

ASRS Database Report Set

Wake Turbulence Encounters

Report Set Description.....A sampling of reports from flight crews encountering, or affected by, turbojet wake turbulence.

Update Number.....20.0

Date of UpdateMay 31, 2018

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

Number of New Records in Report Set45

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.

National Aeronautics and
Space Administration

Ames Research Center
Moffett Field, CA 94035-1000



TH: 262-7

MEMORANDUM FOR: Recipients of Aviation Safety Reporting System Data

SUBJECT: Data Derived from ASRS Reports

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

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

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

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

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

Linda J. Connell

Linda J. Connell, Director
NASA Aviation Safety Reporting System

CAVEAT REGARDING USE OF ASRS DATA

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

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

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

Report Synopses

ACN: 1523407 *(1 of 50)*

Synopsis

EMB-175 Captain reported encountering wake turbulence departing SEA in trail of an Airbus A320.

ACN: 1522558 *(2 of 50)*

Synopsis

B757 Captain reported a momentary flap overspeed resulted following an encounter with a wind gust or wake turbulence.

ACN: 1521080 *(3 of 50)*

Synopsis

ORD Tower Controller reported receiving a report from a departing B757 flight crew that they encountered wake turbulence after takeoff five miles in trail of an A330.

ACN: 1517400 *(4 of 50)*

Synopsis

Learjet 60 Captain reported a wake vortex encounter on descent into LAS that resulted in an 80 degree roll to the right.

ACN: 1512649 *(5 of 50)*

Synopsis

A320 flight crew reported a wake turbulence encounter with an Airbus on departure from ORD Runway 22L resulting in a flap overspeed.

ACN: 1512259 *(6 of 50)*

Synopsis

BE-400 flight crew reported encountering wake turbulence in trail of an Airbus on the CHSLY3 Arrival into CLT.

ACN: 1511632 *(7 of 50)*

Synopsis

B737 First Officer reported continuing an unstabilized approach contrary to SOP. Fatigue and distractions were cited as contributing.

ACN: 1509218 *(8 of 50)*

Synopsis

EMB-135 First Officer reported executing a go-around on short final at IAH when they encountered wake turbulence in trail of a B747.

ACN: 1509149 *(9 of 50)*

Synopsis

ZNY Controller reported receiving a wake turbulence report from an A320 flight crew. Wake may have come from a B777 that was 15 miles ahead of the A320.

ACN: 1508129 *(10 of 50)*

Synopsis

A319 Captain and a Company Dispatcher reported the aircraft encountered wake turbulence at FL362 when they crossed the wake from an A380 at FL380. The Captain suggested more stringent separation standards relative to Super heavy A380 aircraft.

ACN: 1507049 *(11 of 50)*

Synopsis

B737 Captain reported the aircraft rolled into a 45-degree bank after encountering wake turbulence 9.5 miles in trail of an A330 on arrival into LAX.

ACN: 1506180 *(12 of 50)*

Synopsis

ERJ-175 flight crew reported executing a go-around after encountering wake turbulence from a B767 on short final at LAX.

ACN: 1505440 *(13 of 50)*

Synopsis

B777 flight crew reported three Flight Attendants were slightly injured in a wake turbulence encounter at FL320 near TNT VOR in England.

ACN: 1504036 *(14 of 50)*

Synopsis

ATR-72 Captain reported executing a go-around after encountering wake turbulence at 200 AGL on approach in trail of a B767.

ACN: 1503285 *(15 of 50)*

Synopsis

N90 TRACON Controller reported receiving reports of wake turbulence from an EMB-145 flight crew on arrival into LGA 5 miles in trail of a B737-8 MAX. Reporter expressed

concern that the B737-8 MAX may have to be classified as a heavy jet for wake turbulence separation purposes.

ACN: 1503106 *(16 of 50)*

Synopsis

CRJ-200 flight crew reported executing a go-around after encountering wake turbulence at 50 AGL at ATL while following an A320.

ACN: 1502977 *(17 of 50)*

Synopsis

B737 flight crew reported they failed to make a crossing restriction on arrival into OAK after multiple wake turbulence encounters.

ACN: 1502484 *(18 of 50)*

Synopsis

B737 Captain reported encountering wake turbulence on arrival into LAX in trail of a B777. He recommended that separation between light and heavy aircraft inbound to LAX be increased.

ACN: 1500621 *(19 of 50)*

Synopsis

B737 Captain reported a tail strike resulted from a pitch up at touchdown. Wake turbulence may have been a factor.

ACN: 1500481 *(20 of 50)*

Synopsis

CRJ-200 First Officer on approach to IND in trail of a heavy reported speed dropped 10 kts which triggered the stick shaker in a possible wake vortex encounter.

ACN: 1500075 *(21 of 50)*

Synopsis

ORD Tower Controller reported a CRJ-200 encountered wake turbulence 2.7 miles in trail of a B757 on approach to Runway 10C.

ACN: 1499800 *(22 of 50)*

Synopsis

B737 flight crew reported encountering wake turbulence shortly after takeoff in trail of a B757.

ACN: 1499529 *(23 of 50)*

Synopsis

A319 Captain reported encountering wake turbulence 10 miles in trail of an MD11.

ACN: 1499171 *(24 of 50)*

Synopsis

EMB-505 flight crew reported encountering wake turbulence 10 miles in trail of an A350 at FL425.

ACN: 1498435 *(25 of 50)*

Synopsis

MD-11 Captain reported executing a go-around following a wake turbulence encounter and a firm touchdown in gusty wind conditions.

ACN: 1497348 *(26 of 50)*

Synopsis

CE680 Captain reported encountering wake turbulence on arrival into MCO 6 miles in trail of an A321.

ACN: 1497221 *(27 of 50)*

Synopsis

EMB-170 First Officer reported a Flight Attendant was injured during a wake turbulence encounter 8 miles in trail of a B777 on arrival into LAX.

ACN: 1497080 *(28 of 50)*

Synopsis

Falcon 2000 pilot reported encountering wake turbulence 5 miles in trail of an A320 on approach into SAN.

ACN: 1495473 *(29 of 50)*

Synopsis

B737 flight crew reported encountering wake turbulence at FL310 7 miles in trail of a B777 on arrival into EWR.

ACN: 1493949 *(30 of 50)*

Synopsis

EMB-145 Captain reported returning to the departure airport after a Flight Attendant was injured during a wake vortex encounter climbing through FL235 in trail of a B777.

ACN: 1493767 *(31 of 50)*

Synopsis

CRJ-200 First Officer reported the stick shaker was activated on initial climb out of ORD when they encountered wake turbulence in trail of an A319/320.

ACN: 1491962 *(32 of 50)*

Synopsis

CRJ-200 Captain reported encountering wake turbulence departing DTW in trail of an A321.

ACN: 1491841 *(33 of 50)*

Synopsis

B737 Captain reported they failed to make a crossing restriction on arrival into SFO. Fatigue and distraction from a wake turbulence encounter were cited as contributing factors.

ACN: 1491786 *(34 of 50)*

Synopsis

B737 flight crew reported they overshot final approach course at LAX when the autopilot failed to capture the localizer. Wake turbulence was also cited as contributing factor.

ACN: 1491546 *(35 of 50)*

Synopsis

B737 First Officer reported an encounter with light wake turbulence on arrival into LAX in trail of a heavy aircraft.

ACN: 1491284 *(36 of 50)*

Synopsis

B737 First Officer reported missing a crossing restriction on climbout from LAX citing VNAV performance and a wake turbulence encounter as contributing.

ACN: 1491067 *(37 of 50)*

Synopsis

CE-680A flight crew reported overshooting an altitude restriction departing TEB when they were distracted by a wake turbulence encounter.

ACN: 1489533 *(38 of 50)*

Synopsis

B737NG flight crew reported an altitude deviation on arrival into BOS.

ACN: 1489372 *(39 of 50)*

Synopsis

CRJ-900 flight crew reported a track deviation occurred departing DFW airport.

ACN: 1488410 *(40 of 50)*

Synopsis

EMB-145 flight crew reported a minor track deviation occurred when they encountered wake turbulence on approach into PHL in trail of an A320.

ACN: 1488306 *(41 of 50)*

Synopsis

B737 Captain reported encountering wake turbulence on short final at PHX in trail of a B757.

ACN: 1488242 *(42 of 50)*

Synopsis

C525 Captain reported a track deviation during climb from SLC when they were distracted by turbulence or a wake vortex encounter.

ACN: 1487157 *(43 of 50)*

Synopsis

A319 flight crew reported encountering significant wake turbulence on approach to CLT 4.5 miles in trail of a B757. Reporter expressed concern at the reduced separation standards in trail of B757 aircraft.

ACN: 1486971 *(44 of 50)*

Synopsis

B737 First Officer reported encountering wake turbulence on descent to LAX in trail of an A380. They stated "perhaps more separation is necessary" behind super jumbo aircraft.

ACN: 1486851 *(45 of 50)*

Synopsis

CRJ-200 First Officer reported the stick shaker activated while encountering wake turbulence on approach to ATL in trail of a B777.

ACN: 1484464 *(46 of 50)*

Synopsis

B737-800 flight crew reported encountering wake turbulence in trail of an MD80 on approach to ATL.

ACN: 1484074 *(47 of 50)*

Synopsis

EMB-145 Captain reported executing a go-around at 200 AGL after encountering wake turbulence in trail of a B737 landing at STL.

ACN: 1482835 *(48 of 50)*

Synopsis

Dash 8 Captain reported encountering wake turbulence on approach to EWR in trail of a B757.

ACN: 1481632 *(49 of 50)*

Synopsis

EMB-145 flight crew reported encountering wake turbulence departing EWR in trail of an A321/A320/A319 undifferentiated series aircraft.

ACN: 1481441 *(50 of 50)*

Synopsis

B787 Captain reported speed and altitude deviations occurred on approach to SFO and encountered wake turbulence from the preceding B777.

Report Narratives

Time / Day

Date : 201803
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : SEA.Airport
State Reference : WA
Altitude.MSL.Single Value : 3200

Environment

Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : S46
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 : Climb
Airspace.Class B : SEA

Aircraft : 2

Reference : Y
ATC / Advisory.TRACON : S46
Aircraft Operator : Air Carrier
Make Model Name : Airbus 318/319/320/321 Undifferentiated
Crew Size.Number Of Crew : 2
Flight Plan : IFR
Flight Phase : Climb
Airspace.Class B : SEA

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1523407
Analyst Callback : Completed

Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments

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

Narrative: 1

On initial climb out of Seattle, I was given a 5 NM separation from the preceding Airbus A320 series aircraft. Despite that, at about 3200 ft MSL we encountered wake turbulence. I promptly adjusted my pitch attitude to avoid [it], but I was still in and out for a few hundred feet.

Synopsis

EMB-175 Captain reported encountering wake turbulence departing SEA in trail of an Airbus A320.

Time / Day

Date : 201802

Aircraft

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : B757-200
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger

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 : 1522558

Events

Anomaly.Deviation - Speed : All Types
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

Momentary overspeed flaps 5 degrees due to gust or wake turbulence.

Synopsis

B757 Captain reported a momentary flap overspeed resulted following an encounter with a wind gust or wake turbulence.

Time / Day

Date : 201802

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ORD.Airport

State Reference : IL

Altitude.MSL.Single Value : 1300

Environment

Light : Night

Aircraft : 1

Reference : X

ATC / Advisory.Tower : ORD

Aircraft Operator : Air Carrier

Make Model Name : A330

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 129

Flight Plan : IFR

Mission : Passenger

Flight Phase : Climb

Airspace.Class B : ORD

Aircraft : 2

Reference : Y

ATC / Advisory.Tower : ORD

Aircraft Operator : Air Carrier

Make Model Name : B757 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Initial Climb

Airspace.Class B : ORD

Person

Reference : 1

Location Of Person.Facility : ORD.Tower

Reporter Organization : Government

Function.Air Traffic Control : Local

Qualification.Air Traffic Control : Fully Certified

ASRS Report Number.Accession Number : 1521080

Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter

Detector.Person : Flight Crew

When Detected : In-flight

Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Environment - Non Weather Related

Contributing Factors / Situations : Procedure

Primary Problem : Environment - Non Weather Related

Narrative: 1

[A330] heavy departed 28R full length followed by [B757] departing 28R full length. [B757] reported a wake turbulence event off the departure end with no issues. [A330] was more than 5 miles for proper wake turbulence separation. Event was reported to on duty supervisor with no further incident.

Synopsis

ORD Tower Controller reported receiving a report from a departing B757 flight crew that they encountered wake turbulence after takeoff five miles in trail of an A330.

Time / Day

Date : 201801

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : LAS.Airport

State Reference : NV

Relative Position.Distance.Nautical Miles : 0

Altitude.MSL.Single Value : 8000

Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 30

Light : Night

Aircraft : 1

Reference : X

ATC / Advisory.TRACON : L30

Aircraft Operator : Air Taxi

Make Model Name : Learjet 36

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 135

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Initial Approach

Route In Use.STAR : KEPEC6

Airspace.Class B : LAS

Aircraft : 2

Reference : Y

ATC / Advisory.TRACON : L30

Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer

Flight Phase : Initial Approach

Airspace.Class B : LAS

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 : Instrument

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Total : 8904

Experience.Flight Crew.Last 90 Days : 94

Experience.Flight Crew.Type : 2696

ASRS Report Number.Accession Number : 1517400
Analyst Callback : Completed

Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Regained Aircraft Control
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

Asked to slow to 210 earlier. Encountered wake turbulence from aircraft ahead on the arrival. That aircraft was not in sight. Encountered 30 degree roll to right followed immediately by an 80 degree roll to right. Was able to arrest roll with aileron and dropping altitude. Advised ATC "We're in someone's wake." Given a 90 degree left turn and descent to the airport.

Synopsis

Learjet 60 Captain reported a wake vortex encounter on descent into LAS that resulted in an 80 degree roll to the right.

Time / Day

Date : 201801

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ORD.Airport

State Reference : IL

Altitude.AGL.Single Value : 500

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.Tower : ORD

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 B : ORD

Aircraft : 2

Reference : Y

ATC / Advisory.TRACON : C90

Aircraft Operator : Air Carrier

Make Model Name : Airbus 318/319/320/321 Undifferentiated

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Climb

Airspace.Class B : ORD

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Type : 1773

ASRS Report Number.Accession Number : 1512649

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 2720
Experience.Flight Crew.Type : 828
ASRS Report Number.Accession Number : 1512760

Events

Anomaly.Deviation - Speed : All Types
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments

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

Narrative: 1

During a flaps 3 reduced power takeoff on ORD Runway 22L at approximately 500 AGL, we hit suspected wake turbulence from the preceding Airbus. We had been cleared for takeoff immediately after the Airbus had taken off. FO flew the aircraft through the turbulence with noticeable wing rock and chop. At approximately 700-900 ft, we reencountered a second wake turbulence event. ATC directed a turn towards a westerly heading. PF lowered aircraft nose due to turbulence at which time we exceeded Flap 3 limiting speed. The overspeed bell came on and speed tape indicated an overspeed condition. I called out overspeed and advised PF to increase pitch. Due to the wake turbulence he was busy flying the aircraft. I raised the flap handle to Flaps 1 and the warnings went away. Rest of flight was uneventful. A Maintenance Report was sent to Maintenance for the overspeed.

We debriefed our actions. Emphasis on threat awareness of taking off immediately after another aircraft with strong and turbulent headwinds winds that were present. I should have reviewed and discussed that threat prior to takeoff. We were late for our expected departure clearance time delay to ZZZ and aircraft traffic for takeoff was backed up. In the future I will ensure I include this threat in my departure briefs.

Narrative: 2

Night, VMC departure at ORD 22L, flaps 3. Our takeoff clearance was issued very close behind another Airbus with strong gusty winds slightly from left to right. At approximately 500 AGL, we hit wake turbulence that unsettled the aircraft but subsided. At approximately 1500 AGL as I reduced thrust to climb power for the profile, we hit significant wake turbulence on a 250 heading. While trying to level the aircraft from large wing rocks I allowed the nose to lower below the command bars as the large bank changes were uncomfortable at a high pitch attitude. The aircraft accelerated and I got the overspeed repetitive chime. The Captain raised flaps to 1 recognizing the reason for the chime before I did. This stopped the chime and I raised the nose back to the command

bars and called for flaps up. We retracted flaps and everything was normal from there on out. I estimate about 10 knots of over speed with flaps at 3.

Synopsis

A320 flight crew reported a wake turbulence encounter with an Airbus on departure from ORD Runway 22L resulting in a flap overspeed.

Time / Day

Date : 201801

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : CLT.Airport

State Reference : NC

Altitude.MSL.Single Value : 6000

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.TRACON : CLT

Aircraft Operator : Air Taxi

Make Model Name : Beechjet 400

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 135

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Descent

Route In Use.STAR : CHSLY3

Airspace.Class B : CLT

Aircraft : 2

Reference : Y

ATC / Advisory.TRACON : CLT

Aircraft Operator : Air Carrier

Make Model Name : Airbus Industrie Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Descent

Route In Use.STAR : CHSLY3

Airspace.Class B : CLT

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Taxi

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Captain

ASRS Report Number.Accession Number : 1512259

Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC
Analyst Callback : Attempted

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Taxi
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : First Officer
ASRS Report Number.Accession Number : 1512258
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.ATC Issue : All Types
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
Were Passengers Involved In Event : Y
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

While flying the assigned clearance, descending via the CHSLY3, we received a late wake turbulence advisory from Charlotte Approach (in trail of an Airbus). Our position on the arrival was between CAATT and EPAYE, descending below 8,000 ft to 6,000 ft. Less than two seconds after the advisory and before we had time to respond to the ATC advisory, the jet rolled abruptly and steeply to the left. I immediately disconnected the automation to take command of the aircraft. I stabilized the aircraft and advised ATC of the encounter and then offset the jet from the Airbus' flight path (something I would have done earlier had we NOT been issued a late advisory). I instructed my First Officer to check on the passenger in the back. He was in his seat and appeared visibly shaken. No physical harm to any of the aircraft occupants. Seatbelt sign was on and illuminated at the time of this event. We landed without incident and after the aircraft was in the chocks, I went to the cabin to further check on the passenger (not physically hurt). I also explained to him why the aircraft turned suddenly and steeply to the left. The passenger acknowledged my quick and proper reaction to stabilize the jet. We discussed his return trip departing the same afternoon and he later canceled this trip.

Wake turbulence avoidance is something we learn and are trained on at the beginning of flight training. As professionals we continue to revisit this training and exercise these avoidance procedures. Based upon the circumstances of this wake turbulence event, we as

the crew did everything to ensure the safe operation of the aircraft. Had ATC issued a wake turbulence advisory sooner, I would have requested to offset our course to properly reduce the risk of encountering the Airbus' wake. I also had the TCAS displayed on the MFD with range set inner ring to 5 miles, outer 12.5 miles (traffic well outside of 5 mile ring).

Narrative: 2

During descent to 6000 ft we received an ATC alert of wake turbulence from an Airbus aircraft. Before I could acknowledge the alert the aircraft made an abrupt and significant bank to the left. After recovery the pilot flying informed ATC that we had encountered the turbulence. They issued a 10 degree turn to the left to avoid any other possibilities.

Possibly an earlier turn from ATC would have kept us out of the path of the Wake Turbulence.

Synopsis

BE-400 flight crew reported encountering wake turbulence in trail of an Airbus on the CHSLY3 Arrival into CLT.

Time / Day

Date : 201801

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ATL.Airport

State Reference : GA

Relative Position.Distance.Nautical Miles : 2

Altitude.AGL.Single Value : 500

Environment

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.Tower : ATL

Aircraft Operator : Air Carrier

Make Model Name : B737 Next Generation Undifferentiated

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Final Approach

Airspace.Class B : ATL

Aircraft : 2

Reference : Y

ATC / Advisory.Tower : ATL

Aircraft Operator : Air Carrier

Make Model Name : Commercial Fixed Wing

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Flight Phase : Final Approach

Airspace.Class B : ATL

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : First Officer

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1511632

Human Factors : Distraction

Human Factors : Fatigue

Human Factors : Situational Awareness

Events

Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

We had been operating in the green for the last six legs. During the descent I started reviewing taxi options for landing on 9R and 10 and on arrival I was trying to chair fly all taxi options. We had and reported airport and proceeding traffic in sight on downwind. Once getting vectored on base then to final, twice we were finally cleared for the visual. Close proximity aircraft was at the same altitude on parallel Runway 9R and we hit wake turbulence just as we were cleared for visual. Tower was issuing taxi instructions to Company aircraft and another carrier in front of us while we were continuing down the glideslope. We were stable and made the 1000 call and at 500 we realized flaps were not set from 15 to 30 before 1000 ft above TDZE (Touchdown Zone End) requirement.

Distractions by ATC, anticipation of complex taxi plan, late clearance for visual approach, and back-end of the AM schedule after substandard sleeping conditions all contributed to the missing configuration. We debriefed the event and identified our mistakes. We will be alert at these critical phases in the future. Suggest to other crews to not worry about Ground Operations while in critical phases of flight. Study complex airfield diagram before current leg. Realize ATC distractions and resist attention diversion towards them. Keep situational awareness on profiles and configurations. After debriefing everything, a go-around should have been accomplished.

Synopsis

B737 First Officer reported continuing an unstabilized approach contrary to SOP. Fatigue and distractions were cited as contributing.

Time / Day

Date : 201801

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : IAH.Airport

State Reference : TX

Altitude.AGL.Single Value : 300

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.Tower : IAH

Aircraft Operator : Air Carrier

Make Model Name : EMB ERJ 135 ER/LR

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Final Approach

Route In Use.STAR : LINKK

Airspace.Class B : IAH

Aircraft : 2

Reference : Y

ATC / Advisory.Ground : IAH

Aircraft Operator : Air Carrier

Make Model Name : B747 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Flight Phase : Taxi

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Not Flying

Function.Flight Crew : First Officer

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1509218

Analyst Callback : Attempted

Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Executed Go Around / Missed Approach

Result.Flight Crew : Took Evasive Action

Assessments

Contributing Factors / Situations : Environment - Non Weather Related

Contributing Factors / Situations : Procedure

Primary Problem : Procedure

Narrative: 1

On the LINKK arrival we noticed we were following a heavy 747 and discussed staying a safe distance behind that aircraft for wake turbulence considerations. Upon reaching the final controller our separation had been reported to us as six miles. A visual approach was flown by hand so we could remain safely above the ILS glideslope as a reference for potential wake turbulence. At approximately 300 feet we experienced a wing drop and a go around was executed.

Calm winds and a close approach following a heavy aircraft resulted in an unstable approach.

ATC separation minimums for aircraft the size of an E-135 following a Heavy are in my opinion insufficient. I would recommend additional weight categories and/or increased separation distances.

Synopsis

EMB-135 First Officer reported executing a go-around on short final at IAH when they encountered wake turbulence in trail of a B747.

Time / Day

Date : 201801

Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZNY.ARTCC

State Reference : NY

Altitude.MSL.Single Value : 32000

Environment

Light : Night

Aircraft : 1

Reference : X

ATC / Advisory.Center : ZNY

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 : Cruise

Airspace.Class A : ZNY

Aircraft : 2

Reference : Y

ATC / Advisory.Center : ZNY

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 : Cruise

Airspace.Class A : ZNY

Person

Reference : 1

Location Of Person.Facility : ZNY.ARTCC

Reporter Organization : Government

Function.Air Traffic Control : Enroute

Qualification.Air Traffic Control : Fully Certified

Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 5.5

ASRS Report Number.Accession Number : 1509149

Events

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification

Assessments

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

Narrative: 1

While working sector 73, [an A320] reported to me that he hit a wake and got rocked around pretty bad. The aircraft rolled about 15-20 degrees. The pilot stated that he needed to report this, so, I gave him our facility watch desk's phone number and notified the CIC who notified the Operations Manager. The only other aircraft I can think of that caused this issue was B777 who was 15 miles in front of the [A320] at the same altitude.

Synopsis

ZNY Controller reported receiving a wake turbulence report from an A320 flight crew. Wake may have come from a B777 that was 15 miles ahead of the A320.

Time / Day

Date : 201712

Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZDV.ARTCC

State Reference : CO

Altitude.MSL.Single Value : 36200

Environment

Flight Conditions : VMC

Light : Night

Aircraft : 1

Reference : X

ATC / Advisory.Center : ZDV

Aircraft Operator : Air Carrier

Make Model Name : A319

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Climb

Airspace.Class A : ZDV

Aircraft : 2

Reference : Y

ATC / Advisory.Center : ZDV

Aircraft Operator : Air Carrier

Make Model Name : A380

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 129

Flight Plan : IFR

Mission : Passenger

Flight Phase : Cruise

Airspace.Class A : ZDV

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 : 1508129

Analyst Callback : Completed

Person : 2

Reference : 2
Location Of Person : Company
Reporter Organization : Air Carrier
Function.Dispatch : Dispatcher
Qualification.Dispatch : Dispatcher
ASRS Report Number.Accession Number : 1508020

Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

This was a wake turbulence encounter with an A380 Super Heavy. In cruise flight we asked for higher altitude (we were at FL360 and requested FL380). ATC had us remain at current altitude for crossing traffic, the A380. We were west bound and the Super was at FL370 northeast bound. We saw traffic pass and shortly after ATC issued us climb clearance to FL380. It was night, but with almost full moon, but still could not see any contrails. The FO and I discussed the issue of staying clear of the A380 wake prior to the climb and we thought we were clear of his flight path. As we passed FL362 we had 2 very severe bumps in rapid succession as we crossed his wake. The bumps were like breaking through a brick wall. There was no upset, no altitude change and the cabin crew reported no damage or injuries. We elected to continue the flight. ATC was interested in the situation as they are still collecting data on the A380 wake issues hence this report.

I feel this event shows the A380 Super may need additional consideration in regards to separation and wake turbulence avoidance. We were lucky there were no injuries or aircraft damage. The wake encounter truly felt as if we hit something, it was sharp and hard and only lasted for a moment. ATC was notified right away of the incident and receiving controllers only gave us a copy reply. A few frequencies later, ATC started to ask a lot of questions of the event.

Even though we were aware of the dangers of the A380 wake, and took precaution to avoid it, we still hit it. There needs to be more stringent separation standards in regard to the A380.

Narrative: 2

[An A319] crew advised me that they had a wake turbulence event over HLC VOR. An A380 was heading northeast at FL370. [The A319 crew] was at FL362 heading southeast. The crew reported no cabin issues, no loss of altitude, and no upset - just a crossing jolt.

Synopsis

A319 Captain and a Company Dispatcher reported the aircraft encountered wake turbulence at FL362 when they crossed the wake from an A380 at FL380. The Captain suggested more stringent separation standards relative to Super heavy A380 aircraft.

Time / Day

Date : 201712

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : LAX.Airport

State Reference : CA

Altitude.MSL.Single Value : 9000

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.TRACON : SCT

Aircraft Operator : Air Carrier

Make Model Name : B737 Next Generation Undifferentiated

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Initial Approach

Route In Use.STAR : HLYWD

Airspace.Class B : LAX

Aircraft : 2

Reference : Y

ATC / Advisory.TRACON : SCT

Aircraft Operator : Air Carrier

Make Model Name : A330

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Initial Approach

Route In Use.STAR : HLYWD

Airspace.Class B : LAX

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.Type : 2985

ASRS Report Number.Accession Number : 1507049
Analyst Callback : Completed

Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments

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

Narrative: 1

Spaced to join HLYWD arrival 9.5 miles behind A330 in no wind conditions. Not notified of type until experiencing moderate wake turbulence. Slowed and climbed above flight path but still was rolled into 45 degrees of bank in the process.

Synopsis

B737 Captain reported the aircraft rolled into a 45-degree bank after encountering wake turbulence 9.5 miles in trail of an A330 on arrival into LAX.

Time / Day

Date : 201712

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : LAX.Airport

State Reference : CA

Altitude.AGL.Single Value : 100

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.Tower : LAX

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 : Final Approach

Airspace.Class B : LAX

Aircraft : 2

Reference : Y

ATC / Advisory.Ground : LAX

Aircraft Operator : Air Carrier

Make Model Name : B767 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Flight Phase : Taxi

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 : 1506180

Analyst Callback : Completed

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 : 1506542
Human Factors : Situational Awareness
Human Factors : Workload

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Executed Go Around / Missed Approach

Assessments

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

Narrative: 1

Visual approach to 25L behind a heavy Boeing 767. PF encountered wake turbulence at just above the threshold and a go-around was initiated. Tower instructed climb to 2000, fly runway heading. At full power, 2000 feet came quickly and we blew through the assigned altitude. I took control of the aircraft and stabilized us back down to 2000 feet.

PF was "rattled" by the wake turbulence and became task saturated during the go around; high power setting and fast climb rate put [the FO] behind the aircraft. Result - we exceed assigned altitude by 600 feet.

Along with the normal approach briefing, include the procedures for a possible go around (steps) in with the missed approach instructions (approach plate MAP brief).

Narrative: 2

On short final 25L into LAX, we encountered wake turbulence and executed a go around. ATC told us to maintain 2000 feet. On the go-around the TOGA button was pushed so when the climb sequence was called, the flaps were delayed and in an effort to not overspeed the flaps I accidentally flew through the altitude. That was when the Captain took over the controls and returned to the assigned altitude. Everything seemed very rushed and a lot was going on. Suggest trying to get the flaps retracted as soon as possible with such a low altitude restriction.

Synopsis

ERJ-175 flight crew reported executing a go-around after encountering wake turbulence from a B767 on short final at LAX.

Time / Day

Date : 201712

Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : EGTT.ARTCC

State Reference : FO

Altitude.MSL.Single Value : 32000

Environment

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.Center : EGTT

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 : Climb

Aircraft : 2

Reference : Y

ATC / Advisory.Center : EGTT

Aircraft Operator : Air Carrier

Make Model Name : Commercial Fixed Wing

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Flight Phase : Cruise

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.Type : 1446

ASRS Report Number.Accession Number : 1505440

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.Type : 1417
ASRS Report Number.Accession Number : 1505449

Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Physical Injury / Incapacitation

Assessments

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

Narrative: 1

Approaching FL320 in the climb, clear, smooth with seat belt sign off. Experienced probable wake turbulence for approximately 5 seconds. Smooth air immediately before and after event. No airplanes in close proximity that we saw. Called purser, she reported all ok. Later the purser reported that 3 flight attendants were reporting minor injuries, but were able to perform their duties. All were able to complete the flight while performing all normal duties.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

B777 flight crew reported three Flight Attendants were slightly injured in a wake turbulence encounter at FL320 near TNT VOR in England.

Time / Day

Date : 201712

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 200

Environment

Flight Conditions : VMC

Weather Elements / Visibility : Turbulence

Light : Night

Aircraft : 1

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : ATR 72

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Flight Phase : Final Approach

Airspace.Class D : ZZZ

Aircraft : 2

Reference : Y

ATC / Advisory.Ground : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : B767 Undifferentiated or Other Model

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Cargo / Freight

Flight Phase : Taxi

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Captain

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1504036

Analyst Callback : Attempted

Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Executed Go Around / Missed Approach

Assessments

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

Narrative: 1

[I] was following a B767 to land at ZZZ on Runway XXL. I was PF. ATC notified us of wake turbulence and issued vectors and speed reduction. B767 was clear of the runway and taxiing back when we were on approach. At 200 AGL [we] began to feel the wake turbulence of the 767. At 100 AGL the aircraft began to roll to the right [and] I applied full left aileron to counteract the roll and the aircraft continued to roll right. I executed a go around [and] continued around to another approach to XXL.

We had appropriate wake turbulence clearance, but an aloft tailwind condition lead to the drift and continuation of wake turbulence, [it] was a good decision to go around and try another approach. No other deviations were observed.

Synopsis

ATR-72 Captain reported executing a go-around after encountering wake turbulence at 200 AGL on approach in trail of a B767.

Time / Day

Date : 201712
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : N90.TRACON
State Reference : NY
Altitude.MSL.Single Value : 7000

Environment

Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : N90
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 : Initial Approach
Airspace.Class B : NYC

Aircraft : 2

Reference : Y
ATC / Advisory.TRACON : N90
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 : Initial Approach
Airspace.Class B : NYC

Person

Reference : 1
Location Of Person.Facility : N90.TRACON
Reporter Organization : Government
Function.Air Traffic Control : Approach
Qualification.Air Traffic Control : Fully Certified
Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 6
ASRS Report Number.Accession Number : 1503285
Analyst Callback : Completed

Events

Anomaly.ATC Issue : All Types
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

[EMB-145] was inbound. While level at 7,000 at 230 knots on the STAR [he] asked for an immediate descent. Once descended I asked [him] for the reason for descent request, and he reported severe turbulence. This seemed odd to have severe turbulence reported on a very active STAR with no other previous reports of any turbulence from other aircraft. I disseminated the PIREP and solicited more reports from other aircraft in the area. All other aircraft reported a smooth ride. I then realized the [EMB-145] was 5 miles in trail of a [B737-8 MAX], who was on the same STAR at the same altitude. I suspect [the EMB-145] was actually experiencing wake turbulence behind the [B737-8 MAX].

I'm unsure what kind of testing is done with these newer aircraft, but for an EMB-145 to experience severe turbulence being 5 miles in trail of a [B737-8 MAX] I'm concerned about this weight classification. I recommend further testing is done on the [B737-8 MAX] aircraft in terms of their weight class and the amount of wake they produce. If it is determined that these aircraft are creating significant wake turbulence to have an EMB-145 report severe turbulence while 5 miles in trail level flight at 230 knots, then I think reclassifying them as heavy aircraft may be necessary.

Synopsis

N90 TRACON Controller reported receiving reports of wake turbulence from an EMB-145 flight crew on arrival into LGA 5 miles in trail of a B737-8 MAX. Reporter expressed concern that the B737-8 MAX may have to be classified as a heavy jet for wake turbulence separation purposes.

Time / Day

Date : 201712
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ATL.Airport
State Reference : GA
Altitude.AGL.Single Value : 50

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.Tower : ATL
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 : Landing
Airspace.Class B : ATL

Aircraft : 2

Reference : Y
ATC / Advisory.Ground : ATL
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

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 : 1503106
Analyst Callback : Completed

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 : 1503107

Events

Anomaly.Deviation - Speed : All Types
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Executed Go Around / Missed Approach

Assessments

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

Narrative: 1

Early morning flight to ATL. Weather was VMC at the time and visual approaches were in use. Shooting the visual to RWY 28 we were about 3 miles in trail of an A320. We slowed to our approach speed at the final approach fix as directed by ATC and did so in a typical expeditious way. On the final approach to the runway at about 100 feet we begin to encounter light wake turbulence from the previous arrival. At 50 feet the FO, who was pilot flying, retarded the throttles to idle and began the round out. Shortly after, moderate or greater wake was encountered and the PF elected to go around. Go around thrust was applied and called for immediately and during the initial pitch to the command bars the shaker momentarily activated, less than 1 second in duration. The FO relaxed back pressure and both the airspeed and altitude trend vectors were reading positive trends throughout the entire procedure. The go around profile was flown per the SOP and we were resequenced around for another visual approach and normal uneventful landing.

In this instance, it seemed to be a worst case scenario where the wake was right near the runway and we had already gone to power idle for the round out and flare. It seems that going forward I should be aware of the possibility of wake and ensure that when executing a missed approach the PF smoothly transitions to the command bars.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

CRJ-200 flight crew reported executing a go-around after encountering wake turbulence at 50 AGL at ATL while following an A320.

Time / Day

Date : 201712

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : OAK.Airport

State Reference : CA

Altitude.MSL.Single Value : 7700

Environment

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.TRACON : NCT

Aircraft Operator : Air Carrier

Make Model Name : B737 Next Generation Undifferentiated

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Descent

Route In Use.STAR : EMZOH

Airspace.Class B : SFO

Aircraft : 2

Reference : Y

ATC / Advisory.TRACON : NCT

Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer

Flight Plan : IFR

Flight Phase : Initial Approach

Route In Use.STAR : EMZOH

Airspace.Class B : SFO

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : First Officer

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Type : 4800

ASRS Report Number.Accession Number : 1502977

Human Factors : Situational Awareness

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 : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days : 260
ASRS Report Number.Accession Number : 1503319

Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation - Altitude : Undershoot
Anomaly.Deviation - Altitude : Crossing Restriction Not Met
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

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

Narrative: 1

We did not make the 7000 ft crossing restriction due to wake turbulence from preceding aircraft. We were on the VNAV PATH getting close to MYNEE but had to slow the descent because we got into preceding aircraft's wake turbulence for the third or fourth time on the STAR. The Captain and I discussed getting out of the preceding aircraft's wake by asking NorCal for the visual approach to 30 at OAK. This would alleviate the wake turbulence issue.

By the time we asked for the visual 30 and got cleared the visual, we did not make the MYNEE 7000 ft restriction which we didn't think was a big deal because we had just gotten cleared the visual. Somewhere around MYSHN approximately five miles past MYNEE, NorCal advised us we didn't make the altitude restriction at MYNEE. We just agreed and moved on even though both of us were confused.

Narrative: 2

We were distracted by the wake turbulence and neglected to inform ATC that we were high. In retrospect, advising them earlier would have been a better idea.

Synopsis

B737 flight crew reported they failed to make a crossing restriction on arrival into OAK after multiple wake turbulence encounters.

Time / Day

Date : 201712

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : LAX.Airport

State Reference : CA

Environment

Light : Night

Aircraft : 1

Reference : X

ATC / Advisory.TRACON : SCT

Aircraft Operator : Air Carrier

Make Model Name : B737-800

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Initial Approach

Route In Use.STAR : IRNMN1

Airspace.Class B : LAX

Aircraft : 2

Reference : Y

ATC / Advisory.TRACON : SCT

Aircraft Operator : Air Carrier

Make Model Name : B777 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Mission : Passenger

Flight Phase : Initial Approach

Airspace.Class B : LAX

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Captain

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1502484

Analyst Callback : Completed

Events

Anomaly.ATC Issue : All Types
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Requested ATC Assistance / Clarification

Assessments

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

Narrative: 1

Flying the IRNMN approach into LAX. Was put behind a B777. Told ATC distance was insufficient as we started to feel effects of wake turbulence. Told them we were slowing to 190 from the assigned 210. Three weeks ago encountered severe wake turbulence from B747 that turned us to a 45 degree right bank that was completely uncontrollable for 5 seconds. Swore I would never allow that to happen again.

LAX is an anomaly in that the air is like a blender. Constantly disturbed. Along with that, ATC is putting us behind heavy and the distance is inadequate to avoid the effects and hazards to the safety of passengers and crew. There must be greater separation between heavies and smaller aircraft to mitigate the effects of wake turbulence and the potential hazards that it presents.

Callback: 1

Reporter stated he was the Captain on this flight. He recommended considering different arrival routes for different aircraft wake classifications.

Synopsis

B737 Captain reported encountering wake turbulence on arrival into LAX in trail of a B777. He recommended that separation between light and heavy aircraft inbound to LAX be increased.

Time / Day

Date : 201712
Local Time Of Day : 0001-0600

Place

Locale Reference.Airport : ORD.Airport
State Reference : IL
Altitude.AGL.Single Value : 10

Environment

Flight Conditions : VMC
Light : Night

Aircraft : 1

Reference : X
ATC / Advisory.Tower : ORD
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 : Landing
Airspace.Class B : ORD

Aircraft : 2

Reference : Y
ATC / Advisory.Ground : ORD
Make Model Name : Commercial Fixed Wing
Flight Plan : IFR
Flight Phase : Taxi

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 : 9981
ASRS Report Number.Accession Number : 1500621

Events

Anomaly.Ground Event / Encounter : Ground Strike - Aircraft
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Automation : Aircraft Other Automation
When Detected : In-flight

Result.General : Maintenance Action

Result.Aircraft : Aircraft Damaged

Assessments

Contributing Factors / Situations : Environment - Non Weather Related

Contributing Factors / Situations : Procedure

Primary Problem : Ambiguous

Narrative: 1

Normal approach, on speed, stable. On touchdown we had a slight float, power off by 10 feet. Slight left-right roll prior to touchdown. Possible wake turbulence induced at touchdown nose pitched up and was rapidly corrected. Received high pitch report. Informed Maintenance about the possibility of a tail strike, and wrote up in logbook. Post flight inspection of the skid plate appeared to have been scraped. The skid actuator was still in the green band.

Synopsis

B737 Captain reported a tail strike resulted from a pitch up at touchdown. Wake turbulence may have been a factor.

Time / Day

Date : 201711

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : IND.Airport

State Reference : IN

Altitude.AGL.Single Value : 1500

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.Tower : IND

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 : Initial Approach

Airspace.Class C : IND

Aircraft : 2

Reference : Y

ATC / Advisory.Tower : IND

Make Model Name : Heavy Transport

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Flight Phase : Final Approach

Airspace.Class C : IND

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : First Officer

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1500481

Human Factors : Situational Awareness

Events

Anomaly.Deviation - Speed : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Became Reoriented

Assessments

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

Narrative: 1

Was on approach to IND on 23L following a heavy. Winds were slightly gusty. Was fully configured above 1500 ft AGL. ATC cleared us to 3000 ft which brought me below the glideslope path from an intermediate fix to final approach fix. Bugged approach speed. Saw speed decreasing slightly below Vref but still within the bug. As I was correcting airspeed dropped approximately 10 kts and activated stick shaker. Disengaged the Autopilot and added thrust to return to Vref. Captain and I still felt stable as this occurred prior to the final approach fix in VMC conditions so we continued with the landing.

Poor judgement when following a heavy. Should have bug Vref + 5 as well as stayed above glide slope to avoid wake as much as possible.

Always bug Vref +5 when following a heavy.

Synopsis

CRJ-200 First Officer on approach to IND in trail of a heavy reported speed dropped 10 kts which triggered the stick shaker in a possible wake vortex encounter.

Time / Day

Date : 201711

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ORD.Airport

State Reference : IL

Altitude.MSL.Single Value : 2000

Environment

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.Tower : ORD

Aircraft Operator : Air Carrier

Make Model Name : Regional Jet 200 ER/LR (CRJ200)

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Final Approach

Airspace.Class B : ORD

Aircraft : 2

Reference : Y

ATC / Advisory.Tower : ORD

Aircraft Operator : Air Carrier

Make Model Name : B757 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Final Approach

Airspace.Class B : ORD

Person

Reference : 1

Location Of Person.Facility : ORD.Tower

Reporter Organization : Government

Function.Air Traffic Control : Local

Qualification.Air Traffic Control : Fully Certified

Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 2

ASRS Report Number.Accession Number : 1500075

Events

Anomaly.ATC Issue : All Types

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter

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

Assessments

Contributing Factors / Situations : Procedure
Primary Problem : Procedure

Narrative: 1

CRJ-200 was sequenced on approach to runway 10C behind a B757. The pilot of the CRJ-200 asked me what type aircraft was ahead of him on approach because he was experiencing significant wake turbulence. I advised that the aircraft was a B757. The distance between the two aircraft at the time of inquiry was approximately 2.72 miles. The pilot of CRJ-200 did not request any alternate instructions at that time. After CRJ-200 landed runway 10C, I advised him that the current wake turbulence reclass rules permitted the distance he was following the B757. I advised him that I would tell management of his complaint. I then asked him how severe the turbulence was and he described the turbulence as moderate with a couple severe bumps. Both aircraft landed safely without incident. The airport wind at the time of complaint was 100/09.

Perhaps some investigation into the proper distance behind some or all models of the B757 could be done to make sure the current reclass rules are in fact safe to following aircraft. With our current reduced separation on final rules and the possibility of Tower using visual separation for even less separation on final, it may be prudent to make sure there are no minimum distances we should be providing.

Synopsis

ORD Tower Controller reported a CRJ-200 encountered wake turbulence 2.7 miles in trail of a B757 on approach to Runway 10C.

Time / Day

Date : 201711

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : RSW.Airport

State Reference : FL

Altitude.AGL.Single Value : 50

Environment

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.Tower : RSW

Aircraft Operator : Air Carrier

Make Model Name : B737 Next Generation Undifferentiated

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Initial Climb

Airspace.Class C : RSW

Aircraft : 2

Reference : Y

ATC / Advisory.Tower : RSW

Make Model Name : B757 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Flight Phase : Climb

Airspace.Class C : RSW

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 : 1499800

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)
ASRS Report Number.Accession Number : 1499805
Analyst Callback : Completed

Events

Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments

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

Narrative: 1

Departed Runway 6 behind a B757. At 50 ft we experienced wake turbulence. We sidestepped to the upwind side to avoid further wake. Reported the wake to Departure Control.

Narrative: 2

Tower should be sure to give proper separation for all departures. Seemed like it was an immediate takeoff behind the 757.

Synopsis

B737 flight crew reported encountering wake turbulence shortly after takeoff in trail of a B757.

Time / Day

Date : 201711

Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZAU.ARTCC

State Reference : IL

Altitude.MSL.Single Value : 29000

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.Center : ZAU

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

Route In Use.STAR : TRTLL4

Airspace.Class A : ZAU

Aircraft : 2

Reference : Y

ATC / Advisory.Center : ZAU

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 : Descent

Airspace.Class A : ZAU

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 : 1013

ASRS Report Number.Accession Number : 1499529

Events

Anomaly.ATC Issue : All Types
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Regained Aircraft Control
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

We were filed into ORD on the TRTLL4 STAR. Kansas City Center cleared us direct CASHN intersection at max forward speed. We complied and cruised at .80 Mach. After the handover to Chicago Center we were given vectors off the direct we were previously cleared and a slow down to minimum forward speed. I told ATC that the speed for our altitude would be .76 M. The Controller okayed it. After two headings ranging from Southeast to Northwest and a descent to FL290 we were cleared direct to VINCA intersection. We could see ahead of us another aircraft descending at around 10 miles on TCAS. The vectors and slowdown was given to us in order for us to be positioned behind that aircraft on the TRTLL4 STAR. The flight was an MD11 aircraft as we later found out. At 10 miles behind him and FL290, we encountered moderate chop/turbulence. From experience I knew that this was wake turbulence. I immediately turned the seat belt sign on. As I prepared to make a PA announcement, the aircraft experienced a right abrupt rolling moment, to about 45 degrees. The FO was the flying pilot and autopilot 2 righted the aircraft back to level flight. I immediately asked ATC what kind of aircraft were we following and he told me that it was an MD11. I told the Controller that we experienced wake turbulence and that we need a vector off, in order to get upwind of the aircraft. The winds were from the Northwest at only 25 KTS. We were initially doubted by the ATC Controller. After I reported the event he told me "But you have 10 miles, this is the first time I heard of something like that!" On top of that, the [MD11] pilot mocked us saying over the frequency "Hey, why don't you offset!" as if we were in oceanic airspace! Not only were we put behind a heavy, in very light winds aloft, while the heavy descended on top of us, we were also ridiculed for experiencing wake turbulence because of the poor ATC traffic management and at the same time another pilot tried to tell us how to fly our aircraft. Completely unacceptable behavior by both ATC and [the MD11] pilot. The Controller, after giving us the vector that allowed us 15 mile separation, asked us what was the intensity of the wake turbulence and we told him exactly what we experienced.

Synopsis

A319 Captain reported encountering wake turbulence 10 miles in trail of an MD11.

Time / Day

Date : 201711

Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZJX.ARTCC

State Reference : FL

Altitude.MSL.Single Value : 42500

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.Center : ZJX

Make Model Name : EMB-505 / Phenom 300

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Passenger

Flight Phase : Climb

Airspace.Class A : ZJX

Aircraft : 2

Reference : Y

ATC / Advisory.Center : ZJX

Aircraft Operator : Air Carrier

Make Model Name : Airbus A350

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 129

Flight Plan : IFR

Flight Phase : Cruise

Airspace.Class A : ZJX

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1499171

Human Factors : Situational Awareness

Analyst Callback : Attempted

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1499174
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Regained Aircraft Control
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Separated Traffic
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

This is a wake turbulence encounter at FL428. It occurred 102 north of JENKS. We were at FL410 and had requested FL430 but ATC was waiting for aircraft above us at FL430 to pass overhead. ATC issued a climb once the aircraft passed over us and was 10 miles in front of us. We looked at our fuel and thought it was adequate so we asked to stay at FL410. We were told to go to FL430 or down to FL400 - so we chose the climb for fuel conservation. We had been battling a 65 kt headwind that just slightly quartered our right nose. We started a fairly slow climb and the air got "burbly" at FL425. We then experienced a roll to the left and I disengaged the autopilot. Shortly after we got the snap to the right. We ended up going to FL428 before leveling off at FL430. We immediately inquired about the well-being of passengers - they were ok. The copilot offset the route by 2 miles right of course (west). Later we found out that [it] was an A350 that passed overhead.

10 miles was probably not enough room for wake separation. I will offset before climbing and note headwind if it is directly ahead of you because vortices will sink straight down.

Narrative: 2

While climbing through FL425, we started experiencing mild wake turbulence from the aircraft ahead at FL430. Shortly thereafter, the aircraft abruptly rolled left and then right. We regained control of the aircraft at FL438. We descended immediately back to our assigned altitude of FL430. No injuries occurred to the passengers or crewmembers. I asked how much distance was between us and the traffic ahead. ATC advised there was 10 nm between us. I asked ATC for a 2 nm offset right of our course to prevent any further chances of flying into more wake turbulence. ATC asked if we were experiencing wake turbulence from the heavy Airbus 350. I replied that we were experiencing some wake turbulence. ATC approved to 2 nm offset to the right. We continued to our destination with

further incident.

ATC never advised the type of aircraft we were following during the climb. If ATC had advised we were climbing into the path of a heavy jet aircraft, we would have offset our course preventing us to encounter the wake turbulence during our climb to FL430.

Synopsis

EMB-505 flight crew reported encountering wake turbulence 10 miles in trail of an A350 at FL425.

Time / Day

Date : 201711

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : EWR.Airport

State Reference : NJ

Altitude.AGL.Single Value : 60

Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 5

Light : Night

Ceiling.Single Value : 5000

Aircraft

Reference : X

ATC / Advisory.Tower : EWR

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 : Final Approach

Airspace.Class B : NYC

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Total : 14300

Experience.Flight Crew.Last 90 Days : 15

Experience.Flight Crew.Type : 2300

ASRS Report Number.Accession Number : 1498435

Human Factors : Situational Awareness

Human Factors : Training / Qualification

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 Not Flying
Experience.Flight Crew.Total : 6000
Experience.Flight Crew.Last 90 Days : 80
Experience.Flight Crew.Type : 3000
ASRS Report Number.Accession Number : 1498436

Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Executed Go Around / Missed Approach

Assessments

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

Narrative: 1

Routine flight to EWR. Captain (I, new to seat) as PF, cleared for ILS 22R. Tower reported gain/loss of 10 kts reported at 300 ft. Aircraft ahead of us reported no gain or loss. Winds 280-300/18 gusting to 28/30. I was on autoflight through 300, started to align at 150 ft, no real turbulence or shear through approach until about 60 feet where we got hit with some wake type turbulence. With the crosswind as it was I made mental note to prevent autothrottles from going to idle too soon, but probably missed that as we hit firmly on the right main (upwind). I applied right aileron into wind but did so in excess and aggravated the situation. The FO (PM) called for go around as he got the words out first. Procedurally called for go around thrust and flaps 28. I pegged the landing attitude to avoid derotation, not sure how high we may have bounced but kept the attitude until clearly we were climbing. Throttles were through the overboost bar, called for autoflight (now without auto throttles) cleaned up, restored the FADEC system to enable autothrottles, reloaded approach to try 22L again. Once all checklists were finished FO offered/insisted he do the next approach. He had 12 years experience in his seat, I had 9 flying legs in my seat. Made sense. We landed, debriefed. Maintenance checked for any engine exceedance and were none. The demonstrated crosswind capability of the MD-11 is 35 kts, the winds were within limits. I overcorrected with aileron aggravating the situation probably led to the firm landing. We had a CRM brief covering go around calls from either crew to immediately respond and it worked as briefed. I am a new captain on this aircraft but had prior experience as an FO, but just the same you need to gain experience. I should have disconnected the autopilot sooner than 300 ft to get a better feel for the aircraft on approach. The FO did an exemplary job. It's important to brief the go around procedure and the call outs along with it. We seldom perform them and many times an approach is just fine until the last few feet, remain vigilant.

Narrative: 2

I am submitting this report from the recommendation of the Union. Right out of the gate in ZZZ I could tell the CPT was unsure and uncomfortable. He told me he was a new CPT and only had a few legs after training followed by vacation, then this flight. His last TO & LNDG was some time in September. He was making mistakes [before departure] which clued me in that he might not know what he's doing, not just a little rusty. For instance; on taxi during the flight control check he didn't grab the tiller while checking the rudder. Lights still on passing 10K, and 18K. En route to EWR he briefed the arrival and approach

shortly after TOC. We still had an hour to TOD. Because of the winds up there (in EWR), he said something in his brief about what the book says about kicking the AP off and starting the crosswind alignment. Once we got in line up there, airplane after airplane was landing. On final there were ~ 45 KTS of Xwind. Landing winds were 300/18G27 on RWY 22. Tower reported +/- 10 KTS of AS by all AC type. Approach was uneventful until the CPT clicked off the AP. He immediately started over controlling the jet, but I didn't know by how much at the time. I wasn't flying. I didn't know how much of the instability was caused by him and how much was caused by the winds. During the flare I thought we were going to hit the right wing on the runway. I didn't just call for a go around, I executed the go around and I was on the controls with him until we were safely climbing away from the ground. I didn't know it at the time, but I actually pushed the throttles through the overboost bar. That landing was the exact scenario that other MD11's have crashed out of. We leveled off and I could barely keep my composure on the radio. Once I reprogrammed the box, I told the CPT he was not flying the next approach and that I could tell he was uncomfortable and unsure of himself and I was going to fly the next approach. He agreed. I flew the approach to an uneventful landing. Once in parking in EWR I told the CPT that he just almost crashed us. He nodded his head. I also made some calls to the Union with the intent of taking myself off the flight but I couldn't contact anyone to give me advice. The CPT had mentioned something about wanting to redeem himself in my eyes on the way back to ZZZ. I didn't want to interrupt the system by taking myself off the flight so I told the CPT that I wouldn't take myself off the flight, but I am going to fly back, NOT him. He said "Thank you and OK". On the way back there were more mistakes. While taxiing out in EWR on taxiway R, we were cleared for TO on 22R at W. He started to take the runway on Y. I Fixed that mistake. Somewhere around 20K ft while he was over there filling out an event report, I got his attention and pointed to the landing and taxi lights that were still on, (and the turnoff lights were off) and he shook his head, retracted the landing lights, turned off the landing lights, turned off the taxi lights, and turned on the turnoff lights, then went back to his event report. I didn't say anything and just reached up and turned off the turnoff lights while he wasn't looking. The flight data should be pulled and looked at closely on this flight. I'm trying to save someones life. Maybe even the CPTs himself. Something needs to be done. Even though I literally got scared to death, I'm glad I was the FO on this flight and not a new hire FO. I would be glad to come in and talk to someone about this if you need further information. Thanks.

Synopsis

MD-11 Captain reported executing a go-around following a wake turbulence encounter and a firm touchdown in gusty wind conditions.

Time / Day

Date : 201709

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : MCO.Airport

State Reference : FL

Relative Position.Angle.Radial : 320

Relative Position.Distance.Nautical Miles : 8

Altitude.MSL.Single Value : 6500

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.TRACON : F11

Aircraft Operator : Corporate

Make Model Name : Cessna Citation Sovereign (C680)

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Passenger

Flight Phase : Initial Approach

Route In Use : Visual Approach

Route In Use : Vectors

Airspace.Class B : MCO

Aircraft : 2

Reference : Y

ATC / Advisory.TRACON : F11

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 : Initial Approach

Airspace.Class B : MCO

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Corporate

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 11000
Experience.Flight Crew.Last 90 Days : 140
Experience.Flight Crew.Type : 900
ASRS Report Number.Accession Number : 1497348
Analyst Callback : Completed

Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments

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

Narrative: 1

While being vectored we were sequenced 6 miles in trail of an A321. On the descent at 6500 feet while on a downwind vector for a visual approach to runway 36L into the MCO airport we experienced wake turbulence. We slowed our rate of descent to avoid any further wake encounter. We referenced the ILS glideslope by staying a dot high to continue avoiding any potential further wake encounter. We encountered no further wake turbulence.

Synopsis

CE680 Captain reported encountering wake turbulence on arrival into MCO 6 miles in trail of an A321.

Time / Day

Date : 201711

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : LAX.Airport

State Reference : CA

Environment

Light : Night

Aircraft : 1

Reference : X

ATC / Advisory.TRACON : SCT

Aircraft Operator : Air Carrier

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

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Initial Approach

Route In Use.STAR : HLYWD1

Airspace.Class B : LAX

Airspace.Class E : SCT

Aircraft : 2

Reference : Y

ATC / Advisory.TRACON : SCT

Aircraft Operator : Air Carrier

Make Model Name : B777 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Flight Phase : Initial Approach

Route In Use.STAR : HLYWD1

Airspace.Class B : LAX

Airspace.Class E : SCT

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Flying

Function.Flight Crew : First Officer

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1497221

Analyst Callback : Attempted

Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.General : Physical Injury / Incapacitation
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Took Evasive Action
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

On the HLYWD1 arrival to LAX we encountered turbulence, shortly after the aircraft began a roll to left more than 30 degrees of bank. I disconnected the autopilot upon realizing that we were likely experiencing wake and getting worse. I stayed above the glide path of the aircraft in front of us.

The pilot monitoring inquired with ATC to see what type of aircraft we were following. Confirmation from ATC that we were following a Boeing 777 approximately 8-8.5 miles ahead, the pilot monitoring asked if we can stay higher on the arrival due to a wake event with that aircraft. ATC gave us step down altitudes and eventually a runway change to remain clear of further wake. During the descent contact was made with both Flight Attendants and one Flight Attendant said she was injured. No passengers were injured, the Captain handled further actions with coordination of the Flight attendant injury and crew scheduling.

Synopsis

EMB-170 First Officer reported a Flight Attendant was injured during a wake turbulence encounter 8 miles in trail of a B777 on arrival into LAX.

Time / Day

Date : 201711

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : SAN.Airport

State Reference : CA

Altitude.MSL.Single Value : 6000

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.TRACON : SCT

Aircraft Operator : Corporate

Make Model Name : Falcon 2000

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Passenger

Flight Phase : Initial Approach

Route In Use.STAR : LYND14

Airspace.Class B : SAN

Aircraft : 2

Reference : Y

ATC / Advisory.TRACON : SCT

Aircraft Operator : Air Carrier

Make Model Name : A320

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Flight Phase : Initial Approach

Route In Use.STAR : LYND14

Airspace.Class B : SAN

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Corporate

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Total : 5000

Experience.Flight Crew.Last 90 Days : 50

Experience.Flight Crew.Type : 1000

ASRS Report Number.Accession Number : 1497080
Analyst Callback : Completed

Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Took Evasive Action

Assessments

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

Narrative: 1

Descending via the LYNDI FOUR into SAN our aircraft encountered two wake upsets from [an] A320. Aircraft bank angle was approximately 35 degrees. After second event we queried ATC on our in trail distance and were told "5 miles behind A320." We adjusted VNAV descent to fly above published path to avoid further encounters in A320 wake.

Synopsis

Falcon 2000 pilot reported encountering wake turbulence 5 miles in trail of an A320 on approach into SAN.

Time / Day

Date : 201711

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : EWR.Airport

State Reference : NJ

Altitude.MSL.Single Value : 31000

Environment

Flight Conditions : IMC

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.Center : ZNY

Aircraft Operator : Air Carrier

Make Model Name : B737 Next Generation Undifferentiated

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Descent

Route In Use.STAR : FQM3

Airspace.Class A : ZNY

Aircraft : 2

Reference : Y

ATC / Advisory.Center : ZNY

Aircraft Operator : Air Carrier

Make Model Name : B777 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Flight Phase : Descent

Route In Use.STAR : FQM3

Airspace.Class A : ZNY

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : First Officer

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Type : 1510

ASRS Report Number.Accession Number : 1495473

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 Not Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Type : 5822
ASRS Report Number.Accession Number : 1495482

Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Took Evasive Action
Result.Air Traffic Control : Separated Traffic
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

Flying the Williamsport arrival into Newark. NYC cleared us to descend from 31,000 to 25,000 just past SLT. As we initiated the descent we entered the wake turbulence of a preceding company B777. The aircraft rolled right to 35 degrees of bank. The autopilot disconnected and BANK ANGLE was announced over the speakers. The flying pilot recovered the aircraft to normal flight parameters and the autopilot was reengaged. We queried NYC as to what type aircraft we were following and advised them we encountered wake turbulence. We were then given a 2 mile right offset for the remainder of the arrival.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

B737 flight crew reported encountering wake turbulence at FL310 7 miles in trail of a B777 on arrival into EWR.

Time / Day

Date : 201711

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 23500

Environment

Weather Elements / Visibility : Thunderstorm

Light : Daylight

Aircraft : 1

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 : Climb

Airspace.Class A : ZZZ

Aircraft : 2

Reference : Y

ATC / Advisory.Center : ZHU

Aircraft Operator : Air Carrier

Make Model Name : B777 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Mission : Passenger

Flight Phase : Climb

Airspace.Class A : 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)

ASRS Report Number.Accession Number : 1493949

Human Factors : Workload

Analyst Callback : Completed

Events

Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Physical Injury / Incapacitation
Result.Flight Crew : Landed As Precaution
Result.Flight Crew : Regained Aircraft Control
Result.Flight Crew : Returned To Departure Airport
Result.Flight Crew : Diverted

Assessments

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

Narrative: 1

While on climb out we encountered severe turbulence, possibly wake turbulence from a B777 that was climbing out in front of us. We were passing through 23500 ft when suddenly the aircraft was thrown violently into a left roll, followed immediately by a sudden roll to the right and a jolt. The autopilot continued to function which helped keep the aircraft in a controllable flight. I had the FO call and check on the FA and she told us that she had fallen and hit her head. I made the decision to air return back to ZZZ. At this time the FO took control of the flying duties while I coordinated with ATC, the company and OPs. I also rechecked on the FA, and she stated that she was starting to feel dizzy and light headed. We [advised ATC] and were turned directly towards ZZZ. This all happened within 2-3 minutes of initial occurrence. We returned and landed with no further problems. We were met at the gate by paramedics and the Inflight Supervisor and our FA was escorted to the ambulance. It was decided that she was going to be transported to the hospital for further evaluation.

In a situation like this there can be numerous threats. 1st, aircraft upset by turbulence, 2nd, and injured crew member, 3rd communicating with ATC, OPs and then coming up with a quick plan to safely bring the aircraft and passengers back to the airport. As with almost any situation, looking back, there are things to be learned. As a pilot the "I can do it all" attitude has to be put aside and one must use all resources at hand. I learned, again, that crew resource management, i.e. the FOs quick and initial, "I can fly while you make a plan and communicate with everybody" (not quite the quote) helped make this situation more controllable. It would help, however, if there was one person who could be called after landing to coordinate. As it was I had to call dispatch, scheduling, ops, Maintenance, and none seemed to know that I was on the phone with the other.

Synopsis

EMB-145 Captain reported returning to the departure airport after a Flight Attendant was injured during a wake vortex encounter climbing through FL235 in trail of a B777.

Time / Day

Date : 201711

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ORD.Airport

State Reference : IL

Altitude.AGL.Single Value : 50

Environment

Flight Conditions : VMC

Light : Night

Aircraft : 1

Reference : X

ATC / Advisory.Tower : ORD

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 : Initial Climb

Airspace.Class B : ORD

Aircraft : 2

Reference : Y

ATC / Advisory.Tower : ORD

Aircraft Operator : Air Carrier

Make Model Name : Airbus 318/319/320/321 Undifferentiated

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Climb

Airspace.Class B : ORD

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Flying

Function.Flight Crew : First Officer

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1493767

Analyst Callback : Completed

Events

Anomaly.Deviation - Speed : All Types
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Regained Aircraft Control

Assessments

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

Narrative: 1

We were assigned an intersection takeoff from runway 33 at intersection T10. Ahead of us was an Airbus (319 or 320) that received the same clearance. As the Airbus began its takeoff roll we were cleared to line up and wait. The Captain stopped the airplane on the runway and transferred the controls to me after we verified the correct runway heading. After the Airbus had departed and climbed to a distance of what seemed to be routine separation for departing aircraft, we were given a takeoff clearance. We proceeded with a normal takeoff (reduced thrust). Shortly after rotation (approximately 50 AGL), I felt the aircraft roll strongly to the right and immediately recognized the force as wake turbulence. Immediately as I began to correct with aileron, the stick shaker engaged for less than 1 second and I responded with brisk but slight forward pressure on the yoke. By no means were we at an unusually high angle of attack, and our airspeed was increasing normally before we encountered the wake turbulence.

The sole cause of the stick shaker activation was wake turbulence from the departing Airbus ahead of us. As mentioned above, I believe that the separation provided for us behind that traffic was not less than ordinarily provided at ORD. The light winds at the time of our departure most likely allowed the wingtip vortices the remainder over the runway for an extended period of time.

Increase awareness among pilots about the separation required behind departing aircraft, especially Airbus 319/320s. This is not the first time I have experienced strong wake turbulence behind this type of aircraft, and it is deceiving because it is not considered a "heavy" aircraft. It may be wise to use normal thrust takeoffs behind Airbus 319/320 aircraft for this reason, and to allow extra separation to allow vortices to dissipate.

Synopsis

CRJ-200 First Officer reported the stick shaker was activated on initial climb out of ORD when they encountered wake turbulence in trail of an A319/320.

Time / Day

Date : 201710
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : DTW.Airport
State Reference : MI

Environment

Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : D21
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 : Climb
Airspace.Class B : DTW

Aircraft : 2

Reference : Y
ATC / Advisory.TRACON : D21
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 : Climb
Airspace.Class B : DTW

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 : 1491962
Analyst Callback : Completed

Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Regained Aircraft Control
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

On initial climb out we got a hard right roll [resulting in] more than 30 degrees bank. Brought back to wing level but hard to control, determined wake turbulence from A321 in front of us. [It] happened at clean up alt, [I] maintained max climb, got right turn from ATC to exit same route as other aircraft. No more roll problems. Wind was calm on ground and up to 10000 ft.

Synopsis

CRJ-200 Captain reported encountering wake turbulence departing DTW in trail of an A321.

Time / Day

Date : 201710

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : SFO.Airport

State Reference : CA

Altitude.MSL.Single Value : 25000

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.Center : ZOA

Aircraft Operator : Air Carrier

Make Model Name : B737 Next Generation Undifferentiated

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Descent

Route In Use.STAR : DYAMD3

Airspace.Class A : ZOA

Aircraft : 2

Reference : Y

ATC / Advisory.Center : ZOA

Aircraft Operator : Air Carrier

Make Model Name : Widebody Transport

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 129

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Descent

Route In Use.STAR : DYAMD3

Airspace.Class A : ZOA

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 : 2976
ASRS Report Number.Accession Number : 1491841
Human Factors : Distraction
Human Factors : Fatigue
Human Factors : Situational Awareness
Analyst Callback : Attempted

Events

Anomaly.Deviation - Altitude : Undershoot
Anomaly.Deviation - Altitude : Crossing Restriction Not Met
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Became Reoriented

Assessments

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

Narrative: 1

Arrival DYAMD3 briefed and ILS 28R briefed. Verified all altitudes and speed constraints prior to brief. Speed assignment of 250 kts given for traffic. Speed entered into FMC and a discussion of the speed constraints on arrival because the initial two are 280. We opted to leave FMC with input values of 280 instead of changing. Cruise altitude FL360 and given a descent clearance to FL320 and executed by DES NOW prompt in VNAV PATH. A descend via clearance was given and 8000 set in window. Another discussion on setting of airspeed ensued as the FMC would not accept 250 kts over the hard coded 280 kts at LAANE. However, 250 kts was entered at FLOWZ and therefore allowed the FO to enter 250 kts at LAANE. I visually saw the input from the FO on the FMC. During descent on DYAMD3 encountered wake from a heavy which turned the autopilot off. FO re-engaged autopilot shortly afterwards. We were also given the Quiet Bridge routing to RWY 28R. I visually noted the change on the DEP/ARR page that the FO had input, only the approach was changed with transition of ARCHI. I did not check the legs page as I normally do, fatigue, and reverify the route/speed/altitude. NORCAL approach 128.32 queried when we were going to descend from FL250. I visually checked FMC and saw 250/FL250 over FLOWZ and referenced the chart which is FL190 to 14000. Then radar vectors in a box pattern to get to correct altitude. No further problems. We debriefed and could not identify the exact cause of the error to prevent future errors.

Synopsis

B737 Captain reported they failed to make a crossing restriction on arrival into SFO. Fatigue and distraction from a wake turbulence encounter were cited as contributing factors.

Time / Day

Date : 201710
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : LAX.Airport
State Reference : CA
Altitude.MSL.Single Value : 2200

Environment

Light : Dawn

Aircraft : 1

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

Aircraft : 2

Reference : Y
ATC / Advisory.Tower : LAX
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
Flight Phase : Final Approach
Airspace.Class B : LAX

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.Last 90 Days : 613
Experience.Flight Crew.Type : 7500
ASRS Report Number.Accession Number : 1491786
Human Factors : Distraction
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.Last 90 Days : 456
ASRS Report Number.Accession Number : 1491794
Human Factors : Distraction

Events

Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Returned To Clearance

Assessments

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

Narrative: 1

We were cleared on visual for 24L by SoCal Approach to LAX. On heading 230, altitude 2200, the FO verified and armed the Localizer for 24L. The aircraft captured the LOC and attempted to turn inbound, and at the same time [we] encountered wake turbulence. As we realized the aircraft was not making the corrections necessary to align with 24L LOC, the FO disengaged the autopilot and manually turned the aircraft with hard 30 degree bank to avoid crossing into the 25R Approach area. We [were] still above 1000 ft and aligned with 24L and proceeded to land. Taxiing on the ground, we were advised to call SoCal TRACON for possible Pilot Deviation.

We did everything possible to quickly turn off the autopilot and bank as hard as possible to avoid the 25R Approach area. We did not anticipate wake turbulence. We could have turned off the autopilot in advance of capturing to LOC once cleared on the visual.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

B737 flight crew reported they overshot final approach course at LAX when the autopilot failed to capture the localizer. Wake turbulence was also cited as contributing factor.

Time / Day

Date : 201710

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : LAX.Airport

State Reference : CA

Altitude.MSL.Single Value : 12000

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.TRACON : SCT

Aircraft Operator : Air Carrier

Make Model Name : B737 Next Generation Undifferentiated

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Descent

Airspace.Class E : SCT

Aircraft : 2

Reference : Y

ATC / Advisory.TRACON : SCT

Aircraft Operator : Air Carrier

Make Model Name : Widebody Transport

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Flight Phase : Initial Approach

Airspace.Class E : SCT

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)

Experience.Flight Crew.Type : 211

ASRS Report Number.Accession Number : 1491546

Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

[We experienced a] light wake encounter from a preceding heavy aircraft on the same arrival that we were on going in LAX. It was a light encounter in which we just got a single roll of 15 degrees or less.

Synopsis

B737 First Officer reported an encounter with light wake turbulence on arrival into LAX in trail of a heavy aircraft.

Time / Day

Date : 201710

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : LAX.Airport

State Reference : CA

Altitude.MSL.Single Value : 12000

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.TRACON : SCT

Aircraft Operator : Air Carrier

Make Model Name : B737 Next Generation Undifferentiated

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Nav In Use : GPS

Flight Phase : Climb

Route In Use.SID : ORCKA2

Airspace.Class E : SCT

Aircraft : 2

Reference : Y

ATC / Advisory.TRACON : SCT

Aircraft Operator : Air Carrier

Make Model Name : B777 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Mission : Passenger

Flight Phase : Climb

Route In Use.SID : ORCKA2

Airspace.Class E : SCT

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.Type : 2551

ASRS Report Number.Accession Number : 1491284
Human Factors : Situational Awareness
Analyst Callback : Attempted

Events

Anomaly.Deviation - Altitude : Undershoot
Anomaly.Deviation - Altitude : Crossing Restriction Not Met
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

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

Narrative: 1

Approaching KEGGS on the ORCKA2 RNAV Departure, while in VNAV, ATC notified us that we were not meeting the climb restriction. Aircraft was in VNAV with ECON climb selected and accelerating prior to disengaging the auto pilot. It should have been climbing at a slower speed rather than the ECON climb speed of 320 KIAS to achieve the required climb angle. The speed of 320 was priority over the altitude. I believe a tailwind also compounded the problem. We were about 12000 MSL when ATC notified us that we would miss the 13000 restriction. It is unknown to me exactly how far off we would be at KEGGS, but I knew we wouldn't make it and realized my mistake. Even still I disconnected the autopilot and began to trade excess airspeed for altitude to attempt to make the restriction but then immediately encountered wake turbulence from the B777 ahead of us. We missed the altitude restriction mostly because of VNAV leveling us off to accelerate. But to make matters worse, when I disconnected the autopilot and got into the wake of the preceding aircraft I couldn't be as aggressive to correct as would have been needed. Once out of the wake, I put the aircraft into a 280 KIAS climb and got back onto the profile, easily making the next restriction of 15000 or above at COOPP. ATC never said anything else to us about the event. I should have noticed sooner, corrected the flight path and asked ATC for relief from the restriction.

Synopsis

B737 First Officer reported missing a crossing restriction on climbout from LAX citing VNAV performance and a wake turbulence encounter as contributing.

Time / Day

Date : 201710

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : TEB.Airport

State Reference : NJ

Altitude.MSL.Single Value : 1500

Environment

Flight Conditions : VMC

Light : Night

Aircraft

Reference : X

ATC / Advisory.Tower : TEB

Make Model Name : Citation Latitude (C680A)

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 135

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Nav In Use : GPS

Flight Phase : Initial Climb

Route In Use.SID : RUUDY6

Airspace.Class D : TEB

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Captain

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1491067

Human Factors : Distraction

Human Factors : Situational Awareness

Analyst Callback : Attempted

Person : 2

Reference : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Function.Flight Crew : First Officer

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1491064

Human Factors : Distraction

Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Altitude : Crossing Restriction Not Met
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

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

Narrative: 1

While departing TEB on the RUUDY6 off of Runway 24 at approximately 1200 MSL we received a TA followed by a wake turbulence upset. The result was my headset was dislodged and I detected a louder cockpit sound making me concerned that a door had come ajar. Later we found everything was sound on the aircraft. During this time I climbed past 1500 to approximately 1700. ATC advised me that WENTZ crossing was 1500, "and next time we should actually read the departure." We advised ATC of the upset and continued the departure. Note the upset occurred below 1500 MSL.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

CE-680A flight crew reported overshooting an altitude restriction departing TEB when they were distracted by a wake turbulence encounter.

Time / Day

Date : 201710

Place

Locale Reference.Airport : BOS.Airport
State Reference : MA
Altitude.MSL.Single Value : 6800

Environment

Flight Conditions : VMC

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : A90
Aircraft Operator : Air Carrier
Make Model Name : B737 Next Generation Undifferentiated
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Flight Phase : Initial Approach
Route In Use.STAR : JFUND2
Airspace.Class B : BOS

Aircraft : 2

Reference : Y
ATC / Advisory.TRACON : A90
Aircraft Operator : Air Carrier
Make Model Name : B757-300
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Flight Phase : Initial Approach
Route In Use.STAR : JFUND2
Airspace.Class B : BOS

Person : 1

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Type : 8012
ASRS Report Number.Accession Number : 1489533
Human Factors : Situational Awareness

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Type : 5102
ASRS Report Number.Accession Number : 1489534
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

We had a 757-300 in front of us on the JFUND 2 arrival into BOS. We were in and out of his wake due to the tailwind on the arrival, so as PF I suggested we ask for a 1 mile right offset. PM agreed, ATC granted. We were "descend via" on the arrival. I put the offset into the FMC and it began the offset, then said unable after some fix (can't remember for sure...I think it was JFUND). Abeam that fix, it went to CWS (Control Wheel Steering) Right, but stayed in VNAV PTH, so I said I would just use CWS Right to stay Right 1.0 manually (VNAV PTH was still engaged). Prior to SPYSD, we received an approach change from ATC. PM changed it in the FMC (same runway, same transition, ILS 33L now vs Light Visual 33L) and I agreed and PM executed. The path disappeared (not uncommon while it recalculates momentarily) but this happened just prior to SPYSD and we descended below 7,000 prior to SPYSD before the Path came back up. About the time I realized we were low (about 200) ATC gave us a "descend and maintain 3,000" clearance. I don't think there was any conflict with anyone else, but it bruised my ego.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

B737NG flight crew reported an altitude deviation on arrival into BOS.

Time / Day

Date : 201710
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : D10.TRACON
State Reference : TX
Altitude.MSL.Single Value : 3400

Environment

Flight Conditions : VMC

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : D10
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 : Climb
Route In Use.SID : WSTEX2
Airspace.Class B : DFW

Aircraft : 2

Reference : Y
ATC / Advisory.TRACON : D10
Aircraft Operator : Air Carrier
Make Model Name : MD-80 Series (DC-9-80) Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Climb
Airspace.Class B : DFW

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 : 1489372
Human Factors : Situational Awareness

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1489600
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

During taxi out at DFW airport, a caution message of "EFIS COMP MON" [displayed] twice. We were given WSTEX2 CIKAN transition and first fix was LARRN from Runway 18L. After our takeoff from Runway 18L we encountered wake from a preceding MD-80 series aircraft. After flaps retracted, First Officer (flying pilot) maintained rate of climb to escape from the wake. As I recall, at 3,400 ft MSL Regional Departure Control asked if we were going to LARRN. I replied yes. However, after we checked to see if our navigation mode [was] on [and] we noticed that even though navigation mode and auto pilot was on we [had] drifted left of the course. We also checked for any EFIS COMP MON messages. There was no message. As I was about [to] ask for vectors, ATC gave us heading of 230. Then he told us to have our equipment checked for malfunction and we were off course. I replied that we will do that and thanked him. ATC gave us a Center frequency. I contacted the Center. Center instructed us to go direct RBBIT. He also asked us if we need vectors or we are okay to fly RNAV. In that time we were flying towards RBBIT and navigation was performing normal. We replied that we are working with our equipment and seems to be okay now.

Today's lesson taught me about situational awareness. Instead of being too automation dependent, I must be aware of [my] position and ready to take corrective action promptly. From now on not only will I brief the departure, I will also highlight the heading and course between the fixes in the SID. And [if] any event equipment malfunction [is] suspected, immediately ask ATC for vectors.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

CRJ-900 flight crew reported a track deviation occurred departing DFW airport.

Time / Day

Date : 201710

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : PHL.Airport

State Reference : PA

Altitude.MSL.Single Value : 3000

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.TRACON : PHL

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 : Initial Approach

Airspace.Class B : PHL

Aircraft : 2

Reference : Y

ATC / Advisory.TRACON : PHL

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 : Final Approach

Airspace.Class B : PHL

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Flying

Function.Flight Crew : First Officer

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1488410

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 Not Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1488416
Analyst Callback : Attempted

Events

Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Air Traffic Control : Provided Assistance

Assessments

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

Narrative: 1

We were 3000 ft and 5 miles outside of JALTO on the ILS 27R into PHL with the autopilot engaged. We encountered wake turbulence [from] the aircraft in front of us which knocked the autopilot off. Without much deviation at all, the PF recovered the aircraft to straight and level flight. We then notified ATC and [were] offered a slower speed of 160 kts which we accepted. This gave more separation between our aircraft and the aircraft we were following. No further disruption occurred.

The wake turbulence was detected by short yet very noticeable bank to the left and then right. Also, the autopilot was kicked off by the event. ATC did not allow enough spacing to prevent wake turbulence encounter. I took over manual control of the aircraft and slowed to aircraft to offer proper separation. Suggest more spacing between aircraft.

Narrative: 2

[Caused by] too little separation between our aircraft and the A320 by ATC.

Synopsis

EMB-145 flight crew reported a minor track deviation occurred when they encountered wake turbulence on approach into PHL in trail of an A320.

Time / Day

Date : 201710
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : PHX.Airport
State Reference : AZ
Altitude.AGL.Single Value : 200

Environment

Light : Night

Aircraft : 1

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

Aircraft : 2

Reference : Y
ATC / Advisory.Tower : PHX
Aircraft Operator : Air Carrier
Make Model Name : B757 Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Landing

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days : 620
Experience.Flight Crew.Type : 17000
ASRS Report Number.Accession Number : 1488306
Analyst Callback : Completed

Events

Anomaly.ATC Issue : All Types
Anomaly.Conflict : Airborne Conflict
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

PHX Approach Control vectored us to an eight mile final for Runway 26 coming off of the EAGUL 6 Arrival. The Controller told us to "Maintain 190 knots to a five mile, if able." I replied "We'll do our best." About 15 seconds later she said "Normal speed, and contact Tower" Our TCAS was very cluttered with ground traffic and traffic to our left for the south Runway 25L. We contacted Tower at about seven mile final and were immediately told "cleared to land Runway 26; 50 knot overtake on preceding traffic." At that time we notice the preceding aircraft at only two miles ahead of us.

It was a B757, very light weight, and five seconds later Tower said "70 knots overtake, make S-turns to the north." My FO was flying, we were fully configured and at final approach speed, and made a 60 degree turn to the north, then turned back, pointing right at the traffic landing on the south runway, started turning final at 1000 AGL. In the last 200 before landing we encountered very aggressive wake turbulence from the 757. During the S-turn I told the FO we'll never make this, we needed to go around. He continued. I monitored the approach but was extremely uncomfortable. We landed as the (other carrier) aircraft cleared the runway.

I cannot believe the Controller put us in that situation. It was an unsafe job by the ATC Controller. It looked like it might work out, so I let the FO continue. I was prepared to call for a go-around if the preceding aircraft was not clear. It was close, but he cleared just as we crossed the threshold. I should have been more directive on the go-around call and taken the aircraft. Superior judgment prevents having to use superior flying skills.

Synopsis

B737 Captain reported encountering wake turbulence on short final at PHX in trail of a B757.

Time / Day

Date : 201710
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : SLC.Airport
State Reference : UT
Relative Position.Angle.Radial : 220
Relative Position.Distance.Nautical Miles : 8
Altitude.MSL.Single Value : 8000

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : S46
Aircraft Operator : Corporate
Make Model Name : Citationjet (C525/C526) - CJ I / II / III / IV
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Passenger
Flight Phase : Climb
Route In Use.SID : LEETZ6
Airspace.Class B : SLC

Aircraft : 2

Reference : Y
ATC / Advisory.TRACON : S46
Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer
Airspace.Class B : SLC

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Corporate
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 14000
Experience.Flight Crew.Last 90 Days : 85
Experience.Flight Crew.Type : 2000
ASRS Report Number.Accession Number : 1488242
Human Factors : Communication Breakdown
Human Factors : Situational Awareness
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

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

Narrative: 1

While climbing out of SLC via the LEETZ 6 departure we encountered either wake turbulence from the aircraft ahead or severe environmental turbulence. The auto pilot disengaged and while hand flying the aircraft trying to keep the aircraft under control we missed the initial fix, PPIGG, by approximately 1.5 to 2 miles. SLC departure queried us and advised we were off the departure. They issued a heading to rejoin the departure and nothing more was said of the situation. There was no loss of separation from other aircraft. It was a VMC day so we were never in danger of terrain contact with all of that in full view.

In hindsight, we should have advised ATC of the encounter with turbulence and let them know we had to deviate to get the aircraft under control. We were so preoccupied with dealing with the situation that we never advised ATC of our actions.

Synopsis

C525 Captain reported a track deviation during climb from SLC when they were distracted by turbulence or a wake vortex encounter.

Time / Day

Date : 201710

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : CLT.Airport

State Reference : NC

Environment

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.TRACON : CLT

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.Localizer/Glideslope/ILS : Runway 18R

Flight Phase : Final Approach

Airspace.Class B : CLT

Aircraft : 2

Reference : Y

ATC / Advisory.Tower : CLT

Make Model Name : B757 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Nav In Use.Localizer/Glideslope/ILS : Runway 18R

Flight Phase : Final Approach

Airspace.Class B : CLT

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 : 1487157

Analyst Callback : Completed

Person : 2

Reference : 2

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 : 1487134

Events

Anomaly.ATC Issue : All Types
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Regained Aircraft Control

Assessments

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

Narrative: 1

Approaching runway 18R on the localizer near glide slope intercept encountered significant wake turbulence. ATC stated preceding aircraft was a B757 4 miles ahead. Aircraft was temporarily uncontrollable. Autopilot was disconnected and aircraft slowed to minimum approach speed while maintaining flight path above the glide slope.

ATC has decided that the previous 5 mile spacing behind B757 aircraft is no longer required when in fact we were vectored too close behind the preceding aircraft to conduct safe operations. Provide the previously required 5 mile spacing behind B757 aircraft.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

A319 flight crew reported encountering significant wake turbulence on approach to CLT 4.5 miles in trail of a B757. Reporter expressed concern at the reduced separation standards in trail of B757 aircraft.

Time / Day

Date : 201710
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : LAX.Airport
State Reference : CA
Altitude.MSL.Single Value : 32500

Environment

Light : Daylight

Aircraft : 1

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

Aircraft : 2

Reference : Y
ATC / Advisory.Center : ZLA
Aircraft Operator : Air Carrier
Make Model Name : A380
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 129
Flight Plan : IFR
Mission : Passenger
Flight Phase : Descent
Airspace.Class A : ZLA

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 : 552
Experience.Flight Crew.Type : 945
ASRS Report Number.Accession Number : 1486971
Analyst Callback : Attempted

Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Took Evasive Action

Assessments

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

Narrative: 1

ATC had been vectoring us to gain separation and they asked to slow to slowest possible speed while enroute to LAX. We were "number 2 in sequence following an Airbus 380." While descending through approximately 32,500 MSL between waypoint DOUIT and CROWY, we experienced a significant 'burble' and roll to the right. Automation was disengaged and roll was arrested immediately while resuming normal flight parameters. Then it occurred again within approximately 1-2 minutes. We reported our encounter to ATC and requested more divergent heading and altitude from the suspect wake-generating aircraft, the A380. We did not have visual contact with the traffic. We assessed the aircraft, the crew, the passengers. One of the FAs was knocked down and the back of the aircraft was a mess due to service items being dislodged. Passengers were all fine. PAs were made to inform passengers about the situation. Messages were sent to Dispatch and destination. Customer service support was requested as well. Upon final approach into LAX, we were once again trailing the same A380 and winds were very, very light. We requested more spacing as we were landing on same runway. Approach and landing were uneventful.

Wake turbulence separation criteria for super-heavies needs to be assessed and perhaps more separation is necessary. Unfortunately, even with adequate spacing today we experienced a significant event that may be prevented in the future.

Synopsis

B737 First Officer reported encountering wake turbulence on descent to LAX in trail of an A380. They stated "perhaps more separation is necessary" behind super jumbo aircraft.

Time / Day

Date : 201710
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ATL.Airport
State Reference : GA

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : A80
Aircraft Operator : Air Carrier
Make Model Name : Regional Jet 200 ER/LR (CRJ200)
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Flight Phase : Descent
Route In Use.STAR : CHOPI1
Airspace.Class B : ATL

Aircraft : 2

Reference : Y
ATC / Advisory.TRACON : A80
Aircraft Operator : Air Carrier
Make Model Name : B777 Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Flight Plan : IFR
Mission : Passenger
Flight Phase : Descent
Route In Use.STAR : CHOPI1
Airspace.Class B : ATL

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1486851
Analyst Callback : Attempted

Events

Anomaly.Deviation - Speed : All Types
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

On our descent on the CHOPI arrival into Atlanta, we were 10 miles in trail of a Boeing 777. We were advised by ATC "caution wake turbulence." Both the Captain and I were in visual contact with the B777 and both agreed that we were above its glide path on the arrival. We were directed to slow from 210 knots to 180 knots, and flaps were either set to 8 or 20 degrees, I cannot remember. This was likely to prevent us from getting too close to the B777. As we were slowing, our aircraft entered the B777's wake turbulence, causing a stick shaker and autopilot disconnect.

I am writing this report primarily to describe the events that surrounded a stick shaker occurrence. The aircraft was never in an undesired aircraft state, and we were configured properly (as far as flap settings are concerned) for our airspeed. We were not anywhere close to entering an aerodynamic stall, but the severity of the turbulence induced a stick shaker activation.

Synopsis

CRJ-200 First Officer reported the stick shaker activated while encountering wake turbulence on approach to ATL in trail of a B777.

Time / Day

Date : 201709

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ATL.Airport

State Reference : GA

Relative Position.Angle.Radial : 270

Relative Position.Distance.Nautical Miles : 16

Altitude.MSL.Single Value : 6000

Environment

Flight Conditions : VMC

Light : Dusk

Aircraft : 1

Reference : X

ATC / Advisory.TRACON : A80

Aircraft Operator : Air Carrier

Make Model Name : B737-800

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Initial Approach

Route In Use : Visual Approach

Airspace.Class B : ATL

Aircraft : 2

Reference : Y

ATC / Advisory.TRACON : A80

Aircraft Operator : Air Carrier

Make Model Name : MD-80 Series (DC-9-80) Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Initial Approach

Route In Use : Visual Approach

Airspace.Class B : ATL

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 : 180
Experience.Flight Crew.Type : 18400
ASRS Report Number.Accession Number : 1484464
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC
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 Not Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days : 200
ASRS Report Number.Accession Number : 1484475

Events

Anomaly.Deviation - Speed : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments

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

Narrative: 1

We were assigned 210 speed 2.5 miles behind a MD-80 cleared for a visual approach in ATL. We got a wake turbulence event, recovered and continued. ATC asked our speed. We said 185, but did not report wake turbulence because of busy radios. We landed as preceding aircraft was clearing the runway.

On a visual approach we accept separation and wake turbulence responsibility, and I am aware of flying assigned speeds to help their reduced separation. I found that reporting wake turbulence to ATC is required at a RECAT airport. I recommend that three miles be minimum spacing and that ATL should use their south runway more to handle their traffic load.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

B737-800 flight crew reported encountering wake turbulence in trail of an MD80 on approach to ATL.

Time / Day

Date : 201709

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : STL.Airport

State Reference : MO

Altitude.AGL.Single Value : 200

Environment

Flight Conditions : VMC

Light : Night

Aircraft : 1

Reference : X

ATC / Advisory.Tower : STL

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 : Final Approach

Airspace.Class B : STL

Aircraft : 2

Reference : Y

ATC / Advisory.Ground : STL

Aircraft Operator : Air Carrier

Make Model Name : B737 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Taxi

Person

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 : 1484074

Analyst Callback : Completed

Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Executed Go Around / Missed Approach

Assessments

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

Narrative: 1

Upon reaching 200 we encountered wake turbulence from the preceding B737 that started to roll the aircraft. The FO quickly called for a go-around because the approach became unstable. Airframe buffeting and aircraft roll was detected. ATC spacing was too close for the wake to dissipate.

Synopsis

EMB-145 Captain reported executing a go-around at 200 AGL after encountering wake turbulence in trail of a B737 landing at STL.

Time / Day

Date : 201709

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : EWR.Airport

State Reference : NJ

Altitude.MSL.Single Value : 3000

Environment

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.TRACON : N90

Aircraft Operator : Air Carrier

Make Model Name : Dash 8 Series Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use.Localizer/Glideslope/ILS : Runway 4L

Flight Phase : Initial Approach

Airspace.Class B : NYC

Aircraft : 2

Reference : Y

ATC / Advisory.TRACON : N90

Aircraft Operator : Air Carrier

Make Model Name : B757 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Final Approach

Airspace.Class B : NYC

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Captain

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1482835

Analyst Callback : Completed

Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

On approach to runway 4R at EWR, we were level at 3000 ft and had been cleared for the ILS to 4L. We had intercepted the localizer and were maintaining an assigned speed of 170 kts. A 757 had been vectored ahead of us on the approach, and was approximately 5 nm ahead and 400 ft higher than us. We remarked that a larger aircraft ahead and above us presented a significant risk of encountering wake turbulence and that typically ATC would not put us in such a position. We began to feel a few bumps and I disconnected the autopilot. Seconds later, we were rolled suddenly to the left by wake turbulence. I leveled the wings and we requested a sidestep to runway 4L to avoid further turbulence. We landed without further incident on 4L.

Synopsis

Dash 8 Captain reported encountering wake turbulence on approach to EWR in trail of a B757.

Time / Day

Date : 201709

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : EWR.Airport

State Reference : NJ

Altitude.AGL.Single Value : 300

Environment

Flight Conditions : VMC

Light : Night

Aircraft : 1

Reference : X

ATC / Advisory.Tower : EWR

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 : Initial Climb

Airspace.Class B : NYC

Aircraft : 2

Reference : Y

ATC / Advisory.TRACON : N90

Aircraft Operator : Air Carrier

Make Model Name : Airbus 318/319/320/321 Undifferentiated

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Climb

Route In Use.SID : EWR2

Airspace.Class B : NYC

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Flying

Function.Flight Crew : First Officer

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1481632

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 Not Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1481634
Analyst Callback : Attempted

Events

Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

I was pilot flying. We had an Airbus in front of us, not designated as heavy but to me it looked bigger than an A319. The Airbus was cleared for takeoff and we took the runway to line up and wait. Upon rotation of the Airbus we were cleared for takeoff. I asked the Captain if he was ready, then intentionally paused a moment before smoothly advancing the thrust levers. The Airbus in front of us looked to be starting their turn for the EWR2 off 22R/W by the time we started our roll. Approximately 300 AGL the flight controls felt a tad less effective. In the turn to heading 190, we encountered some light turbulence and the Captain said he thought it was wake from the aircraft in front of us. Tower instructed us to contact Departure at this point. A moment later the intensity of the turbulence turned to moderate in our right turn to heading 220 and climb to 2500 ft predeparture clearance. The Captain asked for a different heading and informed ATC we were encountering wake. Tower instructed us to continue on heading 220 and contact Departure. The Captain switched to Departure and informed them we needed a turn because of wake turbulence. We were instructed to turn right and climb. I believe it was a right turn to 360 or 040 and a climb to 6000 ft. Upon making the turn we left the wake. A few moments later the Captain checked on the flight attendant to make sure she and the cabin had no problems. The Flight attendant reported no abnormalities and the flight continued without incident.

Night time made it hard for us to visually determine the amount of horizontal and vertical separation from the previous traffic.

Narrative: 2

Initial climb after takeoff from runway 22R in EWR. Encountered wake turbulence from aircraft that departed in front of us, an A320 I believe. FO as PF handled aircraft very well in order to keep it under control, moderate chop and roll moments were encountered. Aircraft never banked more than 5 degrees. I reported wake turbulence to ATC, they told

us to contact Departure. I repeated report of wake turbulence and ATC gave us instruction of "fly present heading". After wake turbulence ceased we reconfigured aircraft for climb and performed after takeoff check. Flight continued without further incident.

Threats were a night time departure and busy conditions at EWR leading me to accept takeoff clearance without inquiring about separation. Additional threat was ATC being too busy to wait any longer to issue takeoff clearance, also too busy to not deal with our report initially.

I can ask ATC about separation from aircraft we're following instead of just accepting takeoff clearance, allowing them to check their info and also giving us more time for threat to dissipate.

Synopsis

EMB-145 flight crew reported encountering wake turbulence departing EWR in trail of an A321/A320/A319 undifferentiated series aircraft.

Time / Day

Date : 201709

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : SFO.Airport

State Reference : CA

Altitude.MSL.Single Value : 1500

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.Tower : SFO

Aircraft Operator : Air Carrier

Make Model Name : B787 Dreamliner Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Final Approach

Route In Use : Visual Approach

Airspace.Class B : SFO

Aircraft : 2

Reference : Y

ATC / Advisory.Tower : SFO

Aircraft Operator : Air Carrier

Make Model Name : B777 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Flight Plan : IFR

Mission : Passenger

Flight Phase : Landing

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Total : 14644

Experience.Flight Crew.Type : 778

ASRS Report Number.Accession Number : 1481441

Human Factors : Human-Machine Interface

Human Factors : Situational Awareness
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 Not Flying
Experience.Flight Crew.Total : 4808
Experience.Flight Crew.Type : 890
ASRS Report Number.Accession Number : 1481454

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Speed : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

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

Narrative: 1

[We were approaching] San Francisco with clear skies, visual approach procedures in use. We were given the FMS Bridge Visual Approach which we had earlier briefed. Landing west in the afternoon sun, I decided to try the sun shade over the HUD, and adjusted the brightness up some as I imagined the sun would make it difficult to see. Speeds and crossing restrictions were made VNAV and LNAV were the active pitch and roll modes. We were cleared for the approach and the App button was pushed arming glidepath and FAC (Final Approach Course). I found it interesting that FAC and glidepath didn't become the active modes and since I haven't flown that approach in at least 5 years thought that would become active at the last approach fix. At approximately 4000 ft I turned the autopilot off and we continued to configure the AC for landing. At approximately 1500 ft the FMA changed to VNAV ALT, the throttles came up. We cycled the flight director switches to reset the system and I continued the approach from SAMUL intersection. I began to transition to visual and at this time started to realize that I was having a difficult time seeing the end of the runway and PAPI through the darkened HUD display. I turned the brightness down to help and was able to see the runway. Around the F101D fix on the approach my FO advised me that I was low and as I started to correct with pitch we began to encounter wake turbulence from the preceding 777 landing on 28L. My FO then advised me that I was slow and I confirmed that through the dimmed HUD and added power, regaining Ref. speed and leveling off until we regained the glide path for a safe landing.

Narrative: 2

We were on the last leg of a rare 3-day domestic trip on the 787. Neither the Captain nor myself had flown a domestic trip on the jet since our IOE. We were cleared to fly the FMS Bridge Visual to RW 28R at SFO. The weather was VFR with no issues other than the sun in our eyes as we flew to RW 28R. The Captain had installed the dark visor cover on his HUD so that he could see with the sun in his eyes, remarking that the dark visor made it very difficult to see the symbology on his HUD. I elected to leave the dark visor off of my HUD. The Captain disconnected the autopilot for the approach and I was performing PM duties for him.

When we were cleared for the approach I set 1800 FT; in the Altitude window, as we had not captured the FAC course yet. We continued configuring as the Captain hand flew the approach. After capturing the FAC I got distracted with configuring and inadvertently left 1800 FT; in the Altitude window, and we got VNAV ALT. I entered 100 FT; in the window, turned the FDs off and on, and attempted to reconnect the Approach mode, but it didn't capture. At that point I gave the Captain FLCH mode and HDG select for guidance, and we continued with the visual approach. I completed the Before Landing Check at approximately 1000 FT and looked back up to see that we were below glide path, noticing the PAPI lights. At the same time we received a single "Glide Slope" aural advisory and SFO Tower called us and asked us to "check our Altimeter Setting".

I immediately advised the Captain that we were below path and to level off, which he did. I then noticed that we were 10-15 knots below target speed and advised the Captain, who made an immediate throttle correction. I looked at the FMA and MCP and saw that the Autothrottle (AT) had disconnected, and I reconnected the AT. At this point we were back on speed and the PAPI showed us on glide path, and we continued the approach and landed normally.

Synopsis

B787 Captain reported speed and altitude deviations occurred on approach to SFO and encountered wake turbulence from the preceding B777.