted the APU to cool down the aircraft since the passengers and crew were becoming very uncomfortable.

At this point I started asking customer service what the plan was, since the passengers had been onboard for a very long time, we had no maintenance release, or expectation of a maintenance release in the near future, and we were approaching our CCO time. Shortly after this, the MT came back to the cockpit and asked us to shut down the APU, and informed us the aircraft had a fuel leak. External air was hooked to the aircraft but it was not working well, it again became very hot onboard. One of my FOs went down to the ramp to inspect the fuel leak, and came back and informed me it was not dripping, but streaming down the fuselage aft of the gear. I informed the gate agent we needed to deplane due to fire hazard. Shortly thereafter the MT came back to inform me the aircraft was no longer leaking fuel, and that he had attempted to fuel the aircraft by using the manual fuel valves, and something had broken, or words to that effect. At this point I detected a slight scent of jet fuel, I then went down to the ramp myself, and saw that the aircraft was still leaking fuel, and it was streaming, not dripping, and at an alarming rate. I then ran back up the Jetway stairs to the cockpit, and called for airport fire services via the VHF comm radio. The temperature in the cabin continued to increase as did the smell of Jet fuel. I had the Lead Flight Attendant position her crew at the doors in case evacuation became necessary. I told the agent I wanted the passengers off ASAP. He informed me that they wanted to keep them onboard while they booked them hotels. I
continued to repeat my demands that they deplane the aircraft for safety reasons. After
being continually ignored by CS to deplane, I ordered the passengers to deplane at door
1L using the PA.

When I asked the MT if he had talked to Maintenance Control regarding his plan to fuel
using the manual valves, he answered in the affirmative. In all candor I'm skeptical this
desperate fueling scheme was coordinated with Maintenance Control, but I could be
wrong. What I do know is our ZZZZ MTs made a bad situation much worse by inducing a
fuel leak when the plane could not have been legally dispatched anyway. Passengers were
complaining of fuel fumes when they left, and were subjected to an unsafe situation. I
have serious concerns over how maintenance conducts operations in ZZZZ. On an earlier
flight during our six day trip, during the segment from ZZZZ to ZZZZ1, we had a simple
lavatory door deferral that was also handled incorrectly. The door was not locked off or
placarded per the MEL when the Cabin door was closed. We then had to resolve this before
pushback. Regarding ZZZZ Customer service, I fully understand the boarding and
deplaning of aircraft is under their purview. But clearly during irregular and emergency
situations, Captains Authority must be respected in the interest of safety. They did not
follow my instructions in a timely manner, and this could have quickly turned into a dire
emergency.

Synopsis

B777 Captain reported enduring fueling difficulties at an international station resulting in
the cancellation of the trip.
**ACN: 1378204 (23 of 50)**

**Time / Day**

- **Date:** 201608
- **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

**Aircraft**

- **Reference:** X
- **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
- **Flight Phase:** Parked

**Component**

- **Aircraft Component:** Engine
- **Aircraft Reference:** X
- **Problem:** Malfunctioning

**Person**

- **Reference:** 1
- **Location Of Person.Aircraft:** X
- **Location In Aircraft:** Flight Deck
- **Reporter Organization:** Air Carrier
- **Function.Flight Crew:** Pilot Flying
- **Function.Flight Crew:** Single Pilot
- **Qualification.Flight Crew:** Private
- **Experience.Flight Crew.Total:** 285
- **Experience.Flight Crew.Last 90 Days:** 190
- **Experience.Flight Crew.Type:** 265
- **ASRS Report Number.Accession Number:** 1378204

**Events**

- **Anomaly.Aircraft Equipment Problem:** Critical
- **Anomaly.Flight Deck / Cabin / Aircraft Event:** Smoke / Fire / Fumes / Odor
- **Anomaly.Deviation - Procedural:** Published Material / Policy
- **Detector.Person:** Ground Personnel
- **Detector.Person:** Flight Crew
- **When Detected:** Aircraft In Service At Gate
- **Result.General:** Maintenance Action
Assessments
Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1
I parked near the fuel tank and refueled. After refueling, I started the engine without primer (because it was a hot start) but the engine did not start. I tried to start engine again and I smelled something burning and saw smoke. I thought that maybe an engine fire occurred. Therefore, I kept cranking continuously to eliminate the fire. After the cranking, I shut down master and magnetos and leaned the mixture because I did not see the fire. Suddenly someone working at the airport yelled at me there was a fire and came out from the airplane and he used a fire extinguisher hung on the fuel station at the same time.

Synopsis
PA-28 pilot reported experiencing an engine fire while attempting a hot engine start on the ground.
Time / Day
Date: 201607
Local Time Of Day: 1801-2400

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

Environment
Light: Daylight

Aircraft
Reference: X
Aircraft Operator: Air Carrier
Make Model Name: MD-11
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Cargo / Freight
Flight Phase: Parked

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Relief Pilot
Function.Flight Crew: First Officer
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1377187
Human Factors: Situational Awareness
Human Factors: Training / Qualification

Events
Anomaly.Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Detector.Person: Flight Crew
When Detected: In-flight
When Detected: Aircraft In Service At Gate
Result.General: None Reported / Taken

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

Narrative: 1
This report documents a disinsection event on a recent pairing. I was assigned as RFO for this flight, with a more experienced RFO2 also on the crew due to duty day length.

Prior to departure we were told that two of the Insecticide X shot bottles would be dispensed in the lower aft cargo compartment. We were not advised of when that would take place or given notice that it was dispensed. We were also given the Insecticide pre-spray bottle which was to be dispensed before descent into ZZZZ. At the appropriate time the RFO2 said he would dispense the pre-spray bottle before descent into ZZZZ. He put on a bandana over his mouth and nose (bank robber style) and went to the courier section to spray it. Not having any training on the precautions and dangers of spraying these chemicals, I thought it was an interesting technique. Turns out that the RFO2 had lots of experience with chemicals as a crop duster and knew to take at least some precautions. I remained in the cockpit until he was done and only noted a faint odor.

After arriving in ZZZZ and the requisite exchange of cargo was completed, we noticed the ramp agent had two Insecticide X bottles and one pre-spray, so we asked him what the plan was for disinsection. He said that after they closed the main cargo door they would dispense the Insecticide X bottles behind the cargo barrier curtain, then just before the R1 door was to be closed, they would dispense the pre-spray in the courier section. The young man dispensing the product wore no protective gear. When we asked him if he had any gear, he indicated he would just put his shirt sleeve over his mouth. We were never advised of the Insecticide X dispensing until the cockpit vents started blowing the very distinct smell. I checked the courier section, and since we had the AC packs running, it was overpressurizing the cargo area and blowing the chemicals into the courier section and further into the cockpit. We did not take any action. Once all loading was complete the young man started dispensing the pre-spray, at which point the cockpit vents started really blowing with not only the continuing Insecticide X, but also the pre-spray. It was at this point that I noticed a distinct mist and strong odor - which we knew was bad. Wisely, the RFO2 turned off the AC packs and went to the back to arm the doors. He cracked the L1 door and let some ventilation blow some of the chemical mist out. Shortly after that, I noticed my eyes were burning and throat was irritated. No one said anything, so we pushed back, started engines and proceeded on our flight.

1. There is no published guidance or procedures on how to safely dispense these products for crew members. Apparently ground crews are not aware of any guidance either.
2. FOM requirements for disinsection are vague and in some situations at odds with Airport and Country notes.
3. No training has been provided on how to effectively and safely dispense these toxic chemicals.

The company needs to review current country requirements (What needs to be sprayed. When and where does it need to be sprayed) and publish those details in the FOM. Current guidance is vague as to which countries require disinsection, and exactly when and how the chemicals are to be dispensed. A training program describing the dangers of disinfection needs to be developed for both air and ground crews. This training should include required safety gear to minimize exposure to these toxic chemicals. A standard procedure needs to be developed that will ensure that exposure is minimized.

**Synopsis**

MD11 First Officer lamented the use of insecticide sprays on his aircraft with crew members on board and believes the company should be provided better training.
ACN: 1376832 (25 of 50)

Time / Day
Date: 201607
Local Time Of Day: 0601-1200

Place
Locale Reference.ATC Facility: ZZZ.ARTCC
State Reference: US
Altitude.MSL.Single Value: 18000

Environment
Flight Conditions: VMC
Weather Elements/Visibility: Visibility: 10
Light: Daylight
Ceiling.Single Value: 30000

Aircraft
Reference: X
ATC / Advisory.Center: ZZZ
Aircraft Operator: Personal
Make Model Name: Cessna 340/340A
Crew Size.Number Of Crew: 1
Operating Under FAR Part: Part 91
Flight Plan: IFR
Mission: Personal
Flight Phase: Cruise
Route In Use: Direct
Airspace.Class A: ZZZ

Component
Aircraft Component: Cooling Fan, any cooling fan
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: Single Pilot
Qualification.Flight Crew: Instrument
Qualification.Flight Crew: Commercial
Qualification.Flight Crew: Multiengine
Experience.Flight Crew.Total: 1700
Experience.Flight Crew.Last 90 Days: 30
Experience.Flight Crew.Type: 400
ASRS Report Number.Accession Number: 1376832

Events
Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Evacuated
Result.Flight Crew : Diverted
Result.Flight Crew : Landed in Emergency Condition
Result.Air Traffic Control : Provided Assistance

Assessments
Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1
I was in cruise at 18,000 when I noticed out of the corner of my eye "something." Upon closer inspection it was a tiny tendril of smoke coming from under the lower edge of the right side of the panel.

Within just a few seconds smoke began to billow up from under the panel. I called ATC and [told] them that I had smoke in the cockpit. I had a moving map up on an iPad running Garmin Pilot connected to a GDL 39 as well as the map up on the Garmin 530W both of which indicated that [a nearby airport] was close. ATC was asking if I wanted to go to nearest, I answered yes and that I was going to shut off all power and would talk to them on ground. I then shut off power to avionics. I left the iPad and GDL running since they were separate from plane power. After extending gear and flaps to max I shut off battery and alternator power as well. I then reduced power to idle on the engines as well as setting the props to flat pitch, then descended as fast as I could while keeping the airspeed within the green arc.

I had not noticed that upon killing the avionics master the smoke diminished and eventually stopped. My focus was getting the plane down in one piece.

I landed on the first available runway and now noticed that the smoke had stopped so I taxied to a parking spot, shut down, and evacuated the plane. I called clearance on my mobile and let them know that I was on the ground safely. Called Center about 15 minutes later to let them know what had happened.

I think that the entire incident from noticing the smoke to stopped on ground took less than 5 minutes. It was found that the bearings to a cooling fan had frozen causing the power leads to scorch. No damage to the plane.

Synopsis
Twin Cessna Pilot reported a an electrical fire in flight. Pilot shut down all electrics and landed at a nearby field.
ACN: 1376629 (26 of 50)

Time / Day
Date: 201607
Local Time Of Day: 1201-1800

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

Environment
Flight Conditions: Marginal

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

Component
Aircraft Component: Air Conditioning Distribution System
Manufacturer: Airbus
Aircraft Reference: X
Problem: Malfunctioning

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1376629
Human Factors: Troubleshooting
Human Factors: Communication Breakdown
Communication Breakdown.Party1: Flight Crew
Communication Breakdown.Party2: Maintenance

Events
Anomaly.Aircraft Equipment Problem: Less Severe
Anomaly.Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Anomaly.Deviation - Procedural: Published Material / Policy
Detector.Person: Flight Crew
When Detected: Aircraft In Service At Gate
Result.General: Flight Cancelled / Delayed
Result.General: Release Refused / Aircraft Not Accepted
**Assessments**

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

**Narrative: 1**

Early in boarding, ground air was unable to cool the plane, began using APU w/air conditioning packs. It began to drizzle, then outright downpour. Began smelling light oily fumes. I decided to call maintenance to have a mechanic check it out. I switched the left pack off, a little better, still smelled the oily fumes. Left pack back on, right pack off, worse. Tried to contact maintenance to consult about how long till mechanic would arrive & whether we should deplane, no answer, phone busy. Called Dispatch to get through to maintenance, both maintenance & dispatch busy due to multiple broken planes and weather events. Consulted with my First Officer (FO) & Flight Attendants (FA) and gate agents, then decided to deplane the passengers and crew.

A mechanic arrived to run engines at idle at the gate in an effort to "clean out" the ducts. FO sat in his seat (used oxygen mask), mechanic sat in LH seat, and I went into the terminal. The fumes smell filled last 2/3rds of the jetway on the way back to the plane (or, put another way - first 2/3rds on the way up to the terminal).

After the engine run, the smell was less, but still present with the APU bleed off, and air coming from engine bleed. Maintenance wanted to defer the APU bleed and have us take the aircraft, using the engine bleeds for air conditioning. Not only is it too hot in ZZZ to use ground air in a A321, the smell was still present. I wanted them to run the engines at high power at the runup block to see if they could clear the fumes odor. The mechanic thought this was a good idea (was actually his idea), maintenance did not want to do this.

My FO & I went downstairs to our Domicile Chief Pilot's office to tell him yes, we were refusing an "airworthy" airplane because we didn't think it was safe for passengers nor crew to breathe the fumes. At some point after the engine run at idle at the gate, we opened ALL the cabin doors, to discuss the situation with the mechanics. Despite sitting in a cabin seat row adjacent to open mid-cabin doors, my FO and I felt lightheaded and had low-grade headaches.

We later decided it would not be prudent to operate an aircraft and that we were no longer fit for duty. We informed our Domicile Chief Pilot (who contacted scheduling). I talked to a few of our FA's about the situation, then we went home.

There is a backstory, which I only realized after going home and checking my own flight history.
(1) Same airplane - I flew this aircraft and wrote up an oily fumes smell.
(2) Same weather - I flew an A319 and got an oily fumes smell.
It is my belief that [this aircrafts] APU has been leaking slowly for a long time, and that the oil has accumulated in the packs or filters in aerodynamically quiet areas. It is then released with power/thrust changes or, as in our case, with the introduction of lots of moisture/humidity from the heavy rain outside. I am not aware of rain prior to [this] event, but it was present for the [other] event.

After we left, another crew was called to do the flight. Apparently, they refused it because of the fumes odor still present. A third crew took the plane the next day and wrote it up in because of the fumes odor. Maintenance actions in between those event included running
the engines more, a finding that the APU was over serviced, and replacing cabin air filters.

A discussion with the mechanic during our event revealed that he (and likely maintenance as well) believed that he thought it was difficult to find the fumes source, and uncertain on what the next steps should be, other than defer the APU bleed. I explained that the "Airbus technical magazine #52" explains very clearly EXACTLY what to do. It is not a maintenance manual, nor is it for the A320 series alone. It outlines logical steps to follow on ANY Airbus aircraft, to (1) find the source, (2) fix the problem, and (3) clean the ducts/packs to keep the fumes from reoccurring.

**Synopsis**

An A321 Captain reported refusing an aircraft due to fumes and an oil smell in the cabin.
ACN: 1376415 (27 of 50)

Time / Day
Date: 201607
Local Time Of Day: 0001-0600

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

Environment
Light: Daylight
Ceiling: CLR

Aircraft
Reference: X
ATC / Advisory.Ground: ZZZ
Aircraft Operator: Air Carrier
Make Model Name: A320
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Taxi
Cabin Lighting: Low

Component: 1
Aircraft Component: Cockpit/Cabin Communication
Aircraft Reference: X
Problem: Malfunctioning

Component: 2
Aircraft Component: Interphone System
Aircraft Reference: X
Problem: Malfunctioning

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Cabin Jumpseat
Cabin Activity: Safety Related Duties
Reporter Organization: Air Carrier
Experience.Flight Attendant.Total: 24
Experience.Flight Attendant.Airline Total: 24
Experience.Flight Attendant.Number Of Acft Qualified On: 8
Experience.Flight Attendant.Type: 30
ASRS Report Number.Accession Number: 1376415
Human Factors: Distraction
Human Factors : Troubleshooting
Human Factors : Communication Breakdown
Human Factors : Confusion
Human Factors : Situational Awareness
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Flight Attendant

Events
Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Attendant
Were Passengers Involved In Event : Y
When Detected : Taxi
Result.General : Maintenance Action
Result.Flight Crew : Took Evasive Action

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

Narrative: 1

Just before reaching the gate the emergency all call light chimes were flashing and chiming. I picked up the interphone and there was no one there. The chime kept going. I gave the phone to my flying partner asking if he heard anyone on the other line. We tried to call the Captain there was no contact. We tried to call door 1 there was no contact available. There was an odd smell in the cabin and mist. I asked my flying partner to watch my door I was going up to door 1. Walking briskly through the cabin, the smell was strong and constant chime kept ringing. I asked the Purser if she was able to get in touch with the cockpit. She said no. I knocked on the cockpit door. We heard over the pa to pick up the phone. I picked up the phone and could not hear anyone. It took about 30 more seconds and finally heard the pilot over interphone say it was ok to disarm the doors. We did. Chimes were still going.

I went back to door 2 passengers were asking if that was smoke on the plane. Once at door 2 the flashing light and chime came on to call captain. I tried and there was no contact available. Then the emergency all call lights continued. We were at the gate with jetbridge attached. I called up to the cockpit and asked if the pilots would please stay onboard and debrief with us. The First Officer said the Captain was in the lavatory and he would talk to him when he was out. Meanwhile the chimes are still going. Passengers began to deplane. The First Officer called to the back and ask what it was I wanted. I said we needed to know what the protocol is when something like this happens and how did this happen? He did not know how this happened. He said protocol is just what he did he made an announcement for us to pick up the phone. I was hoping the pilots would be onboard to debrief with the crew. They were gone. Mechanics were onboard after passengers deplaned.

I asked if the pilots explained what had happened? Mechanic had a piece of paper in his hand and was not clear on any details. I explained to him what had occurred. I briefed the new Captain and flight attendants on what happened. Suggestions-pilots stay onboard and
debrief with their crew make a pa announcement assuring passengers all was ok (instead I had to do this after finally having connection on interphone to disarm) possibly make an announcement letting us know all was ok considering there was no phone contact for 2-3 minutes but the emergency all call light continued to flash and chime. Possibly stay and brief the mechanics. We were concerned for our safety. In the back of the aircraft we had the strange odor and were getting ready to possibly evacuate. We did not know what was happening up front. The passengers did not know what was happening.

**Synopsis**

A320 Flight Attendant reported the Emergency ALL CALL lights and chimes were flashing during taxi to the gate along with an odd smell and cabin mist. The pilots did not return repeated intercom calls and did not debrief the crew or Maintenance after deplaning.
ACN: 1376024 (28 of 50)

Time / Day
Date: 201607
Local Time Of Day: 0001-0600

Place
Locale Reference.Airport: ZZZ.Airport
State Reference: US
Altitude.MSL.Single Value: 5434

Environment
Flight Conditions: VMC

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

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Total: 19000
Experience.Flight Crew.Last 90 Days: 200
Experience.Flight Crew.Type: 7000
ASRS Report Number.Accession Number: 1376024

Events
Anomaly.Aircraft Equipment Problem: Less Severe
Anomaly.Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Detector.Person: Flight Crew
When Detected: In-flight
Result.Flight Crew: Returned To Departure Airport

Assessments
Contributing Factors / Situations: Aircraft
Primary Problem: Aircraft
**Narrative: 1**

On takeoff roll above 100 knots we smelled a plastic/acrid smell, continued takeoff assuming an oven issue. Shortly after takeoff Flight Attendant (FA) called the cockpit and informed us that they smelled fumes and there was smoke/haze in the cabin, no ovens on and smoke was getting worse.

We [advised ATC] and began our return to ZZZ. We switched roles in the cockpit, I became the Pilot Monitoring and First Officer (FO) assumed Flying Pilot. We requested Rescue Equipment assistance on landing.

My concern was the smoke getting worse in the cabin, just slight fumes in the cockpit, I believe the safest route was to get the aircraft on the ground as soon as possible. We expedited an Approach Checklist and set up for a visual approach backed up with an ILS.

During the approach the flight attendants informed us that the smoke was dissipating, although, they could not point to place where the smoke/fumes were coming from. Also, they assured us that it was not coming from the lavatory trash cans. I informed them that we will be landing in less than 5 minutes and prepare for landing and to inform us if the situation gets worse. I informed them that Rescue Equipment would be waiting for us as we landed.

We landed and used the high speed taxiway. Once we stopped, I made an announcement to remain seated to the passengers, as the flight attendants informed us that smoke and fumes had subsided. Rescue Equipment was on a dedicated frequency. They did their inspection and found no signs of external problems.

We began our taxi to return to the gate when the flight attendants informed us that the fumes and smoke had returned. Also, they informed us that a passenger said there is a dark spot on one of the right flaps. With this information we shut down the #2 engine, once this was accomplished the smoke and fumes ceased.

We continued and parked at gate with no other complications or issues.

**Synopsis**

B737 Captain reported after takeoff there were fumes and smoke in the cabin. Captain returned for an expeditious landing and reported that after number 2 engine shut down on ground, smoke and fumes ceased.
Refused airplane due to excessive fumes from previous chemical spill. Aircraft main deck had been cleaned by vendor. However, maintenance advised the chemical has unseated the tape that seals the joints between floor sections. He said proper cleanup may require removal of main deck flooring in order to access remaining chemical.

This was the 3rd refusal of this airplane. I had completed my walk-around inspection and was surprised to see the Captain deplane as I entered. He reported the fumes and the
ramp attempted to clean the remaining chemical residue. Upon returning, we tested the airplane by closing all doors. It only took 5 minutes for the odor to become significant. When the Captain turned on the packs, the concentration immediately became overwhelming. There was a ramp agent in the cockpit who commented that she wouldn't drive a car with this intense odor; she wouldn't expect us to fly an airplane in this condition. We exited the airplane and the Captain informed the mechanics, dispatch, and the Duty Officer that the airplane was unsafe to fly. As noted above, subsequent cleaning of main deck was insufficient to remove spill from all areas to which it has migrated.

Original spill occurred earlier the same day. Failure of personnel to properly clean the spill has allowed it to migrate to inaccessible areas of the airplane.

All spills should require immediate stop to movement of freight and involvement of most-senior manager on duty.

Synopsis
B767-300 First Officer reported crew refusing aircraft due to residual fumes following previous chemical spill clean up.
**ACN: 1374356 (30 of 50)**

**Time / Day**
- Date: 201607
- Local Time Of Day: 1201-1800

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

**Environment**
- Light: Daylight

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

**Component**
- Aircraft Component: Hydraulic System Lines, Connectors, Fittings
- Aircraft Reference: X
- Problem: Failed

**Person : 1**
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: General Seating Area
- Cabin Activity: Safety Related Duties
- Reporter Organization: Air Carrier
- Qualification.Flight Attendant: Current
- ASRS Report Number.Accession Number: 1374356

**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: 1376050

**Events**
Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Detector.Person : Flight Attendant
Detector.Person : Flight Crew
Were Passengers Involved In Event : Y
When Detected : Taxi
Result.General : Evacuated
Result.General : Maintenance Action
Result.General : Flight Cancelled / Delayed

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1
Prior to boarding we were told by Captain to hold off on boarding passengers as we may have a major hydraulic leak (as I heard it in back galley). Maintenance was in & out of flight deck. Approximately 20-25 minutes later as I was standing in forward cabin talking to other FAs & the gate agent, the Captain gave a thumbs up to board the aircraft as the mechanic had signed off on the issue. I voiced my concern to the other FAs & gate agent that I could not understand how we could have a possible hydraulic leak & the issue be resolved so quickly. I also understand that a pressurization test was done, but the forward boarding door was never closed. On taxi-out, after Captain gave announcement to prepare for departure & engines were revving up, an odor was smelled and felt by passengers and crew & I heard a loud screeching noise. An FA made announcement that Captain was aware of odor and checking into it. I was trying to call Captain about noise, when the Captain gave the evacuation command. Passengers were already at doors by the time I could access. I had to put up my hand & tell them to stand back until the slide deployed and I knew I had good slide. We had many wheelchair passengers which slowed down evacuation. C FA & I had to switch doors due to elderly gentleman being dragged by his wife w/his cane to my door. C FA, being male said he would grab him under the arms to sit him on slide. I continued evacuation at 2R.

Narrative: 2
I found hydraulic fluid streams and drips on the lower fuselage during the pre-flight walk around, from just aft of landing gear doors to the APU. Additionally, there were two puddles under the aircraft. The captain and I notified Maintenance, who had us write it up in aircraft maintenance logbook. Maintenance lowered the landing gear doors, and I accompanied the contract Maintenance tech while he examined the compartments. No leaks were found. The tech also said he went into a tail compartment, and he said both were dry. The captain suggested pressurizing the three hydraulic systems, which were accomplished, and no leaks were detected by maintenance. Maintenance signed off the discrepancy. We closed the door and pushed back and all was normal. We departed approximately 10 minutes late. We received the load close out; engine 1 start and single engine taxi were normal. Shortly thereafter, we started engine 2. Soon thereafter, we received the first call from the flight attendants came in about noxious fumes. We had completed our Taxi Checklist down to "Line." Almost immediately, the cockpit began filling with fumes. We opened the cockpit windows, and then received two more calls from FAs. This was happening while multiple ECAM messages were popping up and master caution alarms going off at the same time. A brief evacuation was implemented. We needed to get people out to fresh air. We grabbed our QRHs and the Evacuation checklist was run. The captain asked, "Are we really doing this?" and I agreed we had to get them outside. An
evacuation was commanded over the PA, Tower was notified of the evacuation. The captain and I moved to the cabin to help get the few remaining passengers off, then FAs. The captain coached an elderly lady out on the slide. I found passengers coming back into airplane due to hydraulic fluid on a slide, and so I directed them to another slide. We finished checking the cabin before I departed the aircraft on a slide, with the captain right behind me. When I left, there was a definite rain shower of fluid still pouring out of aircraft. I helped the captain and the #1 FA move the passengers to the port side of the aircraft before then moving to starboard as fire trucks were arriving. Buses were delayed crossing the active runway, but finally arrived and transported passengers back to the terminal. The captain and I stayed with the aircraft until maintenance was able to get air stairs to the aircraft and I could get my non-descript bag from cockpit.

Synopsis

A320 First Officer and a Flight Attendant described a passenger evacuation when a hydraulic leak turned into dense smoke and fumes in the cabin and cockpit during taxi out.
Time / Day
Date: 201607
Local Time Of Day: 1801-2400

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

Environment
Light: Daylight

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

Component
Aircraft Component: APU
Aircraft Reference: X
Problem: Malfunctioning

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: General Seating Area
Cabin Activity: Deplaning
Reporter Organization: Air Carrier
Qualification.Flight Attendant: Current
ASRS Report Number.Accession Number: 1374341
Human Factors: Physiological - Other

Events
Anomaly.Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Anomaly.Deviation - Procedural: Published Material / Policy
Detector.Person: Flight Attendant
When Detected: Aircraft In Service At Gate
Result.General: Flight Cancelled / Delayed
Result.General: Maintenance Action
Result.General: Physical Injury / Incapacitation

Assessments
Contributing Factors / Situations: Aircraft  
Primary Problem: Aircraft

**Narrative: 1**

Inbound flight landed late due to weather on the field. Deplaning began, and we were connected to ground power. Our inbound pilots left the aircraft. As the flight attendants began tiding the aircraft, the 'C' and myself 'K' met midcabin and commented on the strange and strong chemical odor. Once all passengers had deplaned, the 'A' walked back and mentioned the smell as well, but said our pilots were already gone. The new crew working the aircraft outbound were already on the jetway. The 'A' told the pilots and they confirmed they smelled the odor on the jetway and called maintenance. The A, B, and C FAs collected their belongings as they were off to their overnight. We all stepped off the aircraft as soon as we could. I, the 'K' FA, had an immediate headache, nausea and lightheadedness. The outbound pilots then called paramedics who came to the jetway. I was checked out and with blood pressure elevated, was taken to the ER. The flight was later cancelled and grounded until the next day.

If it is determined that the maintenance is lacking in this area, with the APU leaks, it needs to be a priority for these checks to occur on a regular basis- for the safety of ALL concerned.

**Synopsis**

A321 Flight Attendant reported a strange and strong chemical odor while deplaning. Subsequently the aircraft was taken out of service.
Four Flight Attendants boarded the aircraft. There was an extremely thick fog throughout the cabin. It was as heavy as smoke. It was difficult to see the other two Flight Attendants at the opposite end of the aircraft. After determining that the thick fog was NOT smoke, we concluded that the cause of the thick fog was due to condensation. The weather in DEN
was very hot (90 degree range). Passengers boarded 10 minutes after us and were also exposed to inhalation of the thick fog. The Pilots arrived about 15-20 minutes after passenger boarding. It was determined that the thick fog was pesticide spray. Our aircraft came in from Cancun and was treated [here]. My contact lenses had a permanent heavy film on them and my voice became very weak and scratchy. I continued to taste and smell the pesticide spray in my sinuses and mouth for several days, in addition to nausea. Please tell us what we were exposed to.

**Synopsis**

B737 Flight Attendant reported the crew and passengers were unknowingly exposed to pesticide spray in the form of a heavy fog when they boarded the aircraft.
ACN: 1374205

Time / Day
Date: 201607
Local Time Of Day: 1801-2400

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

Environment
Flight Conditions: VMC

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

Component
Aircraft Component: Air Conditioning and Pressurization Pack
Manufacturer: McDonnell Douglas
Aircraft Reference: X
Problem: Failed

Person: 1
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1374205

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: 1374210
Events
Anomaly. Aircraft Equipment Problem : Less Severe
Anomaly. Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Detector. Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result. Flight Crew : Diverted
Result. Flight Crew : Returned To Departure Airport
Result. Flight Crew : Landed in Emergency Condition
Result. Air Traffic Control : Provided Assistance

Assessments
Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1
About 10 minutes after takeoff and about FL230, the cockpit filled with smoke accompanied by an acrid odor. I had just increased the temperature setting on all three temperature selectors. Both crew members immediately donned oxygen masks. I moved the temperature selectors back to the full cold setting. I took control of the aircraft and asked the First Officer (FO) to run the SMOKE, FIRE OR FUMES checklist. We asked for vectors. We immediately received vectors and a lower altitude from Center. The QRH procedures were completed and the FO constructed the ILS. We requested emergency vehicles. After about 2 minutes the smoke dissipated and the landing was uneventful. AC Pack malfunction caused smoke in the cockpit.

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

Synopsis
The flight crew of an air cargo aircraft reported that after takeoff the cockpit filled with smoke accompanied by an acrid odor.
Narrative: 1

During flight preparation, just prior to closing up the aircraft for block out, a Cabin Smoke alert illuminated in the cockpit. Less than thirty seconds later, a pungent odor filled the
cockpit. The captain went to the cabin area to investigate and found the smell to be more intense with a light fog present in the air. The captain queried the ramp agent present in the courier area and was informed that insecticide had just been sprayed on the upper cargo deck. This explained the cabin smoke alert. Because the cockpit odor was intense, the captain turned the packs off and instructed the other two crew members to deplane. After fifteen minutes the smell was still present in the courier area but had dissipated in the cockpit. The crew resumed normal duties.

The APU was running and all three packs were on when the ramp crew sprayed the insecticide in the cargo areas. The crew presumed the strong odor in the cockpit and jumpseat area occurred when the aircraft ventilation system circulated the insecticide sprayed in the upper cargo deck. The crew was not notified when the upper cargo deck was sprayed, which is normal, given there are no procedures for crew notification.

The ramp agent onboard our aircraft informed the captain this incident was not uncommon and another crew had recently evacuated the aircraft because a fog and pungent smell filled the cockpit and cabin after spraying the insecticide.

Within thirty minutes of the crew's exposure to the insecticide spray, the Captain experienced a tightening of the throat and sneezing. The relief flight officer experienced irritated nostrils. The first officer did not experience symptoms.

The insecticide spray used in Company aircraft cargo compartments for all ZZZ - ZZZZ flights is Callington 1-Shot (Callington is the manufacturer). Disinsection is also required for [a few other destinations in our route system], according to the FOM.

The 1-Shot material safety data sheet (MSDS) warns of potential health hazards associated with the product. Two chemicals in 1-Shot, d-phenothrin and permethrin, are toxic and potentially hazardous to human health, according to OSHA and the The World Health Organization (WHO). Permethrin is the most toxic of the two chemicals. Both d-phenothrin and permethrin are listed as probably carcinogens by the International Agency for the Research of Cancer.

Attached documents disallow spraying of permethrin insecticides when human contact is at risk, except when specified protective measures are used. Permethrin products should never be inhaled, according to medical and technical documents. The 1-Shot MSDS warns to avoid personal contact with the product and advises that protective clothing and equipment should be used by personnel dispensing the product when risk of inhalation or dermal exposure exists. The 1-Shot MSDS contains a number of other warnings.

[A document from the WHO], Recommendations on the Disinsecting of Aircraft, states, "The flight deck should be treated at a suitable time prior to the expected occupancy of the flight crew, the door of this compartment then being closed and kept closed, except when being opened momentarily to permit the passage of the crew members, until the "blocks-away" (pre-flight) treatment and the take-off of the aircraft are completed." This blocks-away procedure is not accomplished on the ZZZ ramp. Only the pre-flight treatment is accomplished--with the crew onboard.

According to the WHO document, the aircraft ventilation system must be closed during pre-flight spraying, and for a period of not less than 5 minutes following dispensing of sprays containing permethrin." Section 5.1 of the document, Schedule of Aircraft Disinsection Procedures, states the same minimum 5-minute warning. According to the manufacturer of 1-Shot, the ventilation system should be off for 10 minutes following
spraying of this product. This time warning exists because 1-Shot is heavier than air and is designed to settle onto surfaces in undisturbed air. Settling onto surfaces mitigates the risk of inhalation when the aircraft ventilation system is turned on after spraying. If the product is drawn into a packs-on air system, the spray circulates to all areas, including the cockpit.

The WHO has described disinsection as a procedure that would not cause risk to human health "if carried out with the recommended precautions", according to [an] Airline Cabin Environmental Research (ACER) document. This document states that adverse health effects have been reported by flight crews and that urine tests conducted on flight crews where disinsection was performed showed significantly higher levels of associated toxic chemicals after disinsection flights. Additionally, the document states, "The risks to crew members and the flying public associated with exposure to pyrethroids (permethrin) at the levels (stated within the document) need to be reviewed." (ACER is funded through a FAA Cooperative Agreement entitled "National Air Transportation Center of Excellence for Research in the Intermodal Transport Environment).

Over the past year, I have communicated my concerns on this subject to appropriate Company managers. Ramp personnel I have spoken with, say they have never been given training, advised of warnings or received procedural information for spraying insecticides onboard aircraft, except where to discharge the cans. This was confirmed again, the day of this incident. Additionally, pilots have never been given safety information regarding aircraft disinsection procedures.

The fact that ramp and flight crews have never received safety information is concerning. It is especially concerning for ramp crews because the same people are exposed to this safety threat every day over a period of years. Publishing readily available safety procedures and warnings would mitigate risks associated with aircraft disinsection, thus protect the health and safety of Company personnel--an action that seems necessary given commitments within our Company Safety Management System.

In the interest of health and safety for flight and ground crews, I recommend that Company Flight Safety and/or Ground Safety prepare and deliver information on the use of insecticides onboard our aircraft.

Note: I am aware of Callington 1-Shot dispensing recommendations and health and safety warnings regarding aircraft disinsection. Information I have obtained comes from government sources, technical and medical sources [and] the manufacturer.

Insecticide sprayed in the upper cargo deck by the ramp crew immediately entered the aircraft air system because all three packs were on when the chemical was sprayed. This caused the spray to immediately be drawn into the aircraft ventilation air which brought the spray directly into the cockpit.

Company Flight Safety and/or Ground Safety should prepare and deliver information on the use of insecticides onboard our aircraft. This information should instruct the ramp crew to notify the flight crew before insecticides are sprayed on the upper cargo deck. When notified, the flight crew should turn off all packs to stop air flow into the cockpit. The ramp crew should notify the flight crew when upper deck spraying is complete. The flight crew should wait a minimum of 10 minutes, per the manufacturer's warning, before turning packs on.

**Callback: 1**
The reporter stated the spraying procedure is just word of mouth, there is no written procedure for this process. The reporter stated there is no procedure for crew notification either. The reporter also stated that the personnel doing the spraying are doing so without protective garments or masks. The reporter feels that the chemicals used to spray the aircraft may be accumulative and may become harmful to the human body after inhaling them over a period of time. The reporter stated that he has researched the chemicals used in spraying and that the spray is ten times more potent than required. The reporter stated that the flight crew is handed a can of spray ("1-Shot") to dispense at TOD (Top of Descent) then they hand the empty can upon arrival to the agent on the ground.

**Synopsis**

A Heavy Transport carrier Captain reported a Cabin Smoke alert and pungent odor in the cockpit due to insecticide sprayed in the upper cargo deck.
ACN: 1373670 (35 of 50)

Time / Day
Date: 201607
Local Time Of Day: 0601-1200

Place
Locale Reference. Airport: ZZZ.Airport
State Reference: US
Altitude. MSL. Single Value: 25000

Environment
Light: Daylight

Aircraft
Reference: X
ATC / Advisory. Center: ZZZ
Aircraft Operator: Air Carrier
Make Model Name: EMB ERJ 145 ER/LR
Crew Size. Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Cruise
Route In Use: Direct
Airspace. Class A: 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: Captain
Qualification. Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number. Accession Number: 1373670
Human Factors: Situational Awareness
Human Factors: Troubleshooting

Events
Anomaly. Aircraft Equipment Problem: Less Severe
Anomaly. Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Detector. Person: Flight Crew
When Detected: In-flight
Result. Flight Crew: Diverted
Result. Flight Crew: Landed in Emergency Condition

Assessments
Contributing Factors / Situations: Aircraft
Primary Problem: Aircraft
Narrative: 1

During cruise at 25,000 feet noticed a burning fume followed by smoke in the cockpit. Followed procedures, [advised ATC], and diverted safely with no other issues. Event occurred due to a faulted Air Cycle Machine during the flight.

Synopsis

EMB-145 Captain reported fumes and smoke in the cockpit due to a faulty air cycle machine. The crew diverted without incident.
ACN: 1373637 (36 of 50)

**Time / Day**
Date: 201607

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

**Aircraft**
Reference: X
ATC / Advisory.Center: ZZZ
Aircraft Operator: Air Carrier
Make Model Name: B777 Undifferentiated or Other Model
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Cruise
Airspace.Class A: ZZZ

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

**Person**
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
 Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Total: 21000
Experience.Flight Crew.Last 90 Days: 200
Experience.Flight Crew.Type: 6000
ASRS Report Number.Accession Number: 1373637

**Events**
Anomaly.Aircraft Equipment Problem: Less Severe
Anomaly.ATC Issue: All Types
Anomaly.Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Anomaly.Deviation - Speed: All Types
Detector.Person: Flight Attendant
When Detected: In-flight
When Detected: Aircraft In Service At Gate
Result.General: Maintenance Action
Result.Flight Crew: Diverted
Result.Flight Crew: Landed in Emergency Condition
Result: Air Traffic Control: Issued New Clearance
Result: Aircraft: Equipment Problem Dissipated

Assessments
Contributing Factors / Situations: Aircraft
Primary Problem: Aircraft

Narrative: 1

After the jetway was pulled, the Purser informed me flight attendants were smelling something unusual near door 3L. I sent the relief pilot back for verification. He, too, smelled it. We informed maintenance. They boarded the aircraft and after troubleshooting they were not able to find the source of the smell. By this time it had dissipated, so we all agreed to depart. After 1 hour in cruise, the smell returned. I immediately contacted maintenance and dispatch via SATCOM. After troubleshooting with maintenance, we all thought it was a bad sidewall light ballast in economy. Once those lights were shut down, the smell quickly dissipated. Again, we all were in agreement to continue. I was comfortable with this decision because it wasn't a burning smell—simply a hot smell. Also, it was very, very localized and there was no smoke or heat associated with the smell. Several hours later, we were again informed by the flight attendants that the smell had returned. I immediately dialed dispatch and maintenance on the SATCOM. I was obviously very, very concerned. I decided to go back and smell it for myself. This time, as I approached the area, I smelled a burning smell. It was very strong this time. I immediately returned to the cockpit and informed maintenance and dispatch of this. I immediately informed ATC and diverted to the nearest airport which was approximately 95 miles away. I also requested that the fire equipment be standing by just in case. I had the flight attendants continually monitor the area, especially looking out for smoke. I told them to contact the cockpit at any time prior to touchdown if they saw smoke. Dispatch remained on the SATCOM until touchdown. SOP was followed. All applicable checklists were performed. We landed uneventfully. The fireman boarded the aircraft as a precaution to ascertain the status of the area in question. They did not find an active fire or "hot spot."

Finally, as an aside, one thing did surprise me during this event. I had the first officer fly greater than 250 KIAS below 10,000 ft because I felt we needed to get on the ground as quickly as possible. I informed ATC of this. What was unusual was that at approximately 20 NM from the field, Approach Control had us slow to 220 KIAS as if he needed this to maintain spacing with another aircraft. Since there still wasn't smoke in the cabin, I decided to accept this clearance. What I find strange, however, is that I was under the impression that [distressed] aircraft had priority and all other traffic was cleared out of the way. That was clearly not the case here. Obviously, had we been on fire, I would not have accepted this speed restriction.

Synopsis
B777 Captain reported a strange smell near door 3L prior to engine start and Maintenance evaluated with nothing identified. The smell returned several times during the flight, and when the odor returned as a burning smell, the flight diverted.
**Time / Day**
Date: 201607  
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  
Work Environment Factor: Temperature - Extreme  
Light: Daylight  
Ceiling.Single Value: 10000

**Aircraft**
Reference: X  
ATC / Advisory.Ramp: ZZZ  
Aircraft Operator: Personal  
Make Model Name: PA-28 Cherokee/Archer/Dakota/Pillan/Warrior  
Crew Size.Number Of Crew: 1  
Operating Under FAR Part: Part 91  
Flight Plan: VFR  
Mission: Training  
Flight Phase: Parked  
Route In Use: None

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

**Person**
Reference: 1  
Location Of Person.Aircraft: X  
Location In Aircraft: Flight Deck  
Reporter Organization: Personal  
Function.Flight Crew: Instructor  
Function.Flight Crew: Single Pilot  
Qualification.Flight Crew: Multiflight  
Qualification.Flight Crew: Commercial  
Qualification.Flight Crew: Flight Instructor  
Qualification.Flight Crew: Instrument  
Experience.Flight Crew.Total: 1293  
Experience.Flight Crew.Last 90 Days: 324  
Experience.Flight Crew.Type: 1150  
ASRS Report Number.Accession Number: 1373530  
Human Factors: Situational Awareness
Human Factors : Distraction
Human Factors : Time Pressure
Human Factors : Workload
Human Factors : Troubleshooting

Events
Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Anomaly.Ground Event / Encounter : Other / Unknown
Detector.Person : Flight Crew
When Detected : Aircraft In Service At Gate
Result.General : Maintenance Action
Result.General : Evacuated
Result.Flight Crew : Took Evasive Action
Result.Aircraft : Aircraft Damaged

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

Narrative: 1
I was conducting an introductory flight lesson with two people on board, three including myself. The temperature at the field was around 96 degrees Fahrenheit. I had already conducted an intro flight on the Piper warrior about 30 minutes prior. I made four attempts at starting the engine as per the pilots operating handbook for warm start with about 30 second breaks in between the first two attempts. After the third attempt I waited about 5 minutes before attempting one last time. Before I tried for the fourth time I explained to the passengers that it was a really warm day and that if the engine didn't start they had the option of waiting for later on in the day when the temperatures cooled down or they could reschedule for another day. On the fourth attempt just as the first three I performed a warm start as per the POH. The engine failed to start so I began the normal shutdown procedure following the checklist on my lap which is taken from the POH of the aircraft. As I was getting ready to exit the aircraft I noticed black smoke coming from the nose of the airplane. The POH recommends to attempt to start the engine in order to put out the fire. Because I had made 4 attempts to start the engine and failed, as pilot in command I decided to complete the shutdown and shutoff the fuel selector and initiated an evacuation to get the passengers off the airplane. I commanded them to release seat belts and get out. I immediately exited and assisted the passengers off the plane and moved them to a safe distance away from the airplane. I turned around and another person with halon extinguisher trying to put the fire out but the halon didn't have enough to put the fire out. I then grabbed the halon from the back seat of the airplane and gave it to the person that was helping me put the fire out. The fire was immediately put out with the second halon. The entire incident took about 10 seconds from when I noticed the smoke to when the fire was put out. The fire truck came a few minutes later and splashed the airplane with water to make sure the fire was out. Though I hope I don't have another incident I learned I should have taken names of everyone involved including the people who helped me put the fire out and anyone I spoke to. These were questions the FAA asked me which I did not have much detail to respond.

Synopsis
PA28 instructor pilot reported an engine fire while trying to start the engine on a hot day. The fire occurred on the fourth attempted start and was put out with two halon bottles.
ACN: 1373428 (38 of 50)

Time / Day
Date: 201607
Local Time Of Day: 1201-1800

Place
Locale Reference.Airport: ZZZ.Airport
State Reference: US
Altitude.AGL.Single Value: 2000

Environment
Flight Conditions: VMC
Light: Daylight

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

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

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: First Officer
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1373428
Human Factors: Workload
Human Factors: Distraction
Human Factors: Situational Awareness
Human Factors: Time Pressure
Human Factors: Troubleshooting

Events
When Detected: In-flight

Assessments
Contributing Factors / Situations: Aircraft
Primary Problem: Aircraft

Narrative: 1

We departed gate and proceeded to start engine number 1 when advised by the rampers we were clear to start to conduct first flight checks. The Captain decided to taxi on one engine since there was a very long line for takeoff on RWY 4. We began our taxi and eventually switched over to the tower frequency. At this time, I was told to delay engine start number 2 and attempted the start. The engine start advisory appeared and the switch light illuminated, but there was no rise in N2. I aborted the start and followed company procedures. The captain decided to attempt another start, but this time using crossbleed air from the number 1 side. The problem continued and once again there was no N2 indication. I called tower and got clearance across the runway and switched to ground frequency to attempt to troubleshoot the problem. The Captain and I agreed it was most likely a start valve malfunction on the number 2 engine, and he called maintenance while I contacted operations to get a gate to return to. Once we taxied back to our gate, we deplaned the passengers and maintenance arrived. They told us they were going to attempt to manually open the start valve on the number 2 engine and we worked out a signaling system in order to ensure the safety of maintenance personnel on the engine. The first start attempt with maintenance personnel was aborted because of rapidly rising Interstage Turbine Temperature (ITT) and a potential hot start on the number 2 engine. The maintenance personnel returned to the cockpit and decided to attempt a second start. The second start attempt was aborted as well, but this time by the systems in the aircraft. After approximately 5 minutes, we attempted a third start, but this time we used normal procedures and the number 2 engine started. The maintenance personnel signed off the maintenance log and we were cleared to depart. We boarded the passengers and requested pushback from the gate. When the rampers advised us to start engines, the Captain opted to start number 2 for a single engine taxi to RWY 4. We attempted the start, but once again were forced to abort the start because a rapid rise in ITT up to approximately 750 degrees. The Captain called maintenance and sought their advice on what actions to take next. They told him to attempt another start while he was in communication with them. The number 2 engine started within limits on the second start and we proceeded to taxi to takeoff from RWY 4. On takeoff, the ITT was abnormally high but still in the green. Throughout the flight, ITT on the number 2 engine was approximately 100-150 degrees hotter than on the number 1 engine, but still within the limits and in the green arc.

After landing in our filed destination, we were rushed by a gate agent attempting to get the already delayed flight off the ground. The Captain and I went through normal procedures to get the flight to safely depart. We did not receive a PDC so we contacted
clearance delivery and were given our clearance and also a wheels up time of XA:35 local. We were unable to meet this time and requested a different time with ground after pushback. A new wheels up time of XA:50 local time was assigned and we pushed back from the gate and started the number 2 engine. Once again, the ITT rose rapidly and reached an abnormally high temperature, but did not exceed limitations. The Captain told me that it was the advice of maintenance to let the system abort the start and not manually abort it prior to the start. After successfully starting number 2, I started number 1 and we began our taxi to RWY XX. It is my recollection that we did not perform a takeoff briefing, however, all items on the takeoff briefing were discussed just minutes before at the gate. We lined up to take RWY XX, the Captain was the pilot flying and I was the pilot monitoring. He advanced the thrust levers while I kept a constant scan on ITT. The highest value I recall seeing was 914 degrees. We continued the takeoff and were handed off to departure. At approximately XA:50 local time and at 2,000 feet MSL, the Master Warning illuminated and the triple chime sounded indicated a fire. We identified the number 2 engine as the engine on fire and proceeded to follow the Engine Fire/Severe Damage Immediate Action Checklist. This led us to the QRH and we followed the procedures outlined in the QRH exactly and adhered to the training we had received from the company. We decided that engine damage was suspected and did not attempt a relight of the number 2 engine. I performed the Single Engine Procedures checklist and we got the aircraft configured for landing. When the emergency presented itself the Captain took over the radio so I was free to run the checklist without interruption. He [advised ATC] and was assigned vectors to return to RWY XX. He advised the Flight Attendants of the nature of the emergency and told them not to conduct an emergency evacuation of the cabin. We programmed the ILS XX into the FMS and tuned the proper frequencies. We also completed an arrival check and landing check. When we landed on RWY XX, emergency vehicles gave us the all clear and stated there was no fire they could see. We taxied back to the gate and the emergency vehicles followed us. No other incident occurred after this point.

The only threats that occurred during the flight was the engine fire and that was extinguished as soon as the number 2 engine was shut down and the single engine landing. Both were complied with utilizing proper checklist procedures. I believe this was because of the short time to wheels up assigned by ATC and a desire to get the already drastically delayed flight off the ground. No undesired aircraft state occurred as a result of this event.

**Synopsis**

CRJ-700 flight crew reported experiencing a #2 engine starter malfunction on the first flight of the day and returned to the gate. All subsequent #2 engine starts produced high Interstage Turbine Temperature. On the second takeoff the day, the #2 engine fire warning alerted at 2,000 feet climbing so the QRH was completed and the flight returned to the departure airport for an uneventful single engine landing.
Time / Day
Date: 201607
Local Time Of Day: 1801-2400

Place
Locale Reference.Airport: ZZZZ.Airport
State Reference: FO
Altitude.MSL.Single Value: 3500

Aircraft
Reference: X
ATC / Advisory.Center: ZZZZ
Aircraft Operator: Air Carrier
Make Model Name: B777-200
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Climb

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

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1372297
Human Factors: Situational Awareness

Events
Anomaly.Aircraft Equipment Problem: Less Severe
Anomaly.Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Anomaly.Deviation - Procedural: Published Material / Policy
Detector.Person: Flight Crew
Detector.Person: Flight Attendant
When Detected: In-flight
Result.Flight Crew: Returned To Departure Airport
Result.Flight Crew: Landed As Precaution
Result.Air Traffic Control: Provided Assistance

Assessments
Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

We called maintenance while at the gate due to a burning smell around the forward entry area. The mechanic checked out the area and signed off the logbook as unable to duplicate, as the fumes went away when the packs were cycled off and on. On taxi out, the purser called to say the fumes were back. Since maintenance had just checked out the airplane, we agreed that, since the gate was in a congested area, up in the alley where odors from lots of vehicles could be picked up, and since there were about a dozen aircraft ahead of us for takeoff, that we would sit out in the open, waiting for takeoff, and give the fumes a few minutes to dissipate. I called the purser shortly before takeoff, she checked with all the flight attendant stations, and they were unanimous in that the fumes were gone. Going through 3,500 feet on climb out a flight attendant, not the purser, called and said, "Captain! You need to turn around and go back right now! The fumes are horrible back here." Shortly after that, about 5 or 6 thousand feet, the purser called to say the fumes were back and real bad. I asked the First Officer to go back and assess the situation in the cabin. The First Officer returned to say that he could smell a very faint odor, but based on the situation in the cabin, he would recommend returning to [departure airport ZZZZ]. [Requested priority handling with ATC], landed overweight, auto brakes off and I rolled down the length of the runway to save the brakes. Landed at 518,000 pounds. Twice enroute to ZZZZ I checked with the purser and both times she said the odor was dissipating. The First Officer ran the emergency landing checklist and the ACARS diversion report.

ZZZZ operations said that the culprit was a bearing in a cooling fan.

Synopsis

B777-200 Captain reported that during the climb fumes in the cabin were so extreme they had to return to the departure airport.
ACN: 1372295  (40 of 50)

Time / Day
Date : 201607
Local Time Of Day : 0601-1200

Place
Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Altitude.MSL.Single Value : 26000

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 : Cruise
Airspace.Class A : ZZZ

Person : 1
Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1372295

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 : 1372472

Events
Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Anomaly.Flight Deck / Cabin / Aircraft Event : Passenger Electronic Device
Anomaly.Flight Deck / Cabin / Aircraft Event : Illness
Detector.Person : Passenger
Detector.Person : Flight Attendant
Were Passengers Involved In Event : Y
When Detected : In-flight
Assessments
Contributing Factors / Situations: Equipment / Tooling
Contributing Factors / Situations: Human Factors
Primary Problem: Equipment / Tooling

Narrative: 1
Approximately 1 hour into flight #1 flight attendant (FA) called and alerted me that a passenger had a portable battery charger that was hot to the touch. I asked if they were doing the procedure for a battery/Personal Electronic Device (PED) fire overheat. He replied in the affirmative. 15 minutes later the #1 called and said he, #2 and #4 FAs were experiencing headaches and nausea. Also the device was emitting a burning plastic electrical smell. At that one I elected to divert to [a nearby suitable airport]. We were met by emergency personnel who removed device. At that time EMS checked out flight attendants and passengers in rear of the cabin. We were cruising at FL260 when this event occurred.

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

Synopsis
B737-800 flight crew reported being informed by the lead Flight Attendant of an overheated battery charger. Fifteen minutes later he was informed that some of the flight attendants were experiencing headaches and nausea and the Captain elected to divert to a suitable airport.
ACN: 1372251 (41 of 50)

Time / Day
Date: 201607
Local Time Of Day: 1201-1800

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

Environment
Flight Conditions: VMC
Light: Daylight

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

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1372251
Human Factors: Situational Awareness

Events
Anomaly.Aircraft Equipment Problem: Less Severe
Anomaly.Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Detector.Automation: Aircraft Other Automation
When Detected: In-flight
Result.Flight Crew: Landed in Emergency Condition
Result.Flight Crew: Returned To Departure Airport

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

Lavatory smoke EICAS warning at 500 AGL. Advised ATC and setup to return to [departure airport]. Ran QRH for EICAS message and completed emergency landing checklist. Landed underweight. Did not evacuate at guidance of Aircraft Rescue and Fire Fighting (ARFF). Taxied to gate with ARFF following. Wrote up in logbook. Mechanic mentioned a recent engine change on our airplane.

**Synopsis**

EMB190 Captain experienced a lavatory smoke EICAS at 500 feet AGL after takeoff and returned to the departure airport.
ACN: 1372124  (42 of 50)

Time / Day
Date: 201607
Local Time Of Day: 1801-2400

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

Environment
Flight Conditions: VMC
Light: Night

Aircraft
Reference: X
ATC / Advisory.Tower: ZZZ
Aircraft Operator: Air Taxi
Make Model Name: Learjet 35
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 91
Flight Plan: IFR
Mission: Ferry
Flight Phase: Climb
Airspace.Class B: ZZZ

Component
Aircraft Component: Powerplant Fire/Overheat Warning
Manufacturer: Lear
Aircraft Reference: X

Person: 1
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Taxi
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1372124

Person: 2
Reference: 2
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Taxi
Function.Flight Crew: First Officer
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1372125
Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Diverted
Result.Flight Crew : Inflight Shutdown
Result.Flight Crew : Landed As Precaution
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Returned To Departure Airport
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

During my departure brief I said we were under landing weight (15,300) and because of the bubbles in our wings we would be under tip weight shortly (we left the ramp with 1,000 in each tip). I also briefed in case of an emergency we would return back to [departure airport] and pointed out the fire department as we taxied by it.

During takeoff all engine gauges were normal. Gear up, then noise abatement power, V2 +30, I call flaps up after takeoff. Then I see the master warn light and look to the annunciation panel and see the right engine fire T-handle flashing. Called fire fire fire. Pulled the right engine to idle and waited approximately 10 seconds then I shut the engine down and pulled the right fire T-handle. I wait another 5 seconds to see if it would self-extinguish and pressed a halon button and called the tower. Said we had an engine fire and we are turning back. [Pilot not flying], got the emergency check list and did the engine fire emergency check list, then asked if I needed anything. I said we were landing single engine so our Max flaps are 20 degrees, what's our ref speed at our weight with 20 degrees of flaps. The tower advised [Runway XYC] was available. I said we'll take it. Then the tower asked if we had the runway in sight. I said we did and we were cleared to land. When we turned base the fire light was still flashing so I pressed the second halon button. Called flaps 8 and gear down before landing checklist. I advised the tower we would shut down on the runway and evacuate the plane upon landing. Then I briefed [Pilot not flying], that once the plane was stopped and I set the brake, I wanted him to get up and get the door open and get out of the plane while I finished shutting down the plane.

Then landing was normal and uneventful. Used the spoilers and normal braking. Got the plane to a complete stop, set the brake, shut down the left engine and told [Pilot not flying] to get out. [Pilot not flying] departed the airplane while I shut of the emergency battery and the main batteries and I departed too.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis
Learjet 35 flight crew reported a right engine fire warning during initial climb. The crew shutdown the engine and returned to the departure airport.
ACN: 1371199 (43 of 50)

Time / Day
Date : 201607
Local Time Of Day : 0601-1200

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

Environment
Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 100
Light : Daylight

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

Component
Aircraft Component : Drinkable/Waste Water Syst
Aircraft Reference : X
Problem : Malfunctioning

Person
Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1371199

Events
Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Detector.Person : Flight Crew
Detector.Person : Passenger
Detector.Person : Flight Attendant
When Detected : In-flight
Result.Flight Crew : Diverted

Assessments
Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1
I was PM (Pilot Monitoring) and SIC (Second in Command). We were at FL360 and deviating around some storms in the area. The PF (Pilot Flying) and I noticed at the same time a strong burning odor that smelled like burning plastic. At the time were no EICAS messages or any indication out of the ordinary. We checked with the FA's (Flight Attendants) to see if there was anything going in the cabin that could be causing the smell. The FA said that the odor was apparent in the forward part of the cabin, and was beginning to cause concern amongst the passengers. The FA checked the cabin, including the lavs, for anything that could be causing the odor and found nothing. Our thoughts turned to the checked bags down below, and the fact that passengers admitted to having laptops, iPads, phones, etc. packed in them. However there were no cargo smoke indications.

During the time that the FA was checking the cabin, the odor continued, and we began the smoke, fire, fumes QRH procedure. We then briefed the FAs on our plan of action. We [advised ATC], contacted dispatch, and began formulating a diversion plan with them. We decided that since there was no smoke, only an odor, that there wasn't enough of a threat to make donning oxygen masks necessary, and that donning them would only distract us and increase the already high workload. The QRH directed us to turn off the recirc fan, which did stop the odor. The QRH steps after that were use smoke evac procedure as necessary (which wasn't), land ASAP, and brief the FAs using "TEST" which we did. That was the end of the QRH.

Pretty much as soon as we noticed the odor we discussed ZZZ as an appropriate diversion airport. It was directly in front of us, had good weather, appropriate CFR (Crash Fire Rescue) and facilities, and good long runways. By the time we made the call to begin descending, we were about 80 miles from the field.

ATC gave us some vectors to allow us to descend for a visual approach to runway 22 in ZZZ. There was some momentary confusion, due to ATC vectors and descriptions that seemed misleading to us as to the correct runway and/or airport, especially since [another airport] is literally a mile north and a very similar runway.

Since there was another airport extremely close to ZZZ, it was important to ensure we were landing at the correct airport where we had crash, fire rescue standing by.

Due to the confusion, we asked ATC to give us vectors to line us up on the ILS 22, which had been set up, tuned and briefed. Also, at some point during the descent/approach a blue REMOTE CB TRIP message posted on EICAS, but since we were so close to landing we decided to address that after landing safely.

We made a normal, stable approach and landing to RWY 22 in ZZZ, exited the runway, shutdown the engines and had airport fire inspect the aircraft for heat signatures and look in the fwd cargo compartment, the only one with bags. After getting the all clear from them that there was no apparent or imminent danger, we started the engines and taxied
to the gate. At the gate, we deplaned the pax, and the captain had paramedics come check on the few that complained of feeling nauseous. Also, TSA came out and inspected the checked bags, finding no signs of anything burning.

Maintenance came out and addressed the tripped remote CB, which was for the water compressor. He reset it, and it popped again, thus identifying this as the probable cause of the burning odor. After locking the CB out, performing an engine run up, MELing the water compressor, and doing all the appropriate paperwork and communications with everyone involved, we loaded up the passengers and continued without further incident.

The burning odor and apparent electric short to the water compressor was a mechanical problem, which we know happens occasionally. I think the actions taken by the flight crew were the most appropriate and timely actions we could have done.

One suggestion I would make to flight crews that encounter an abrupt and unexpected diversion of this nature, is to receive from ATC, if available, at least vectors to join whatever instrument approach, if available, there is to the intended runway. Being a clear and a million day, ATC was giving us a purely visual approach.

Due to the high workload in the situation, it would have expedited the landing more if we had just been given vectors to the ILS, which we had loaded up and tuned, than to be doing a purely visual approach. It would have been helpful if ATC had been more on the ball on their end, however as pilots we should also have the situational awareness to see that instead of a visual approach, getting lined up for an instrument approach would be more beneficial and get us on the ground quicker and easier during an emergency.

**Synopsis**

EMB-175 copilot reported a burning odor from a failed water compressor that caused the crew to divert.
ACN: 1370875 (44 of 50)

Time / Day
Date: 201607
Local Time Of Day: 1201-1800

Place
Locale Reference.ATC Facility: ZZZ.TRACON
State Reference: US
Altitude.MSL.Single Value: 17000

Environment
Flight Conditions: VMC

Aircraft
Reference: X
ATC / Advisory.TRACON: ZZZ
Aircraft Operator: Air Carrier
Make Model Name: Commercial Fixed Wing
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Nav In Use: FMS Or FMC
Flight Phase: Descent
Route In Use.STAR: ZZZZZ
Airspace.Class E: ZZZ

Person: 1
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Total: 14340
Experience.Flight Crew.Type: 11836
ASRS Report Number.Accession Number: 1370875
Analyst Callback: Attempted

Person: 2
Reference: 2
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Pilot Flying
Function.Flight Crew: First Officer
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Total: 8581
Experience.Flight Crew.Type : 8095
ASRS Report Number.Accession Number : 1369866

Events
Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Detector.Person : Passenger
Detector.Person : Flight Attendant
Were Passengers Involved In Event : Y
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments
Contributing Factors / Situations : Equipment / Tooling
Primary Problem : Equipment / Tooling

Narrative: 1
Over the arrival fix, Flight Attendants and passengers seated for turbulence. Flight Attendant called to report a fire in the cabin. A cell phone had caught fire while charging. Passenger dropped the phone on the floor in the aisle. Flames 8-12 inches high. Nearby passengers poured water on the fire and had it extinguished before flight attendants could respond. In the cockpit we selected packs to high flow to clear smoke. Smoke cleared immediately. We continued the visual approach and did not declare an emergency. Requested fire truck and paramedics to meet the plane. Cell phone was a galaxy model. I am glad it was only a cell phone. A laptop battery is much larger and would have created a bigger fire, which could have caused secondary fires.

Narrative: 2
I was flying the last half of the arrival when we got a call from the FAs that there was a fire in the back and they would get back to us but they had no information at the moment. I continued flying the arrival and coincidentally approach had lifted our speed restrictions so I kept flying 280 KTS. The Captain got on the interphone with the FAs and I continued to fly and communicate to ATC. The fire was apparently put out by the passengers (reported flames about 5 inches high) and the Captain called the ramp tower and explained that we wanted the Fire Dept. to meet us at the gate with paramedics as there was a possible injury. We told ATC about our situation and were taken off the arrival for the visual approach. Approach, landing and taxi-in were uneventful.

Synopsis
Air carrier flight crew was informed during descent that a cell phone had caught fire and was dropped in the aisle. Nearby passengers had poured drinks on the fire to extinguish it and the flight continued to destination.
Time / Day

Date: 201607
Local Time Of Day: 1201-1800

Place

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

Environment

Flight Conditions: VMC
Light: Daylight

Aircraft

Reference: X
ATC / Advisory.Tower: ZZZ
Aircraft Operator: Air Carrier
Make Model Name: B737 Undifferentiated or Other Model
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Takeoff

Person: 1

Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days: 20
Experience.Flight Crew.Type: 1139
ASRS Report Number.Accession Number: 1370866
Human Factors: Confusion
Human Factors: Distraction

Person: 2

Reference: 2
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: First Officer
Function.Flight Crew: Pilot Not Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Total: 14000
Experience.Flight Crew.Last 90 Days: 30
ASRS Report Number.Accession Number: 1370451
Human Factors: Confusion
Human Factors: Distraction

Events

Anomaly. Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Detector.Person: Passenger
Detector.Person: Flight Attendant
When Detected: In-flight
Result.General: Maintenance Action
Result.Flight Crew: Rejected Takeoff
Result.Aircraft: Aircraft Damaged

Assessments

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

Narrative: 1

On takeoff after 100 kts and before V1 call we heard rapid bells from the flight attendants and screaming from the cabin. I initially suspected a security incident and intended to continue. The bells continued rapidly and the screaming became louder. I could hear "FIRE" being yelled and "Stop". About the same time I smelled smoke and decided to reject. We stopped straight ahead on the runway, called for CFR and ran the RTO checklist. I am honestly not sure of our actual speed at the decision to reject. There was a lot of commotion, I know the V1 call hadn't been made. After determining the source of the smoke was a portable lithium battery that was sparking, we coordinated with CFR to remove the battery from the airplane to prevent an evacuation.

CFR checked our brake temps, and they were 700 plus and increasing. They put fans on the brakes to cool them. I requested chocks, but they were unavailable so I set the parking brake. We continued to communicate with the FA's and CFR regarding smoke and brake temps. It took about 20-30 mins to cool the brakes to a safe temperature and clear the equipment. We tried to taxi and the airplane would not move. We requested maintenance and found out the brakes were damaged, and requested buses for the passengers. Buses took a very long time - approximately an hour. That was very difficult for the passengers.

Narrative: 2

We attempted to taxi back to the gate and found the brakes were locked up. We coordinated with ops and the people and crew were taken off by bus. After the reject I went back and observed the shards of melting copper and some burn marks and carbon in the area.

Synopsis

B737 flight crew reported rejecting the takeoff somewhere between 100 kts and V1 in response to commotion in the cabin related to a lithium battery fire. The brakes were damaged and fused after the reject procedure.
ACN: 1370557 (46 of 50)

Time / Day
Date: 201607
Local Time Of Day: 0601-1200

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

Environment
Light: Dawn

Aircraft
Reference: X
ATC / Advisory.Ramp: ZZZZ
Aircraft Operator: Air Carrier
Make Model Name: B777-200
Crew Size.Number Of Crew: 3
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Initial Approach
Flight Phase: Taxi

Component
Aircraft Component: APU
Aircraft Reference: X

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Cabin Activity: Safety Related Duties
Cabin Activity: Deplaning
Reporter Organization: Air Carrier
Qualification.Flight Attendant: Current
ASRS Report Number.Accession Number: 1370557
Human Factors: Physiological - Other
Human Factors: Communication Breakdown
Communication Breakdown.Party1: Flight Crew
Communication Breakdown.Party2: Flight Attendant
Analyst Callback: Attempted

Events
Anomaly.Aircraft Equipment Problem: Less Severe
Anomaly.Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Anomaly.Flight Deck / Cabin / Aircraft Event: Illness
Anomaly.Deviation - Procedural: Published Material / Policy
Anomaly.Inflight Event / Encounter : Other / Unknown
Detector.Person : Flight Attendant
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.General : Physical Injury / Incapacitation

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

Narrative: 1

Shortly before landing, the cabin area around the 3L and 3R doors smelled strongly like vomit or sweaty feet/old socks. I covered my nose with my necktie at the 3R jumpseat. I had taken my jumpseat about 3-5 minutes before landing after I had completed my final safety checks. That's when I noticed the smell. I deliberated for a moment about whether to call the pilots during sterile cockpit or whether to let them know on the ground. I decided on the latter. I failed to call the purser before touchdown and inform him of the smell. I had smelt something similar but much less intense during takeoff and had not found it noteworthy then. As far as I am aware, there was no such smell in coach during the flight. None of the passengers in the area seemed sick, no one from the crew was aware of any passenger having thrown up. After landing, before I could take the issue further, a debriefing by the captain in first class was announced. I couldn't hear much of what he was saying because by the time I arrived he was talking to station mechanics. Apparently, during the flight, that same smell had gone to nearly unbearable extremes inside the cockpit. The copilot later on the remote gate shuttle bus explained that they had several times considered diverting the flight. This was the first time I heard of that. I asked the purser on the bus if he had known of any of this in flight. He said no. There was also talk on the bus that one of the auxiliary power units had failed in flight. I had not heard of that before either. I was not asked by any of the pilots in flight if there was a strange smell in the (economy) cabin, nor am I aware that anyone of my coach coworkers was consulted. Inside the terminal, I went to a restroom because I felt the unusual urge to blow my nose, clear my throat and spit out the saliva several times. I drove home in my car after the flight and stopped 20 minutes later at an autobahn restaurant due to a headache. After some research at home, I am concerned that I have been exposed to (TCP) contaminated, toxic bleed air through the air conditioning system on today's flight. I would like to be informed what the exact findings (by maintenance or whoever is in charge) were as to why a severe smell was present in the cockpit and in the cabin on today's flight and what has been done about the incident. The airplane was supposed to go on to ZZZ today, according to the ZZZZ ground agent.

Synopsis

A B777 Flight Attendant reported detecting a sweaty feet/old sock odor toward the flight's end and during taxi. The Captain held a post flight debrief and announced the crew considered a diversion because of a strong flight station odor. Someone mentioned an inflight APU failure.
ACN: 1369632 (47 of 50)

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

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

Environment
Flight Conditions: VMC
Light: Daylight

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

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

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Carrier
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1369632

Events
Anomaly.Aircraft Equipment Problem: Critical
Anomaly.Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
Detector.Person: Flight Crew
When Detected: Taxi
Result.General: Maintenance Action
Result.Flight Crew: Returned To Gate
Result.Flight Crew: FLC complied w / Automation / Advisory

Assessments
Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

**Narrative: 1**

During taxi out (APU was shut down after engine start) prior to takeoff, APU exhaust fire was reported by an aircraft behind us. We then found that APU fuel valve had failed to close after shutdown. We pressed APU Fire and pulled APU fuel circuit breaker per mx control to no avail. Thanks to good work by [the] fire department no evacuation was required as the fire was extinguished. We taxied safely back to gate followed by the fire trucks. We never received any ECAM or cockpit warning of the APU fuel valve disagreement. The only cockpit indication was found when we selected the fuel system page where we were able to see the APU fuel valve stuck in the open (or not closed) position with the APU shut down.

I believe ECAM should have caught this, but am still researching. Should we check the fuel page before takeoff?

**Synopsis**

A320 Captain reported returning to the gate after shutting down the APU because of an APU exhaust fire.
**ACN: 1369359** (48 of 50)

**Time / Day**
- Date: 201607
- Local Time Of Day: 0001-0600

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

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

**Aircraft**
- Reference: X
- ATC / Advisory: Tower: ZZZ
- Aircraft Operator: Corporate
- Make Model Name: BAe 125 Series 800
- Crew Size: Number Of Crew: 2
- Operating Under FAR Part: Part 91
- Flight Plan: VFR
- Mission: Ferry
- Flight Phase: Takeoff
- Airspace: Class B: ZZZ

**Component**
- Aircraft Component: Pressurization System
- Aircraft Reference: X
- Problem: Malfunctioning

**Person**
- Reference: 1
- Location Of Person: Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Corporate
- Function: Flight Crew: First Officer
- Function: Flight Crew: Pilot Flying
- Qualification: Flight Crew: Air Transport Pilot (ATP)

**Events**
- Anomaly: Aircraft Equipment Problem: Less Severe
- Anomaly: Flight Deck / Cabin / Aircraft Event: Smoke / Fire / Fumes / Odor
- Detector: Person: Flight Crew
- When Detected: In-flight
- Result: Flight Crew: Landed in Emergency Condition
- Result: Flight Crew: Returned To Departure Airport

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

Narrative: 1

On takeoff, upon application of the main air valves to the open position, the cockpit and cabin immediately filled with thick, heavy, billowing smoke with an unusual oily smell. The main air valves were immediately turned back to off. Although there were no passengers on board, I did look back into the cabin momentarily to see if there was smoke there as well, and it was so thick, I could barely see the lavatory door.

The Captain took control of the aircraft and we returned to the airport immediately. Although we were over landing weight, my Captain not only displayed a very high degree of professionalism, but exemplary airmanship as well. He performed the smoothest touchdown I’ve ever experienced in 42 years of flying. I consider myself lucky to have been paired with this man, as I truly believe he saved not only his life, but mine as well. Not to mention a company asset of extremely high intrinsic value.

Synopsis

Hawker 800 flight crew reported heavy smoke in the cockpit and cabin shortly after takeoff. The flight returned to point of origin.
After closing the door, aft cargo doors were still open loading cargo. Belt had oil residue that began to smoke. First officer saw white smoking coming from aft right. Initially [the flight crew] was not sure if the smoke was from the plane or outside. Captain immediately called for the jet bridge to come back. We disarmed [the door], but when we assessed that smoke was coming from outside we stopped the jet bridge and armed the doors again. Hazmat came to clean up residue and oil.
Air carrier Flight Attendant reported smoke outside the aircraft after the cabin doors had been closed. This caused some worry in the cockpit and cabin until it was discovered that the smoke was coming from a belt loader.
ACN: 1368682 (50 of 50)

Time / Day
Date : 201607
Local Time Of Day : 0001-0600

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

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 : Cruise
Airspace.Class A : ZZZ

Component
Aircraft Component : Cabin Entertainment
Aircraft Reference : X
Problem : Malfunctioning

Person : 1
Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1368682
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 : Pilot Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1368699
Human Factors : Time Pressure
Human Factors : Workload
Events
Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Passenger
Detector.Person : Flight Attendant
When Detected : In-flight
Result.Flight Crew : Diverted
Result.Flight Crew : Landed As Precaution

Assessments
Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

1.5 hours into flight I was informed that a passenger reported smoke rising from below [the] seat. The Inflight Entertainment (IFE) box below the seat appeared to be the source of the smoke. The flight attendants moved the passenger and used a Halon extinguisher on the IFE box below the seat. I decided to run the QRH smoke, fire or fumes checklist. I instructed the flight attendants to turn off the IFE, power port, and internet switches.

The smoke appeared to decrease, however I was uncomfortable continuing the flight with a possible IFE related electrical/smoke problem. I decided a diversion was in order. I decided on a diversion to [a suitable alternate]. I [advised] ATC and requested direct routing. I sent emergency and diversion ACARS messages to Dispatch. I briefed the flight attendants, made a PA to the passengers, and made contact with operations. I elected to fly the overweight landing. We landed without incident.

Aircraft Rescue and Fire Fighting (ARFF) followed us to the gate. Once the jet bridge was brought to the aircraft, ARFF boarded and inspected the area around seat 20 B. Their thermal sensors showed no hotspots. I decided to have the passengers exit into the terminal and await further instructions. I coordinated with Maintenance and Dispatch. Contract maintenance arrived within 30 minutes. My crew and I were comfortable continuing if the entire IFE system was disabled and placarded inoperative. We also needed an overweight landing inspection and a replacement Halon extinguisher. In the end, the aircraft was taken out of service due to the lack of a replacement Halon extinguisher. We were rescheduled to depart later in the day and sent to the airport hotel for crew rest.

I would like to commend [the] First Officer for outstanding airmanship and professionalism in assisting me during this time-compressed emergency.

Additionally I want to commend [the] flight attendants for their professionalism and skill in handling a difficult situation. Their actions addressing the smoking IFE equipment quickly defused what could have become a dangerous situation.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis
B737-800 flight crew reported diverting to an alternate airport after smoke in the cabin was traced to the inflight entertainment box below a passenger seat.