Selected Smoke, Fire and Fumes Events, May–August 2015

Event Date	Flight Phase	Classification	Subclassification	Aircraft	Operator
May 1	Cruise	Air distribution system	Smoke	767	Hawaiian Airlines
Performed an air turn back due to fumes and smoke in cabin. Accomplished visual inspection of cockpit, cabin and electronics and equipment (E&E) compartments, no defects noted. Accomplished visual check of left and right engines and auxiliary power unit (APU). No defects noted. Ran engines and APU with right pack off. No defects noted. All eight emergency escape slides were deployed.					
May 5	Descent	Air distribution system	Smoke	DHC8	Horizon Air
On descent, crew, captain and first officer smelled faint smoke odor. About one minute later, flight attendant called and said there was smoke in the cabin. An emergency was declared and the airplane landed without incident. Crew accomplished environmental control system health check. Accomplished removal odor from aircraft ducts. Operational check of recirculating fan and all interior lights, no defect found. Aircraft ok for continued service.					
May 6	Climb	Air distribution system	Smoke	737	United Airlines
Electrical fume smell detected after takeoff throughout airplane. Flight diverted. Ran APU and both engines trying to isolate cause of odor. Determined to be oil while APU bleed is on. Crew confirmed oil was what they smelled. No active external APU leaks noted. APU electrics may be used, not pneumatics. Accomplished fault isolation manual task 49-55-00-810-802, no defects noted; ran APU for an hour, no smell noted in cabin or visual indication of smoke in cabin. Aircraft OK to continue, placard removed.					
May 6	Cruise	Air distribution fan	Smoke	A320	United Airlines
Crew reported faint smell of smoke, followed by extraction fan fault and circuit breaker popped. Found extract fan seized and source of smoke. Removed and replaced fan in accordance with maintenance manual. Operations checked in accordance with manual.					
May 7	Cruise	Cabin cooling system	Smoke	ATR72	Clearwater Flying Service (121)
Approximately 60 nm (111 km) out, the crew detected a strong smoke smell in the cockpit and declared an emergency as smoke began to build in the cockpit. While the crew was running through the checklist for smoke in the cockpit, the smoke lifted and the crew elected to continue to the destination. Aircraft landed without incident. After extensive troubleshooting, the insulation shroud on the entry duct to the right pack was found to be damaged, as well as damaged bearings on the right pack. Deferred both the right bleed valve and the right pack. Turbine cooling en route. Performed leak detection wire check and operations check. Checks were good. Aircraft returned to service.					
May 10	Cruise	Cabin cooling system	Smoke	EMB-145LR	Atlantic Southeast Airlines
The crew reported dust or smoke observed in cockpit and noise heard near Row 11 during flight. Pack number 1 overload message after landing. Maintenance inspected and replaced the number 1 pack air cycle machine. Operational checks were good.					
May 14	Climb	Air distribution system	Smoke	EMB-145XR	Atlantic Southeast Airlines
Crew reported smoke in cabin after takeoff. Aircraft returned to departure airport. Maintenance inspected and found hose to number 1 recirculation fan muffler causing condensation to pour into the cabin through the lower vents at the center aisle. Maintenance re-secured hose and performed a successful operational check. Aircraft was approved for return to service.					
May 17	Climb	Air distribution system	Smoke	757	Delta Air Lines
Returned to departure airport due to a report of smoke in the cockpit, declared emergency landing. In accordance with fault isolation manual inspected all cabin lighting fixtures, galley ovens, coffee makers and vents. Inspected APU area, inside ducts from APU to packs all normal. Inspected packs and recirculating fan areas including filters; all found clean without odors. Checked all in-flight entertainment (IFE) and E&E compartments without odors. All circuit breakers found in, ran engines at high power, no issues. Packs and APU running during entire ground time. OK for service.					
May 26	Climb	Air distribution system	Smoke	MD-88	Delta Air Lines
Flight returned to departure airport after smoke accumulated in the cabin and cockpit. The aft lavatory smoke detector also sounded briefly. Maintenance replaced a leaking APU and accomplished the pneumatic system duct burn-out procedures.					
May 28	Descent	Autopilot computer	Smoke	767	ABX Air Inc
Fumes in cockpit after loss of autopilot. Replaced faulty center flight control computer.					
June 5	Not Reported	Cabin cooling system	Smoke	EMB-145LR	Atlantic Southeast Airlines
The crew reported smoke in the cockpit. The aircraft landed without incident. Maintenance removed and replaced both air cycle machines, operationally tested with no defects noted, and the aircraft was approved for return to service.					
June 5	Descent	Air distribution system	Smoke	CL600	Express Airlines
At 10,000 ft, the first officer reduced thrust to flight idle to initiate descent. At about the same time, a puff of smoke entered the cockpit. The smoke went away almost immediately. All engine and environmental control system indications normal, no cautions. Flight attendants mentioned that they did smell something, but it also went away immediately. We weren't sure if it was burning oil or a stuck valve, but there was no smoke after the first incident. No faults for any associated system noted. Inspected electronics bay and aft equipment bay. No abnormalities noted. Inspected cockpit and cabin lighting system. No faults noted. Performed APU bleed air operations, checked with left and right packs.					
June 7	Not reported	Cabin cooling system	Smoke	EMB-145LR	Atlantic Southeast Airlines
The crew reported cabin smoke during flight. The aircraft diverted and landed without incident. Maintenance inspected the aircraft and found the number 2 pack to be on deferral, and the aircraft was approved for return to service. The aircraft returned overnight, where maintenance removed and replaced the number 2 air cycle machine, operationally tested with no defects noted, and the aircraft was approved for return to service.					
June 7	Cruise	Air distribution system	Smoke	EMB-145LR	American Eagle Airlines
At cruise, electrical smell in cockpit and cabin was very strong. Emergency was declared, airplane landed and ground evacuation was ordered. Smelled like ozone. Troubleshooting yielded inconclusive results, could not duplicate smell. No other defects noted.					

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Event Date	Flight Phase	Classification	Subclassification	Aircraft	Operator
June 8	Descent	Air distribution system	Smoke	MD-88	Delta Air Lines
Flight attendant reported smoke building in the aft cabin on final approach, accompanied by the aft right lavatory smoke detector in alarm. Visible smoke was observed inside lavatory, so the flight attendant discharged the portable fire extinguisher into the aft lavatory and secured the door. Maintenance found a gasper duct behind the aft lavatory mirror disconnected and emitting mist. The duct was secured and a pneumatic system burn-out was performed. No further visible smoke and no odors noted, so the aircraft was returned to service.					
June 12	Cruise	Cabin cooling system	Smoke	EMB-145LR	American Eagle Airlines
At cruise at Flight Level 250, with power in climb thrust, smoke detected in cockpit and cabin. Smoke dissipated after two minutes. After landing, maintenance removed and replaced the number 2 air cycle machine in accordance with the aircraft maintenance manual. Operations checked good.					
June 17	Cruise	Cabin cooling system	Smoke	EMB-145XR	Atlantic Southeast Airlines
At cruise, crew noticed smoke in cockpit and cabin. Aircraft diverted and an emergency was declared. Maintenance found right air cycle machine (ACM) making loud squealing noise and smoking. Maintenance removed and replaced the ACM in accordance with the maintenance manual. The unit ops checked good. The aircraft was approved for return to service.					
June 25	Climb	Engine (turbine/turboprop)	Smoke	EMB-145LR	Atlantic Southeast Airlines
The crew reported vapor/smoke in the cabin and cockpit when switched to engine bleeds after takeoff. The aircraft returned to departure airport, where it landed without incident. Maintenance removed and replaced the number 1 engine, operationally tested with no defects noted, and the aircraft was approved for return to service.					
June 29	Unknown	Cabin cooling system	Smoke	EMB-145LR	American Eagle Airlines
Flight attendant reported smoke in cabin. Observed and smelled smoke in cockpit, smelled electrical in nature. Crew continued descent to nearest suitable airport. Smoke cleared, no other indications. Note Flight Level 250, cruise flight number 2 pack off. Found number 1 pack ACM impeller and exhaust turbine blades broken and grinding against casing. Removed and replaced ACM in accordance with maintenance manual. Operations checked good. No odor noted.					
July 10	Cruise	Cabin cooling system	Smoke	EMB-145LR	American Eagle Airlines
Smoke in the cockpit at cruise. Crew declared an emergency and accomplished fault isolation manual task 21-20-00-810-801 for smoke in the cockpit at cruise. Found left ACM nearly seized, causing smoke in cockpit. Deferred left pack inoperative. Operations checked good. Minimum equipment list restored.					
July 18	Cruise	Air distribution system	Smoke	MD-10	Federal Express
At cruise, excessive smoke filled the cockpit. Appeared to come through the ventilation system. Cockpit temperature setting had recently been adjusted to a warmer setting. Temperature control returned to coldest setting. Smoke dissipated during emergency descent. Ran engines individually while operating packs individually and together. Ran engines together with packs operating. All packs operated with no evidence of smoke or odor. Inspected all three packs and pack bays. No defects noted. Inspected avionics and center accessory bays, no evidence of smoke or defects. Replaced both avionics fan filters and accessory bay fan filter. Ran packs for two hours at various temperatures and different isolation configurations, no defects.					
August 2	Climb	Cabin cooling system	Smoke	EMB-145LR	Atlantic Southeast Airlines
After takeoff, at 4,000 ft, flight attendant called and said there was smoke in the cabin. Pilot and first officer could see smoke, declared an emergency, and returned to the airport. Maintenance inspection found number 2 ACM seized. Placed on minimum equipment list. Maintenance later removed and replaced ACM with operational check good. Aircraft was approved for return to service.					
August 2	Climb	Engine reverse thruster	Smoke	757	Delta Air Lines
Performed an air turnback due to smoke on the flight deck. No emergency was declared. Determined odor to be from number 1 engine. Found oil leaking from number 1 engine inboard right thrust reverser open actuator onto and into high stage bleed slip joint. Cleaned and prepped for high power run. Leak and operational check good. Reinstalled outboard thrust reverser on number 1 engine open actuator rod end to facilitate removal and replacement of inboard actuator in accordance with aircraft maintenance manual. Operational check normal. Number 1 engine change accomplished.					
August 13	Climb	Engine (turbine/turboprop)	Smoke	777	Omni Air Express
Climbing through Flight Level 230, left engine compressor stalled twice, then exhaust gas temperature (EGT) gauge turned yellow, cockpit filled with smoke. Oxygen masks donned. Oil quantity showed zero. Engine was shut down in accordance with severe damage checklist due to accompanying vibration.					
August 14	Climb	Emergency equipment	Smoke	Falcon 50	Executive Jet Aviation
Climbing through 22,000 ft, first officer smelled something burning. Donned the oxygen masks, declared an emergency and landed immediately, performing as much of the appropriate emergency checklist as possible. Checked copilot's rechargeable flashlight and found it was hot and had an electrical odor. Verified odor with line personnel. Removed and replaced pilot and copilot flashlight assemblies. Operational check good.					
August 16	Cruise	Air distribution system	Smoke	757	American Airlines
Just after level off, fumes reported in cockpit and cabin suggestive of an electrical fire. Emergency declared, landing uneventful and aircraft not overweight. Found displaced insulation contacted hot duct, secured insulation. Event repeated on next flight with an air interrupt return. Removed and replaced left and right high-efficiency particulate air (HEPA) filters in accordance with aircraft maintenance manual. No findings noted on engine run-up. System checked normal.					
August 30	Descent	Electrical power system	Smoke	A320	JetBlue Airways
Smoke detected on the flight deck during descent through 11,000 ft. Odor of hot plastic, and smoke dissipated briefly and returned at approximately 6,000 ft. Visible light smoke seen beneath captain's map light. Odor dissipated by landing. Inspected all avionics bay for evidence or wiring damage or defective equipment. No defects noted. Found captain`s electrical outlet in cockpit damaged. Removed and replaced electrical outlet in accordance with aircraft maintenance manual. Operational check OK.					