DCA22MA009

OPERATIONAL FACTORS/HUMAN PERFORMANCE

Group Chair's Factual Report – Attachment 18

NASA ASRS MD-80 Rejected Takeoff Reports for Preceding 20 Years

October 26, 2022

ACN: 1630034 *(1 of 20)*

Time / Day

Date : 201903
Local Time Of Day : 0601-1200

Place

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

Environment

Flight Conditions : VMC

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : MD-83
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Takeoff / Launch
Airspace.Class B : ZZZ

Component

Aircraft Component : Exhaust Gas Temperature Indicat
Aircraft Reference : X
Problem : Malfunctioning

Person : 1

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 10800
ASRS Report Number.Accession Number : 1630034
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 : Pilot Flying
Function.Flight Crew : Captain

Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 23000
ASRS Report Number.Accession Number : 1630039
Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Flight Cancelled / Delayed
Result.Flight Crew : Rejected Takeoff

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

During takeoff roll, left engine EGT began flashing. Also, left engine fuel flow (which was placarded for reading 0) began flashing as well. **Rejected takeoff** at approximately 100 knots. No other abnormal indications were observed.

Narrative: 2

[Second narrative contains no additional information.]

Synopsis

MD-83 flight crew reported a high speed **rejected takeoff**.

ACN: 1337677 *(2 of 20)*

Time / Day

Date : 201603
Local Time Of Day : 0601-1200

Place

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

Environment

Flight Conditions : IMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
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 : Takeoff / Launch

Component

Aircraft Component : Engine
Aircraft Reference : X
Problem : Failed

Person : 1

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1337677
Human Factors : Workload

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1337679
Human Factors : Workload

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Flight Deck / Cabin / Aircraft Event : Illness / Injury
Detector.Person : Flight Crew
Were Passengers Involved In Event : Y
When Detected : In-flight
Result.General : Flight Cancelled / Delayed
Result.Flight Crew : Returned To Gate
Result.Flight Crew : Rejected Takeoff
Result.Aircraft : Aircraft Damaged

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

First Officer and I were cleared to taxi to runway after getting De-Iced. We were cleared for takeoff. I called for the before takeoff checklist and we lined up on the runway. We performed a static takeoff doing a clearing run of the engine before releasing the brakes. The plane rolled down the runway and at around 100-110 knots I noticed the ART fire out of the corner of my eye.

Around that same time there were multiple very loud "BANGS" associated with a very violent shimmy. The N1 indication on the number 2 engine was dashed out. First Officer called out "Right Engine" and I called for the abort. We did the appropriate **rejected takeoff** profile and once the plane was under control we exited the runway. During this time I asked the First Officer (FO) to call to the back to make an announcement and talk to the flight attendants. The flight attendants told us there was heavy smoke in the cabin. Without hesitating the First Officer immediately asked if it was increasing or going away. They informed us that the smoke was dissipating. I called tower and asked for fire rescue to meet the aircraft. Tower asked us to switch to Ground Control at this time. At this point I said something along the lines of "ok take a breath what do we got, what do we need to do?" We took time to identify what was going on. I noticed the oil quantity on the #2 engine was at 0 and immediately shut it down. I called for the QRH for **rejected takeoff**. We completed that checklist and then I called for the Low Oil Pressure QRH. Once that was completed we taxied back towards the gate. Fire Rescue asked us to hold off pulling into the gate until they could verify the integrity of the aircraft. They quickly gave us the ok and we proceeded to the gate.

Once at the gate I made an announcement to the passengers explaining what had occurred and apologized for it happening. I instructed them to collect their things and head into the terminal where they would be warmer and more comfortable. When I opened the flight deck door I had a very hard time seeing the back of the plane due to the smoke. The fire department went around the aircraft as we were deplaning with a thermal camera to verify there was no fire. I called dispatch and let them know that we had an [a situation] and I would call them back with the details.

Around this time the flight attendant came up holding her chest complaining of having a hard time breathing. I immediately sent her to a paramedic where they administered oxygen and took her vitals. Once the passengers were off the aircraft I shut it down and secured it. The First Officer and I went outside to assess the damage. We immediately noticed the nose bullet of the engine sitting in the cowl. It had completely broke off and seemed to be wedged under the fan blades. There was visible damage/dents around the inside of the engine cowl. We also noted oil accumulated under the engine and all over the nacelle. We went back inside where I checked on the flight attendant and we gathered the crew together to make sure everyone was ok. We had a debrief with each other to see where we could have done things better, if they noticed anything else, and discussed the event. They all did a fantastic job. I couldn't off asked for a better crew to handle the situation.

This was an unpredictable event that I am not sure could have been prevented. I guess better Maintenance practices and inspections of our equipment could help prevent it. The plane had a service check the day before. From the pictures it looks like all 15 screws that held the Nose bullet on cracked the same way. Maybe when the Maintenance team does their morning checks they could look for stress fractures or signs of wear and tear on these screws to verify they don't need to be replaced.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

MD-80 Engine failed during takeoff roll. Flightcrew rejected the takeoff and returned to the gate to de-plane passengers.

ACN: 1331398 *(3 of 20)*

Time / Day

Date : 201508
Local Time Of Day : 1801-2400

Place

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

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : 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 : Takeoff / Launch

Component

Aircraft Component : Elevator
Aircraft Reference : X
Problem : Malfunctioning

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1331398
Human Factors : Confusion
Human Factors : Distraction

Events

Anomaly.Aircraft Equipment Problem : Critical
Detector.Person : Flight Crew
Were Passengers Involved In Event : Y
When Detected : In-flight
Result.General : Maintenance Action
Result.General : Flight Cancelled / Delayed
Result.Flight Crew : Returned To Gate
Result.Flight Crew : Rejected Takeoff

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

No abnormalities found on preflight. No abnormalities found on the standardized checklist items when performed and completed. Taxi to 25R for departure was uneventful. On the takeoff roll, all calls and checks were uneventful. Approximately 110 knots to 120 knots, first officer (Pilot Flying) noticed nose coming up. First officer pushed nose forward. No change in the inputs when full forward pressure was applied from the yoke. I called for abort and verbally called for "my controls". Positive

transfer of controls were completed. First officer completed his duties as required by a RTO (**Rejected Takeoff**). ATC was notified, Flight Attendants were notified and the passengers were given an announcement of the issue at hand as required. All checklists were completed.

We taxied to the ramp without further abnormalities. Brake temps were rising and a tow into the gate was requested and completed. We checked the bag loads and they were in compliance with the count on the weight and balance manifest. We were met at the gate with by the mechanic on duty along with his colleague. Maintenance checked and verified at their supervision that the exterior control surfaces were in alignment with the flight deck settings on the CG, flaps and slats. They then did a control check on the empennage and the mechanics informed us that the left elevator was stuck in the up position. We also confirmed this finding. A logbook entry was made in the logbook. Flight crews were de-briefed and the duty pilot was contacted.

Synopsis

The flight crew of an MD-80 series aircraft reported a flight control anomaly during the takeoff roll. A high speed abort was successfully accomplished and the aircraft was returned to the gate. A post flight maintenance inspection revealed that the left elevator was stuck in the up position.

ACN: 1330871 *(4 of 20)*

Time / Day

Date : 201503

Place

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

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : MD-83
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Takeoff / Launch
Maintenance Status.Maintenance Deferred : Y
Maintenance Status.Records Complete : Y
Maintenance Status.Released For Service : Y
Maintenance Status.Required / Correct Doc On Board : Y

Component

Aircraft Component : Speedbrake/Spoiler
Aircraft Reference : X
Problem : Malfunctioning

Person : 1

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1330871
Human Factors : Confusion

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier

Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1331228
Human Factors : Confusion

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Detector.Person : Flight Crew
When Detected : Taxi
Result.General : Maintenance Action
Result.Flight Crew : Returned To Gate
Result.Flight Crew : Rejected Takeoff

Assessments

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

Narrative: 1

We accepted an aircraft from inbound crew. The plane had one deferral: "AUTOSPOILERS". Upon performing "captains flow", and during the takeoff Configuration check, the aural "auto brakes" was heard. Performed the test multiple times same result. Called MX (Maintenance) and wrote up the discrepancy in aircraft log. MX came out and essentially reconfigured the aircraft to the MEL's specifications multiple times until we finally got a good test. The auto brakes aural should not have been heard at all due to one of the auto spoiler CB (Circuit Breaker) being pulled and collared, so there was quite a bit of troubleshooting involved as to why this aural was happening under the planes current deferral condition. My main concern as expressed to MX was that the "auto brakes" aural (with the auto brake switch in off position) warns a pilot that his auto spoiler is in fact armed and his auto brakes are not set and armed, the problem being that there should have been no way for the AUTOSPOILER to be armed if it was in fact correctly Configured and deactivated per the MEL by MX personnel. MX talked about there being multiple CB dealing with the AUTOSPOILER and we again checked verbiage of MEL to make sure the correct one was pulled and collared. At this point the plane is re-signed off, operating under the same deferral, and the TKO (takeoff) Configuration check performed as it should. Push back and engine starts non eventful. Before taxi check non eventful with a satisfactory "BRAKES-BRAKES" aural on the TKO Configuration check. Taxi non eventful. Cleared for TKO, we took the runway and ran the before TKO checklist, plane was Configured as it should be for TKO under the deferral. We set power for TKO, auto throttles on, and started TKO roll. No TKO Configuration aural noted, all is operating as it should. At the "80 Knots thrust normal" callout, my eyes were scanning the engine instruments, so as to complete the call with "checks". At this point the "auto brakes" aural comes on and I aborted the TKO. Normal deceleration and non-eventful taxi in. Brake temps peaked at 180 degrees. First Officer consulted QRH for guidance as appropriate with the brake temp/RTO (**Rejected Takeoff**) graph procedure. Returned to gate and wrote up the discrepancy in log. In subsequent conversation with duty pilot, MX control, and line MX, I asked that a high energy MX checklist be performed by MX personnel due to the timing of the abort and my instrument scan at the time abort decision was made. I wanted to take the safest possible route, due to the possibility of speed being actually above 80 Knots at peak of our TKO roll. I was advised by all parties that they were in agreement of this course of action as the safest and that it would be complied with.

There are many inter-related systems in the MD80, for example the auto ground spoilers. While the MEL only directed MX to pull and collar one circuit breaker, there was obviously another interconnected system still powered to the AUTOSPOILERS. Upon returning on the evening of this trip, I again spoke with MX personnel. I was advised that they had just determined the cause of the TKO CONFIG warning as being one of three relays in the switch pack in front of the spoiler handle that was out of tolerances, this providing what ended up being an intermittent signal to the CONFIG system. Perhaps going forward, the MEL should be revised in its procedures to address some of the codependent and interconnected systems. Our MEL is extremely ambiguous in a number of deferrals, as evidenced in this particular event. MX control had somehow got the following idea by misinterpreting the MEL: MX control at one point wanted us to takeoff with the auto brakes set for TKO but not armed as a way to silence the warning. Obviously this produces the "AUTOSPOILER" aural unless the AUTOSPOILERS are armed. So in other words, if we would have done this and the "AUTOSPOILER" aural was silent, it would mean that somehow the system still had potential power to the AUTOSPOILERS and that they were armed. And if the AUTOSPOILERS were correctly de-powered as per the MEL procedure, then the absence of the spoilers being armed with the auto brakes set but not armed would have produced a continuous aural "AUTOSPOILERS" with every takeoff attempt. This series of events tells me the MEL is quite ambiguous in a number of its deferrals, as evidenced in MX control's advice and direction to line MX personnel.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

Due to incorrectly applying the MEL for the "AutoSpoilers" the crew incurred an "AutoBrakes" aural warning during takeoff roll leading to the decision to reject the takeoff.

ACN: 1249525 *(5 of 20)*

Time / Day

Date : 201503
Local Time Of Day : 1801-2400

Place

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

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
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 : Takeoff / Launch

Component

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

Person : 1

Reference : 1
Location Of Person.Aircraft : X
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1249525
Human Factors : Confusion

Person : 2

Reference : 2
Location Of Person : Gate / Ramp / Line
Reporter Organization : Air Carrier
Function.Maintenance : Technician
Qualification.Maintenance : Apprentice
Qualification.Maintenance : Powerplant
ASRS Report Number.Accession Number : 1249540
Human Factors : Confusion

Person : 3

Reference : 3
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
ASRS Report Number.Accession Number : 1249778
Human Factors : Confusion

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation / Discrepancy - Procedural : MEL / CDL
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Detector.Person : Flight Crew
When Detected : In-flight
When Detected : Pre-flight
Result.General : Maintenance Action
Result.General : Flight Cancelled / Delayed

Result.Flight Crew : Returned To Gate
Result.Flight Crew : Rejected Takeoff

Assessments

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

Narrative: 1

Upon arriving at work I observed that our aircraft was late inbound. I sat and relaxed in the passenger waiting area. The aircraft, arrived about a half hour late, if memory serves. The Captain and I went out to the ramp. The Captain initiated his walk around inspection and I conversed with the off-going first officer. The off-going first officer informed me that the aircraft was "good to go" except for an MEL item regarding the autospoiler system. I boarded the aircraft and began the pre-departure procedures. When the Captain entered the flight deck we discussed the MEL. (27-XXX I believe) We read the MEL and discussed the differing procedures and expectations regarding this write up. During the "Captains acceptance procedure" the Captain noted that he was getting the "Auto Brakes" audible warning when testing the takeoff configuration warning system. We discussed this result and determined that this warning should not be occurring during the takeoff configuration test with the auto spoiler system MEL'd. Our thought was that we would not be able to take off if this warning operated as it was at the gate. The Captain called maintenance and asked them to investigate our findings. He also put a write-up in the maintenance logbook. The maintenance technicians arrived and I exited the flight deck to allow more room for them to work. After a few minutes, the technicians told us we could take off with this particular MEL so long as we "select the auto brake system to take-off, but don't arm it, and you won't get the takeoff configuration warning."

This confused me since during the earlier review of this MEL we did not read anything about selecting the auto brake system to take off. The Captain and I discussed this conclusion and agreed that the MEL as written would not allow us to takeoff in that configuration. The technicians ultimately agreed with us and continued to trouble shoot the problem. After multiple attempts to get the system to test properly, the technicians were able to get a normal test. The write-up was signed off and we continued with departure procedures. Push back, engine start and before taxi procedures were all normal as I recall. We were cleared for takeoff. At approximately the "80 knots, thrust normal" callout the "autobrakes" takeoff configuration began to sound. A **rejected takeoff** was initiated. The **rejected takeoff** was performed, we exited the runway, notified ATC, notified the inflight crew that no action would be required from them, the QRH was consulted and the brake temperatures were checked per the brake over heat/**rejected takeoff** procedure. We taxied to the gate without incident. The **rejected takeoff** and deceleration to taxi speed were very gentle and even. When we blocked in at the gate, I noted that the brake temperatures were approximately 170 to 180 degrees...lower than on most normal landings. Maintenance technicians arrived at the aircraft and agreed that this particular aircraft should not be used in revenue service. We ultimately swapped into another aircraft and completed the pairing without incident.

Later that day, or maybe the next day, I learned that the maintenance technicians had found a failed or displaced microswitch in the spoiler handle mechanism. This type of failure could have caused worse outcomes if it had happened during different phases of flight. When such an important system has failed in this manner and especially after being MEL'd causes an unexpected indication on the flight deck, much more attention should be paid to finding the cause of the unexpected indication rather than trying to push the airplane off the gate to get a flight segment completed.

Narrative: 2

Crew reported getting an Autobrakes Aural warning during taxi out takeoff warning checks. The aircraft had MEL 27-XXX already applied for a previous Auto Ground Spoiler discrepancy.
I recommended the crew try putting the Auto Brakes selector knob in the TO position and re-check takeoff warning. The takeoff warning checks were now all good. The crew informed me that the autobrakes amber (ABS inop light) as now illuminated. I pointed out to the crew that per the applied MEL 27-00-19A "Remarks or Exceptions" section, the autobrake system must remain disarmed and the autobrakes RTO mode would indeed be inop as the light now indicates and will not be used for takeoff. On takeoff roll, the crew reported getting an aural Autospoilers takeoff warning ["auto brakes" takeoff configuration warning] and they aborted takeoff and returned to gate for maintenance.

MD-88 MEL 27-XXX specifies the Auto Brake system is not to be "Armed" for takeoff, but has no instructions included in either "M" or "O" procedures on what position the Auto Brake mode selector knob should be in. MEL 27-XXX requires clarification on which position the Autobrake selector knob should be in for dispatch.

Looking at the system schematics and wiring diagrams and maintenance manuals, it appears that when MEL 27-XXX is applied, an Autobrake or Autospoiler takeoff aural warning could sound in any autobrake selector position (including off) depending upon how certain associated autospoiler system components have failed. More research needed to determine which failure situation/autobrake selector knob position(s) should be allowed when MEL 27-XXX is being used. Investigation in progress.

Narrative: 3

We accepted aircraft from inbound crew. The plane had one deferral: Mel 27-XXX sit 1 "auto spoilers". Upon performing "captains flow", and during the takeoff (TKO) configuration check, the aural "auto brakes" was heard. Performed the test multiple times same result. Called Maintence and wrote up the discrepancy in aircraft log. Maintenance came out and essentially reconfigured the aircraft to the MEL's specifications multiple times until we finally got a good test. The auto brakes

aural should not have been heard at all due to one of the autospoiler Circuit Breaker being pulled and collared, so there was quite a bit of troubleshooting involved as to why this aural was happening under the planes current deferral condition. My main concern as expressed to Maintenance was that the "auto brakes" aural (with the auto brake switch in off position) warns a pilot that his autospoiler is in fact armed and his auto brakes are not set and armed...the problem being that there should have been no way for the autospoiler to be armed if it was in fact correctly configured and deactivated per the Mel by MTX personnel. Maintenance talked about there being multiple Circuit Breaker dealing with the autospoiler and we again checked verbiage of Mel to make sure the correct one was pulled and collared.

At this point the plane is re-signed off, operating under the same deferral, and the takeoff configuration check performed as it should. Push back and engine starts non eventful. Before taxi check non eventful with a satisfactory "brakes-brakes" aural on the TKO configuration check. Taxi non eventful. Cleared for TKO, we took the runway and ran the before TKO checklist, plane was configured as it should be for TKO under the deferral 27-XXX. We set power for TKO, auto throttles on, and started TKO roll. No TKO configuration aural noted, all is operating as it should. At the "80 kt thrust normal" callout, my eyes were scanning the engine instruments, so as to complete the call with "checks". At this point the "auto brakes" aural comes on and I aborted the TKO. Normal deceleration and non-eventful taxi in. Brake temps peaked at 180 degrees. First officer consulted QRH for guidance as appropriate with the brake temp/rto qrh procedure. Returned to gate and wrote up the discrepancy in log. In subsequent conversation with duty pilot, MTX control, and line MTX in pie, I asked that a high energy Maintenance checklist be performed by MTX personnel due to the timing of the abort and my instrument scan at the time abort decision was made. I wanted to take the safest possible route, due to the possibility of speed being actually above 80 knots at peak of our TKO roll. I was advised by all parties that they were in agreement of this course of action as the safest and that it would be complied with.

There are many inter-related systems in the MD-80, for example the auto ground spoilers. While the MEL only directed MTX to pull and collar one circuit breaker, there was obviously another interconnected system still powered to the auto spoilers. Upon returning on the evening of this trip, I again spoke with MTX personnel. I was advised that they had just determined the cause of the TKO configuration warning as being one of three relays in the switch pack in front of the spoiler handle that was out of tolerances, this providing what ended up being an intermittent signal to the configuration system. Perhaps going forward, the Mel should be revised in it's (m) procedures to address some of the codependent and interconnected systems. Our Mel is extremely ambiguous in a number of deferrals, as evidenced in this particular event. Maintenance control had somehow got the following idea by misinterpreting the Mel: MTX control at one point wanted us to takeoff with the auto brakes set for TKO but not armed as a way to silence the warning. Obviously this produces the "autospoiler" aural unless the autospoilers are armed. So in other words, if we would have done this and the "autospoiler" aural was silent, it would mean that somehow the system still had potential power to the autospoilers and that they were armed....and if the autospoilers were correctly de powered as per the MEL procedure, then the absence of the spoilers being armed with the auto brakes set but not armed would have produced a continuous aural "autospoilers" with every takeoff attempt. This series of events tells me the Mel is quite ambiguous in a number of its deferrals, as evidenced in MTX control's advise and direction to line Maintenance personnel.

Synopsis

MD-88 flight crew and the Maintenance Technician involved describe an AutoSpoiler deferral (MEL 27-XXX) that seems to cause an autobrake takeoff warning when tested at the gate. After much checking and testing the aircraft is signed off and functions normally until 80 knots in the takeoff roll when the AutoBrake warning sounds and the takeoff is rejected.

ACN: 1219565 *(6 of 20)*

Time / Day

Date : 201411
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Distance.Nautical Miles : 0
Altitude.AGL.Single Value : 0

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : 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 : Takeoff / Launch

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 : 1219565
Human Factors : Communication Breakdown
Human Factors : Other / Unknown
Communication Breakdown.Party1 : ATC
Communication Breakdown.Party2 : Flight Crew

Events

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

Assessments

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

Narrative: 1

Leading up to my **rejected takeoff**, there were many events prior to leaving the gate that resulted in a one hour and 43 minute delay.
1. 4 Flight releases were sent to me before one was satisfactory for a safe flight.
a. First one had us landing with 5000 lbs and flying through weather that was spawning tornadoes.
b. Second one had us flying through the same weather (requested a route further north) but had the additional fuel.
c. Third one requested an alternate due to marginal weather at destination.
d. Fourth one was all correct.

2. GPWS would not test, Maintenance (MX) tried to have me defer it, I said NO. If I had to divert due to some circumstance in the weather in mountainous terrain I did not feel comfortable with that. MX was able to fix the problem.

3. Had to have fuel put on the aircraft three separate times.

4. Flight was changed from an Airbus to an MD80 and flight attendants were dealing with passenger seating issues. As one can see this was not a typical morning departure. Once everything got resolved, push back was a non-event.

During taxi to runway XXL a Cessna took off XXL at an intersection, and we pulled up to the hold short line and stopped. Tower then said to line up and wait, I called for the Before Takeoff checklist, First Officer (FO) performed the checklist and everything was competed on the checklist. I did a typical 90 degree MD80 turn on the Runway. This is where I forgot that we were given a Line Up and Wait. I spooled up the engines to 1.4 EPR released the brakes and started the roll FO said something but was not quite sure what he said and at almost the same time, Tower called and asked if we had the departing Cessna traffic turning south. This is when I realized that we were given a line up and wait instruction. Although I probably could have just stopped and reset for a takeoff as we had not moved that far (we were between the end of the runway and B1) I decided to take the conservative approach, pull off the runway, talk to my FO of what just happened, and call Dispatch and tell the Duty Pilot what happened. Once I had talked to the Duty Pilot, explained to him what happened and let him know it was a low speed abort (no faster than taxi speed), and we had over our min. fuel for takeoff we both agreed we were okay to continue. My recommendation for correcting this problem is to have a "To the line" on the Before Takeoff checklist for a line up and wait situation. Also, there are a few items missing on the Before Takeoff checklist, Terrain, and Runway Update. These two items are required for us to perform but are not listed.

Synopsis

After a variety of issues that cause a lengthy delay, an MD80 Captain reports being cleared to line up and wait but proceeds to line up and go. The mistake is realized at low speed and the takeoff is rejected.

ACN: 1204910 *(7 of 20)*

Time / Day

Date : 201409
Local Time Of Day : 1201-1800

Place

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

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : MD-82
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Takeoff / Launch

Component

Aircraft Component : Leading Edge Slat
Aircraft Reference : X
Problem : Malfunctioning

Person : 1

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1204910
Human Factors : Situational Awareness
Human Factors : Time Pressure

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1204926
Human Factors : Situational Awareness
Human Factors : Time Pressure

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Rejected Takeoff
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Returned To Gate

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

Rejected takeoff due to takeoff configuration warning and slat disagree. Rejection speed was at 110kts. We had a normal preflight with a normal takeoff warning check. On taxi out I momentarily pushed the power levers to full travel and back to confirm proper takeoff configuration. We had a normal takeoff roll until just prior to 110 kts. At that point we experienced an aural takeoff warning followed by a slat disagree. I had to question how or if the aircraft would fly with an unknown slat

position. I rejected the takeoff. On taxi in the slat disagree light cycled on and off several times.

In conclusion, I now feel that there is a better chance of a false warning than a slat failure that would change its position. I now feel the better choice would have been to continue the take off.

Narrative: 2

Flaps were left where they were and we returned to a gate. Maintenance was notified and we made sure 2 wheel chocks were installed and parking brakes released to promote cooling. Fifteen minutes after chocking gear, brake temp was about 250 degrees.

Takeoff (TKO) configuration warnings do not usually occur this far into the TKO roll. One has to be aware of this "late" possibility and should continue the TKO, as per company procedures. This late configuration warning should be an "awareness" in a pilots decision making process to help in making the decision of "Will the aircraft fly." One the Captain has a short time to make.

Synopsis

A MD-80 Captain checked the Takeoff Configuration Warning with no response during taxi out but at about 110 KTS the SLAT DISAGREE and Takeoff Configuration Warning alerted so the Captain rejected the takeoff then returned to the gate for maintenance and brake cooling.

ACN: 1184688 *(8 of 20)*

Time / Day

Date : 201406
Local Time Of Day : 1201-1800

Place

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

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : MD-83
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Takeoff / Launch

Component

Aircraft Component : Main Gear Wheel
Aircraft Reference : X

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)
ASRS Report Number.Accession Number : 1184688

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1185167

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Returned To Gate
Result.Flight Crew : Rejected Takeoff

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

"Wheel not turning" light came on between 80 and 100 KTS. Captain aborted takeoff.

Narrative: 2

High Speed **rejected takeoff**. All indications and procedures [were] normal up to the event. Between 80 KIAS and 100 KIAS on takeoff roll, both crew members simultaneously noticed a "Wheel Not Turn" light illuminated on the forward instrument panel. As the Captain and the pilot flying, I rejected the takeoff at approximately 100 KIAS. V1 was 141 KIAS so reject was approximately 40 KIAS below V1. [Accomplished] **rejected takeoff** procedures normal and exited runway. Brake temperature did not exceed 200 degrees. Emergency not declared and returned to the gate for maintenance action. Aircraft [was] subsequently taken out of service.

Synopsis

MD83 flight crew experiences a wheel not turning light during takeoff and rejects.

ACN: 1164847 *(9 of 20)*

Time / Day

Date : 201404
Local Time Of Day : 0601-1200

Place

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

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : MD-83
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Takeoff / Launch

Component

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

Person : 1

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
ASRS Report Number.Accession Number : 1164847
Human Factors : Time Pressure

Human Factors : Workload
Human Factors : Training / Qualification

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1164849
Human Factors : Time Pressure

Events

Anomaly.Aircraft Equipment Problem : Critical
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Declared Emergency
Result.General : Maintenance Action
Result.Flight Crew : FLC complied w / Automation / Advisory
Result.Flight Crew : Returned To Gate
Result.Flight Crew : Rejected Takeoff
Result.Aircraft : Equipment Problem Dissipated

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

ATIS: 10M visibility BKN250 10/04 30.13 Dry RWY 28, FLP 06, STD THRUST MTS 38 AT 44C RWY LIMIT 168.7 CLIMB LIMIT 170.2 TOW 145,982 V1 151 KIAS During takeoff roll at 135 KIAS the MASTER WARNING Light illuminated, I checked the overhead annunciator panel, saw TAIL COMPT TEMP HIGH light ON. [I] **rejected takeoff** at 140 to 145 KIAS. Reported abort to Tower. [We] stopped on runway; requested Airfield Rescue and Fire Fighters (ARFF) and discrete frequency for ARFF Command. Made remain seated PA. Pneumatic cross feeds were Closed, airfoil anti-ice was OFF and air conditioning switches were turned OFF. Shut down right engine and ran Evacuation Checklist, but stopped short of ordering evacuation. About 30 seconds after right engine was shut down, the TAIL COMPT TEMP HIGH light extinguished.

While waiting for ARFF I explained to flight attendants the indications and asked them to view the tail cone area through the aft entry door window. They said it was clear with no smoke. I asked Tower if any smoke was visible. They reported smoke from landing gear but not tail. When ARFF Command arrived moments later with only left engine running, I explained the situation and they reported 350 degrees in tail compartment (using their infrared temperature detection equipment), and smoke on right gear brakes. I advised ARFF I was releasing the brakes to facilitate their cooling. No evacuation was recommended by ARFF.

Left engine was then shut down to remove all potential sources of heat. I spoke to the passengers and explained the problem and our plan to have a tug tow us back to the gate. First Officer called Operations and requested a tug. According to ARFF, temperature of TAIL COMPT and gear was nothing abnormal now and smoke at gear had dissipated. Tug came out and towed us to the gate. ARFF followed us to the gate monitoring the TAIL COMPT temp with their FLIR equipment.

At the gate I advised ramp crew that brakes would be released to facilitate brake cooling and to please chock the wheels. Passengers were disembarked. Ramp crew opened the aft stairs and ARFF checked the TAIL COMPT one last time.

Narrative: 2

[Report narrative contained no additional information].

Synopsis

During takeoff at about 140 KTS, a MD-83 TAIL COMPT TEMP HIGH alerted, so the Captain rejected the takeoff, stopped on the runway, completed the QRH, and ARFF reported the tail at 350 degrees and smoking brakes. The aircraft was towed to the gate.

ACN: 1107535 *(10 of 20)*

Time / Day

Date : 201308
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ORD.Airport
State Reference : IL
Altitude.AGL.Single Value : 0

Aircraft

Reference : X
ATC / Advisory.Tower : ORD
Aircraft Operator : Air Carrier
Make Model Name : MD-82
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger

Component

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

Person : 1

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : First Officer
ASRS Report Number.Accession Number : 1107535

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1107538

Events

Anomaly.Aircraft Equipment Problem : Critical
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Rejected Takeoff
Result.Flight Crew : Returned To Gate

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

During the takeoff roll, the Captain noticed the "Wheel Not Turning" light was illuminated and he elected to abort the take off at approximately 100 knots. The **rejected takeoff** was successful, and we taxied back to the gate without any problems. Upon reaching the gate, we noticed the left inboard wheel temperature indicated approximately 310 degrees, while the other wheel temperatures indicated approximately 200 degrees.

Narrative: 2

During takeoff roll "WHEEL NOT TURNING" light illuminated. I immediately rejected the takeoff at approximately 100 KIAS. We cleared the runway and taxied back to our original gate. The left inboard brake temp reached approximately 310 degrees (Brake temp light, which illuminates at 305, came on after reaching gate). The other three brakes never exceeded 200 degrees.

Synopsis

MD82 flight crew reports a "WHEEL NOT TURNING" light during takeoff and rejects at 100 knots. The aircraft is taxied back to the gate where the left inboard brake indicates hot.

ACN: 1087930 *(11 of 20)*

Time / Day

Date : 201305
Local Time Of Day : 0601-1200

Place

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

Environment

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

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : MD-82
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Takeoff / Launch

Component

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

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1087930
Human Factors : Time Pressure
Human Factors : Troubleshooting
Human Factors : Workload

Events

Anomaly.Aircraft Equipment Problem : Critical
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Rejected Takeoff

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

High speed **rejected takeoff**. First flight of the day departing Runway 35R. Same aircraft we had flown in the night before. Weather was clear, 10 miles visibility, wind 320/5, 17 degrees C. Both engines were started for taxi out to insure proper engine warm up times. Takeoff was initiated by First Officer. Takeoff power was set and all indications were normal with an EPR setting of 1.93, a TAT of 41 degrees for 6 flaps. Shortly after the 80 knot call, at approximately 90 knots, we felt and heard two loud pops and initiated an abort. The right engine had rolled back slightly. The abort was uneventful with half of the runway remaining. The brake temp never exceeded 150 degrees. We stopped on the runway to analyze our situation and complete any required actions. The passengers were told to remain seated. The flight attendants confirmed the right engine was the culprit. With both engines at idle, the right engine showed an EGT of 500 degrees with the left showing 400. We

suspected the right engine had compressor stalled. We could not find any specific checklist guidance for our condition. We informed Tower of our intention to clear the runway at Taxiway E4 and taxi back to the gate. While clearing the runway we shutdown the right engine as a precaution. Once at the gate, an exterior inspection of the engine did not reveal any visible damage. Later conversations with Dispatch informed us that the right engine had to be replaced.

Synopsis

A MD-82 First Officer rejected the takeoff at about 90 knots following two right engine compressor stalls and later the crew was told the engine would be replaced.

ACN: 1086846 *(12 of 20)*

Time / Day

Date : 201305
Local Time Of Day : 1801-2400

Place

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

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : MD-82
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger

Component

Aircraft Component : Main Gear Tire
Aircraft Reference : X
Problem : Failed

Person : 1

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : First Officer
ASRS Report Number.Accession Number : 1086846

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1086853

Events

Anomaly.Aircraft Equipment Problem : Critical
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.General : Flight Cancelled / Delayed
Result.Flight Crew : Returned To Gate
Result.Flight Crew : Rejected Takeoff

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

During the take-off roll on Runway XXR we observed the wheel-not-turning light illuminate. The light illuminated at 120 KTS; V1 was 146 KTS. The Captain (Pilot Flying) initiated a **rejected takeoff** and brought the aircraft to a stop on the runway. Aircraft weight was 137,000 lbs. We taxied off the runway and stopped. Brake temperatures ranged between 80-400 degrees.

The fire department was called and conducted an inspection of the tires and brakes. They then cooled the brakes and determined they were safe. The left inner tire was flat. The aircraft was towed to Gate X and parked. Passengers were deplaned.

Narrative: 2

No additional information was provided by the secondary narrative.

Synopsis

An MD-82 flight crew rejected their takeoff at 120 KTS when they observed a wheel not turning warning.

ACN: 1045564 *(13 of 20)*

Time / Day

Date : 201210
Local Time Of Day : 1201-1800

Place

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

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Rain
Weather Elements / Visibility : Windshear
Weather Elements / Visibility.Visibility : 1 3/4
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : MD-83
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Takeoff / Launch

Component : 1

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

Component : 2

Aircraft Component : Ground Spoiler
Aircraft Reference : X
Problem : Improperly Operated

Person : 1

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1045564

Human Factors : Situational Awareness
Human Factors : Time Pressure
Human Factors : Confusion
Human Factors : Distraction

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1046429
Human Factors : Time Pressure
Human Factors : Situational Awareness
Human Factors : Training / Qualification

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Rejected Takeoff

Assessments

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

Narrative: 1

I was the pilot flying. We were cleared for takeoff. Weather was CAT 1 with 1 3/4 mile visibility in moderate rain. We were in an older model jet with no autospoilers/brakes. The Captain briefed to remind him in the event of a **rejected takeoff** to remind him to deploy spoilers. On takeoff roll, after the engines spooled to 1.4 EPR I called for the autothrottle. The right engine was lagging prior to 1.4 EPR but came up. As we began takeoff roll, it felt like were not accelerating properly. The Captain had failed to make a "thrust set" or 80 knot call by the time I felt he should. I looked down and saw were almost 85 knots and looked up and the right EPR gauge was split and well below the chevron target. I said to the Captain "we need to do something" at that time, he took the controls and it felt as if he was rejecting the takeoff. I looked first at airspeed and saw we were just coming through 95 knots. The Captain deployed the reversers and began braking but due to his arm position I could not see if the speed brakes had deployed. I notified Tower of our **rejected takeoff** due to low visibility conditions. We exited the runway after I called out that we were below 60 knots. As we exited the runway we observed that the speedbrake had in fact not been deployed by either pilot. A critical miss on an 8,500 FT runway with heavy rain and wind. The fact that we never accelerated beyond 95 knots and the Captains use of brakes and reversers played into our more than favorable outcome.

The differences of flying the older planes very rarely cannot be over stressed. The differences of the autospoiler/brakes systems on our company's MD-80 models makes us complacent, greater care needs to be placed on the **rejected takeoff** litany and actions on every flight. A clear call of the **rejected takeoff** might have helped remind me of the requirement during a **rejected takeoff** to confirm spoilers are deployed.

Narrative: 2

Advanced power to 1.4 EPR; engaged autothrottle as per procedure. Left engine accelerated to target 1.93 EPR normally, right stuck at 1.6. I advanced the right throttle manually to 1.93, but it rolled back to 1.6 with no additional throttle movement. Takeoff rejected at 90 KTS. My usual technique is to bring the power to idle, deploy the reversers, and then grab the spoiler handle to manually extend them (this was an older airplane.) But in this case as soon as I got the reversers deployed and spooled up to the target EPR it was time to start stowing them again as the copilot was already making his 80 KTS and 60 KTS callouts. I did not, therefore, take my right hand off the throttles to deploy the spoilers. I know it's procedural, but the RTO happened very fast, and there simply wasn't time to both extend the spoilers and get the thrust reversers stowed by 60 knots. Since I had full control of the airplane I chose to come out of reverse and turn my attention to clearing the runway. I wrote up the engine problem and the **rejected takeoff** in the same logbook entry. I should have made a separate entry for the RTO.

Synopsis

A MD-83's right engine failed to maintain takeoff EPR, so the Captain rejected the takeoff but failed to extend the spoilers on an older model aircraft without autospoiler/autobrakes.

ACN: 1036647 *(14 of 20)*

Time / Day

Date : 201209
Local Time Of Day : 0601-1200

Place

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

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : MD-83
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Phase : Takeoff / Launch

Component

Aircraft Component : Air Data Computer
Aircraft Reference : X
Problem : Failed

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1036647

Events

Anomaly.Aircraft Equipment Problem : Critical
Detector.Person : Flight Crew
When Detected.Other
Result.General : Maintenance Action
Result.Flight Crew : Rejected Takeoff

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

As we began the takeoff roll the First Officer's airspeed did not come off zero and auto-throttles disconnected. Near approximately 80 KTS we recognized the First Officer had lost his CADC and I began a **rejected takeoff** procedure. First Officer advised Tower of our **rejected takeoff**. We exited the runway and began to assess the aircraft and our immediate needs. Plenty of runway was left and the brake temp was slow to rise. We called ATC and requested to return to the gate and also informed our Maintenance to meet the aircraft to perform all necessary inspections. Brake temperature never exceeded 205C and had already begun to cool down prior to parking at the gate. Taxi back to terminal was uneventful and info was entered into the [logbook].

Synopsis

MD-83 Captain reported losing First Officer CADC on takeoff roll, so the takeoff was rejected and the flight returned to the gate.

ACN: 1009471 *(15 of 20)*

Time / Day

Date : 201205
Local Time Of Day : 1801-2400

Place

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

Environment

Flight Conditions : VMC
Ceiling : CLR

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
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 : Takeoff / Launch

Component

Aircraft Component : Turbine Engine Thrust Reverser
Aircraft Reference : X

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 : 1009471
Human Factors : Confusion

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : MEL / CDL
Detector.Person : Flight Crew
When Detected : Pre-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

Aircraft had MEL 78-1 sit 1 which was on our release. The right thrust reverse lever was tied down. The left thrust reverser was operating normally. The MEL for this procedure is quite lengthy due to so many options/items listed in the "action required" column. Upon further review of this during our flight it seems we should have applied a takeoff performance weight reduction related to the right thrust reverse lever being tied down. If so, we took off overweight for the length of the runway with a temperature of 10 C and calm winds. The MEL states that both thrust reverse levers are required to make the auto brakes and spoilers deploy on a **rejected takeoff** (RTO) as noted in the MEL Manual item E. On airplanes with the Auto Spoiler RTO mode, automatic spoiler deployment for takeoff will not occur unless both Reverser Levers are moved to the reverse idle position. On these aircraft, if affected Reverser Lever has been secured down to prevent its use, auto spoilers may still be armed for takeoff, but flight crew must manually pull handle aft upon initiation of an RTO to deploy spoilers. If affected Reverser Lever has not been secured down, normal takeoff/RTO procedures may be used on DC-9 aircraft with Mechanical Latches... This seems to be specific to DC-9 aircraft only and not to DC-9-8x aircraft. Should this even be in our MEL book as we have no DC-9 aircraft in our fleet? In any case, it appears the thrust reverse lever should not have been (nor should it ever be) tied down on an MD8x (DC-9-8x) aircraft. There is much conflicting information in our AOM and ASM related to item E.

If RTO capability is not used as a result of a MEL, the spoiler handle must be fully retracted. The last sentence which states, "If RTO capability is not used as a result of a MEL, the spoiler handle must be fully retracted." This is a contradiction of both

what the MEL in item E. says and what is listed in the ASM, which states: 4. ABS Takeoff Mode a. The takeoff mode is armed by selecting T.O. on the AUTO BRAKE selector and placing the ARM-DISARM switch in the ARM position. b. In the takeoff mode, both auto spoilers and auto brakes must be armed. Advancing throttles for take off with either system not armed will activate the takeoff warning. When one automatic system is deferred for takeoff, the other automatic system will also be deactivated for takeoff. In this situation, both manual spoilers and full antiskid braking are still available and the takeoff performance is not affected. The last sentence states, "The takeoff performance is not affected." which contradicts what our ATOGS appear to indicate. Upon arrival I called Dispatch to let them know what had happened. He transferred me to Maintenance Control and I told them what had happened as well. Maintenance Control said the right reverse lever should not have been tied down and it would be corrected overnight.

Clean up MEL 78-1 and add a note at the very top of the FIRST page of the actions required column, which states something like: "CAUTION: BOTH thrust reverse levers must be used for the auto RTO to function. If auto RTO is not available a performance reduction for takeoff weight must be applied." Note that I'm assuming this is the case for both thrust levers, due to what the MEL says. I could not find this specifically in the MD80 AOM or ASM. The AOM, and ASM, and MEL Manual (and any other manuals such as the maintenance manual that we don't have on the aircraft) should all agree on this subject without conflicting and confusing information.

Synopsis

MD83 Captain questions MEL 78-1 which was applied to his aircraft by locking out the right thrust reverser and tying down the reverse lever. He believes a performance decrement should have been taken due to no RTO function.

ACN: 905696 *(16 of 20)*

Time / Day

Date : 201008
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.Tower
State Reference : US
Altitude.AGL.Single Value : 0

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : MD-88
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Takeoff / Launch
Route In Use : None

Component

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

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Flight Engineer
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 11400
Experience.Flight Crew.Last 90 Days : 162
Experience.Flight Crew.Type : 4100
ASRS Report Number.Accession Number : 905696

Human Factors : Communication Breakdown
Human Factors : Training / Qualification
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Ground Personnel

Events

Anomaly.Aircraft Equipment Problem : Critical
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.General : Flight Cancelled / Delayed
Result.Flight Crew : Returned To Gate
Result.Flight Crew : Rejected Takeoff

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

I was making the assumed temperature takeoff and advanced the throttles to approximately 1.3-1.4 EPR and called for autothrottles ON. The throttles advanced. The First Officer shortly thereafter called out that the left engine was not developing takeoff thrust prior to calling the "80 KTS, Thrust Normal" callout. I looked at the engine instruments and the left engine appeared to be about 1.36 EPR and the right engine appeared to be about 1.88 EPR. Just as I was shifting my gaze to the N1 indicators the First Officer called out abort. I made the decision to do so based on the First Officer's sound input during the time we had flown together, our relatively slow airspeed, and that the engine was not reaching takeoff thrust. I estimate our airspeed to be about 88 KTS by the time the procedure was completed (No 80 KTS call was made as our attention was diverted to the engine instruments and this is an estimate).

The **rejected takeoff** was unremarkable. We actually had to add power to reach the first open exit. The First Officer called the Tower and told them we were aborting the takeoff and no assistance was required. The brake temp never exceeded 150 degrees and I don't believe it ever exceeded 125 degrees based on my checking the temperature 10-20 minutes after the low speed abort. We cleared the runway, made a PA, ran checklists, and waited for a gate. I strove to keep the Flight Attendants and passengers informed.

Synopsis

An MD88 flight crew rejected their takeoff at around 80 KIAS when the left engine failed to advance to takeoff thrust.

ACN: 902387 *(17 of 20)*

Time / Day

Date : 201007
Local Time Of Day : 1201-1800

Place

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

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : MD-80 Series (DC-9-80) Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Phase : Takeoff / Launch

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
ASRS Report Number.Accession Number : 902387
Human Factors : Human-Machine Interface
Human Factors : Situational Awareness

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 902388
Human Factors : Workload
Human Factors : Troubleshooting
Human Factors : Situational Awareness
Human Factors : Human-Machine Interface
Human Factors : Confusion
Human Factors : Time Pressure

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation / Discrepancy - Procedural : Other / Unknown
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Became Reoriented
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Rejected Takeoff

Assessments

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

Narrative: 1

Rejected takeoff due to left engine EPR gauge indicating less that takeoff power. All other gauges indicating normal planned takeoff power. Decision made at 80 KTS with speed accelerating slightly above when normal braking applied. Taxi back to the beginning of runway and ran up both engines to takeoff thrust receiving normal EPR indications. Took off without further incident. Normal indications to our destination just like to the previous flight.

Narrative: 2

After rolling start, rolling takeoff at due to left engine EPR gauge indicating less than takeoff power, left engine N1 indicating normal planned takeoff power, decision made at 80 KTS with speed accelerating slightly above when normal braking applied. Exited runway. Brake temperature stayed below 200 degrees. Taxied back. Ran both engines independently to takeoff thrust. Normal indications. Took off without further incident. Normal indications to destination. Due to the rolling takeoff and having experienced engines with slower than normal acceleration, I made the decision to abort late in the takeoff roll. Also, aircraft is different engine display than I'm used to seeing. [I] don't fly these airplanes that often. Although left N1 was showing takeoff power (90%) I felt the need to stop the takeoff even at 80 KTS and accelerating. Plenty of runway remaining. Did not perform an aggressive abort maneuver. Normal reverse and brakes applied. QRH mentions maintenance inspection if max braking was used. Maximum braking was not used. No hot brakes indication. After taxiing back for takeoff, both engines run up to takeoff power. Both engines performed satisfactorily. Normal takeoff and flight to destination.

Synopsis

A MD80 Captain rejected the takeoff at 80 KTS because the left engine EPR did not appear to be at rated power following a rolling takeoff. After an engine run the crew continued to their destination with apparently normal running engines.

ACN: 892812 *(18 of 20)*

Time / Day

Date : 201006
Local Time Of Day : 1201-1800

Place

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

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : MD-83
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Phase : Takeoff / Launch

Component

Aircraft Component : Leading Edge Slat
Aircraft Reference : X
Problem : Malfunctioning

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 892812

Events

Anomaly.Aircraft Equipment Problem : Critical
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Rejected Takeoff

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

During takeoff roll at around 120 knots we heard the audible "Slats" and corresponding Slat Disagree light. **Rejected takeoff** and returned to the gate. Contacted Maintenance Control and Dispatch.

Synopsis

An MD-80 Captain reported rejecting the takeoff when the "Slats" alert was heard and seen.

ACN: 878707 *(19 of 20)*

Time / Day

Date : 201003
Local Time Of Day : 1201-1800

Place

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

Environment

Flight Conditions : VMC
Weather Elements / Visibility : Rain
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 7000

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : MD-83
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Takeoff / Launch
Maintenance Status.Released For Service : Y
Maintenance Status.Maintenance Type : Unscheduled Maintenance
Maintenance Status.Maintenance Items Involved : Testing

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)
Qualification.Flight Crew : Flight Instructor
Experience.Flight Crew.Total : 6000
Experience.Flight Crew.Last 90 Days : 240
Experience.Flight Crew.Type : 1500
ASRS Report Number.Accession Number : 878707
Human Factors : Communication Breakdown
Human Factors : Distraction
Human Factors : Time Pressure
Human Factors : Confusion
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party1 : Maintenance
Communication Breakdown.Party2 : Flight Crew
Analyst Callback : Completed

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.Total : 10000
Experience.Flight Crew.Last 90 Days : 240
Experience.Flight Crew.Type : 3500
ASRS Report Number.Accession Number : 878708
Human Factors : Situational Awareness
Human Factors : Confusion
Human Factors : Communication Breakdown
Human Factors : Distraction
Communication Breakdown.Party1 : Maintenance
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Flight Crew

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Overcame Equipment Problem

Assessments

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

Narrative: 1

Problem first noticed on preflight. We fly so many different equipment variations and types that it is difficult to keep things straight. On preflight, the Captain verbalized to me that the Thrust Rating Panel (TRP) tested properly for a -217 MD80 engine, rather than a -219 (and EPR Limit value of 2.04 vs. 2.08 during the test). His conclusion was that this MD80 must have the -217 engine.

During the subsequent Takeoff roll on a short wet runway, I noticed the EPR Limit value was slightly low and the N1 value for one engine was slightly below the prescribed minimum value for the takeoff. I made a quick decision that if I were to verbalize what I saw, in the time it took for us to make a decision about the slightly low thrust values, we would have already accelerated through the minimum speed we had established for a **Rejected Takeoff** (RTO), during my takeoff briefing. Additionally, the runway was very wet, making a **Rejected Takeoff** additionally hazardous.

The Takeoff was made normally and at an appropriate time during the climb, I asked the Captain if he had noticed the low N1 and EPR values that I had seen during the Takeoff. He then remembered what he had said about the TRP test. The Captain then recalled where to check the engine type for the aircraft in the FMS Computer. We could then see that the actual engines equipped should be the -219s.

For the remainder of the flight, we monitored the EPR Limit value being displayed and compared it to values published in the Quick Reference Handbook (QRH) for the appropriate phase of flight. We found the displayed values at all times to be slightly less than what would normally be expected and less than the numbers published in the QRH. After arrival in ZZZ, the Captain called company Maintenance to question the problem and had the TRP deferred. It was his opinion that the incorrect Thrust Rating Panel had been installed on the aircraft.

Callback: 1

Reporter stated all the Manuals in the Cockpit were based on the MD-83 having -219 series engines. But when they did a Press to Test function on the Thrust Rating Panel (TRP) for engine Take-off EPR values, the numbers 2.04 EPR would show indicating they had -217 engines on the aircraft; not the -219's with an expected 2.08 EPR reading on the TRP panel.

Reporter stated Maintenance informed him the Performance values can be changed by adjusting or changing some unit, possibly the Fuel Control, to allow the same engine to meet -219 values. The TRP panel is a deferrable MEL item because Pilots can manually set EPR while monitoring during different flight phases.

Narrative: 2

On preflight I noticed Thrust Rating Panel (TRP) tested OK for a -217 MD-80, I tried to determine what engines we had, then got distracted and moved on. I assumed we had -217 engines.

On Takeoff from a short wet runway in rain, my First Officer (FO) noticed EPR and Minimum N-1 values slightly low. I did not notice a problem, no verbalization occurred due to runway conditions and speeds, and takeoff was successful. On climb out we both noticed EPR limit was lower than normal. At this point my FO told me he had noticed on Takeoff previously mentioned discrepancy. Here is where I finally remembered where to check on the FMS for engines; I now realized that the aircraft should be equipped with -219 engines.

We monitored the EPR limits and N1's all the way to ZZZ. All Manuals in the airplane are for -219 engines and all looked at by the FO and on his side. In ZZZ, I called Maintenance Control to report the problem of slightly low EPR on Takeoff and the TRP (Thrust Rating Panel) was deferred.

Part of the problem is that my company is very disorganized, we fly many different planes obtained from different companies. Many of our airplane configurations are completely different and there is no consistency. I should have stopped when I saw the initial discrepancy and called company Maintenance to question the problem. Perhaps ego played a part as I did not want to admit I did not know where to determine what engine our aircraft had. I believe the wrong TRP was installed in this aircraft.

Synopsis

A First Officer and Captain report noticing during Takeoff and other phases of flight, the EPR and Minimum N-1 displayed values at all times to be slightly less than what would normally be expected and less than the numbers published in their Quick Reference Handbook (QRH). The MD-83 Thrust Rating Panel (TRP) indicated -217 engines were installed, not the expected -219 series engines.

ACN: 825584 *(20 of 20)*

Time / Day

Date : 200903
Local Time Of Day : 1801-2400

Place

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

Environment

Flight Conditions : VMC
Light : Night

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ.Tower
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 : Takeoff / Launch

Component

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

Person : 1

Reference : 1
Location Of Person.Aircraft : X
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Private
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Flight Engineer
Experience.Flight Crew.Total : 15000
Experience.Flight Crew.Last 90 Days : 225
Experience.Flight Crew.Type : 8000
ASRS Report Number.Accession Number : 825584

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Private
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Flight Engineer
Qualification.Flight Crew : Flight Instructor
Experience.Flight Crew.Total : 10000
Experience.Flight Crew.Last 90 Days : 150
Experience.Flight Crew.Type : 2500
ASRS Report Number.Accession Number : 825582

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Other
Detector.Person : Flight Crew
Result.General : Maintenance Action
Result.Flight Crew : Rejected Takeoff
Result.Aircraft : Aircraft Damaged

Assessments

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

Narrative: 1

After normal preflight of MD-80 and a maintenance layover check as well as a security sweep, our aircraft was loaded with passengers and cargo. The aircraft had been sitting at the hangar during the snow storm over the weekend. The aircraft appeared clear of ice and snow during the drag-up, from the cabin overlooking the wings, and during the walkaround in bright sunlight with gusty winds. Taxi and engine starts were normal. During takeoff roll, between 60-75 KIAS, the aircraft appeared to accelerate normally, but both pilots felt what appeared to be a compressor stall in either or both engines. The takeoff was aborted at low speed and the runway was cleared. An after landing check was performed and a notification call to Tower was made. After conferring with the aft Flight Attendants, a decision was made to have the aircraft towed to a gate and the right engine was shut down as we coordinated for a tug. All engine instruments indicated normally throughout the **rejected takeoff** as well as after the fact. The aircraft was then connected to a tug and the left engine was then shut down. A FOD truck was dispatched to the runway, but only found 'slush' -- no metallic debris. An aircraft behind us said that he had seen debris coming out of the engine on power-up. Another voice on Tower frequency also said that another MD-80 had the same thing happen and had bent compressor blades earlier in the day. We were towed to a new gate and maintenance met the aircraft. A visual inspection indicated that there was damage to the #2 engine, but nothing appeared abnormal with #1. Maintenance also reported that there was some snow/ice still on the wing roots of the aircraft even though the rest of the aircraft appeared clear. We suspected that some ice FOD had remained in the inlets of the engines and came loose during throttle-up creating the compressor stalls. (The MD-80 has some history of this occurrence.) My recommendations to prevent these problems in the future would be: 1) Plug or cover engine inlets during times of freezing precipitation to prevent water from entering the engine inlets and freezing -- turning into a potential FOD hazard. 2) Have maintenance inspect engine inlets if an aircraft has been sitting in freezing precipitation prior to re-entry into service -- especially if the aircraft has a known history of this type of problem. A visual inspection with some type of lift device would be required as the inlets are too high to inspect from the ground during a walkaround. 3) Also, pilots need to be particularly vigilant during times like this. Some ice/snow could still remain on an aircraft in hard-to-see locations even though the rest of the aircraft appears 'clean.' (Unusual since normally snow or ice would be all over the aircraft prompting the crew to deice before departure.)

Synopsis

An MD-80 on takeoff roll sustained engine damage when ice was ingested into the number 2 engine, the flight crew rejected the takeoff and requested a tow to the gate.

ASRS v2.9