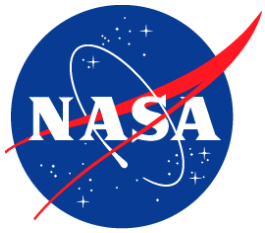
Search Request No. 6712

MD80 Series Aircraft Stall Incidents

December 6, 2005



Aviation Safety Reporting System
385 Moffet Park Dr. Suite 200 Sunnyvale California 94089

IHS: 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 of the following points, which must be considered when evaluating these data.

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.

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 reporting of a specific individual who is describing their experience and perception of a safety related event.

After preliminary processing, all ASRS reports are de-identified. Following de-identification, there is no way to identify the individual who submitted a report. All ASRS report processing systems are designed to protect identifying information submitted by reports, such as, names, company affiliations, and specific times of incident occurrence. There is, therefore, no way to verify information submitted in an ASRS report after it has been de- identified.

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

Linda J. Connell, Director
Aviation Safety Reporting System

CAVEAT REGARDING STATISTICAL USE OF ASRS INFORMATION

Certain caveats apply to the use of ASRS statistical 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, air carriers, or other participants in the aviation system, are equally aware of the ASRS or equally willing to report to us. Thus, the data reflect **reporting biases**. These biases, which are not fully known or measurable, may influence ASRS statistics. 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 supportive of the ASRS program and more inclined to report to us should an NMAC occur.

One thing that can be known from ASRS statistics is that they represent the **lower measure** of the true number of such events that are occurring. For example, if ASRS receives 881 reports of track deviations in 1999 (this number is purely hypothetical), then it can be known with some certainty that at least 881 such events have occurred in 1999. Because of these statistical limitations, we believe that the **real power** of ASRS lies in the **report narratives**. Here pilots, controllers, and others, tell us about aviation safety incidents and situations in detail. They explain what happened, and more importantly, **why** it happened. The values of these narrative reports lie in their qualitative nature. Using report narratives effectively requires an extra measure of study, but the knowledge derived is well worth the added effort.

Report Synopses

ACN: 639472 *(1 of 22)*

Synopsis
MD80 PMS FAILURE TO MAINTAIN PLANNED CRUISE SPD ALLOWS MACH TO FALL TO PT 67 FROM PT 76 WHEN AT FL370 10 NM S OF SAV.

ACN: 631494 *(2 of 22)*

Synopsis
FLT CREW OF MD80 EXPERIENCE SPD AND ALT FLUCTUATIONS DURING ENCOUNTER WITH MOUNTAIN WAVE OVER NORTHERN NEW MEXICO.

ACN: 620415 *(3 of 22)*

Synopsis
A LOW SPD WARNING DURING INITIAL CLB LEADS AN MD82 PLT TO BELIEVE HIS ACFT IS HEAVIER THAN WT DOCUMENTS BASED ON APPROVED AVERAGES FOR THE FLT INDICATE.

ACN: 598383 *(4 of 22)*

Synopsis
MD80 ON CLBOUT EXPERIENCED ATC TURN TO AVOID OTHER ACFT BECAUSE OF SLOW CLB IN ZDC AIRSPACE.

ACN: 592623 *(5 of 22)*

Synopsis
MD88 FLT CREW ATTEMPTS TO CLB TO A HIGHER ALT FOR WX AVOIDANCE AND EXCEEDS THE ACFT'S PERFORMANCE ENVELOPE.

ACN: 589618 *(6 of 22)*

Synopsis
A LOSS OF AIRSPD CREATES A PARTIAL LOSS OF ACFT CTL AND SUBSEQUENT LOSS OF ALT DURING AN INFLT ENCOUNTER WITH WX ENRTE AT FL330 NEAR FMN, NM.

ACN: 550697 *(7 of 22)*

Synopsis
FLC ENTERS HOLDING PATTERN AND ACFT ENTERS STALL BUFFET.

ACN: 474052 *(8 of 22)*

Synopsis

MD80 CREW HAD NMAC ON DSCNT INTO RDU.

ACN: 473899 *(9 of 22)*

Synopsis
ACR CREW ALLOWS AIRSPD TO GET TOO LOW DURING CLB.

ACN: 472679 *(10 of 22)*

Synopsis
MD80 CREW FLIES TO NEAR STALL WHILE DEPENDING ON AUTOFLT.

ACN: 472646 *(11 of 22)*

Synopsis
HOLDING AT HIGH ALT, AN ACR CREW FINDS THEMSELVES TOO SLOW. THEY USE EMER AUTH TO DSND WHILE INCREASING SPD.

ACN: 463941 *(12 of 22)*

Synopsis
MD80 CREW HAD ALTDEV.

ACN: 462010 *(13 of 22)*

Synopsis
MD82 CREW HAD AIRFRAME VIBRATION, AURAL STALL WARNING ACTIVATION, AND MACH INDICATION FLUCTUATION.

ACN: 435673 *(14 of 22)*

Synopsis
MD88 CREW EXPERIENCES PRESTALL BUFFET AT FL350.

ACN: 432256 *(15 of 22)*

Synopsis
AN ACR MD80 FLC FIND THAT THEIR PERFORMANCE DATA FOR THE OPTIMUM CRUISE ALT WAS IN ERROR BECAUSE THEY WERE HEAVIER THAN THE WT AND BAL TOTALS INDICATED. EMER DECLARED.

ACN: 430595 *(16 of 22)*

Synopsis
FO OF AN MD88 LOST CTL OF ACFT DURING HIGH ALT LEVELOFF DUE TO LACK OF AIRSPD CAUSING LTSS WITH ANOTHER ACFT.

ACN: 419737 *(17 of 22)*

Synopsis
FLC OF AN MD83 EXCEEDED THE ACFT PERFORMANCE LIMITATIONS AS A RESULT OF INSUFFICIENT AIRSPD AT A HIGH CRUISE ALT CAUSED BY A SLOWER CLB SPD FOR A HIGHER RATE OF CLB TO ASSIGNED ALT. THE ACFT REACTED BY STALL BUFFETING BEFORE REGAINING SUFFICIENT AIRSPD IN AN EMER DSCNT. IN ADDITION, THE ACFT'S WT AND BAL EXCEEDED CTR OF GRAVITY FORWARD LIMIT.

ACN: 418260 *(18 of 22)*

Synopsis
A CLBING S80 IS UNABLE TO MAINTAIN ITS ASSIGNED ALT WITH ANTI-ICE SYS ON. AN ALT EXCURSION OCCURS WHEN THE ACFT IS FELT TO BE IN AN INITIAL BUFFET.

ACN: 412144 *(19 of 22)*

Synopsis
AFTER ENTERING A CLB AT NORMAL CRUISE MACH, MD80 FLT CREW ENCOUNTERED WX AT FL340 WITH STRONG UPDRAFTS AND MODERATE RAIN AND CHOP. RAPID LOSS OF AIRSPD ENSUED AND CLB WAS TERMINATED AFTER FULL PWR FAILED TO TERMINATE STICK SHAKER AND BUFFET. FLT CREW DSNDED TO REGAIN AIRSPD.

ACN: 403716 *(20 of 22)*

Synopsis
FLC OF A SUPER MD80 DECLARED AN EMER AND DSNDED WHEN THEIR ACFT COULD NOT MAINTAIN A SAFE FLYING SPD AT ASSIGNED CRUISE ALT DUE TO THE ACFT GROSS WT.

ACN: 364937 *(21 of 22)*

Synopsis
MD88 ACFT IN CLB INCREASED PITCH AFTER ENG ANTI-ICE WAS TURNED OFF DUE TO INCREASED PWR AND VNAV MODE. CLB RATE VERY HIGH AND ALT CAPTURE WAS ANNUNCIATED ON MODE PANEL AT 31000 FT FOR A 35000 FT LEVELOFF. AIRSPD BLED OFF, AUTOTHROTTLES DIDN'T CORRECT NOR DID PITCH ATTITUDE. FLC HAD TO DISCONNECT AUTO SYS AND PUSH OVER TO REGAIN AIRSPD.

ACN: 281568 *(22 of 22)*

Synopsis
PARTIAL PWR LOSS ON BOTH ENGS.

Report Narratives

ACN: 639472

Time / Day

Date : 200412
Day : Wed
Local Time Of Day : 0601 To 1200

Place

Locale Reference.Navaid : SAV.VORTAC
State Reference : GA
Altitude.MSL.Single Value : 37000

Environment

Light : Daylight

Aircraft : 1

Controlling Facilities.ARTCC : ZJX.ARTCC
Operator.Common Carrier : Air Carrier
Make Model Name : MD-80 Super 80
Operating Under FAR Part : Part 121
Navigation In Use.Other.VORTAC
Flight Phase.Cruise : Level

Component : 1

Aircraft Component : Autothrottle/Speed Control

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP
ASRS Report : 639472

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer

Person : 3

Affiliation.Government : FAA
Function.Controller : Radar
Qualification.Controller : Radar

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Non Adherence : Clearance
Anomaly.Non Adherence.Other
Anomaly.Other Anomaly : Speed Deviation
Independent Detector.Aircraft Equipment.Other Aircraft Equipment : Air Speed Ind/

Mach
Independent Detector.Other.Flight CrewA : 1
Independent Detector.Other.Flight CrewB : 2
Resolutory Action.Aircraft : Equipment Problem Dissipated
Resolutory Action.Flight Crew : Overcame Equipment Problem
Resolutory Action.Flight Crew : Overrode Automation
Resolutory Action.Other
Consequence.Other : Company Review
Consequence.Other

Assessments

Problem Areas : Aircraft
Problem Areas : Company
Problem Areas : Flight Crew Human Performance
Problem Areas : Maintenance Human Performance

Situations

Narrative

PMS FAILURE IN CRUISE RESULTING IN LARGE LOSS OF AIRSPD. WE WERE USING PMS IN THE OPTIMUM CRUISE MODE AT FL370, WHICH RESULTED IN A CRUISE MACH OF APPROX .76. AFTER 1 1/2 HRS, THE PMS QUICKLY AND SMOOTHLY BEGAN REDUCING SPD. WE CAUGHT IT AT .67 (APPROX 220 KIAS). THE PMS THEN DEFAULTED BACK TO .79 MACH AS AN OPTIMUM. STATUS CHK INDICATED NO FAULTS. AFTER ANOTHER +/-30 MINS, IT SETTLED BACK DOWN TO .76 OPTIMUM. ALL PREDEP INTO WAS CORRECTLY ENTERED AND THE PMS WAS OPERATED CORRECTLY. WE WERE MAKING NO ENTRIES WHEN THE EVENT OCCURRED. THERE WAS NO ALTDEV. BASED ON RECENT EVENTS REGARDING HIGH ALT **STALL**S, THIS COULD BE A CONTRIBUTING FACTOR. THE PMS WAS WRITTEN UP IN THE LOG UPON ARR AT LGA.

Synopsis

MD80 PMS FAILURE TO MAINTAIN PLANNED CRUISE SPD ALLOWS MACH TO FALL TO PT 67 FROM PT 76 WHEN AT FL370 10 NM S OF SAV.

ACN: 631494

Time / Day

Date : 200409
Day : Mon
Local Time Of Day : 1201 To 1800

Place

Locale Reference.Navaid : CIM.VORTAC
State Reference : NM
Altitude.MSL.Single Value : 33000

Environment

Flight Conditions : VMC
Weather Elements : Turbulence
Light : Daylight

Aircraft : 1

Controlling Facilities.ARTCC : ZAB.ARTCC
Operator.Common Carrier : Air Carrier
Make Model Name : MD-82
Operating Under FAR Part : Part 121
Navigation In Use.Other : FMS or FMC
Flight Phase.Cruise : Level

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer
Qualification.Pilot : ATP
Experience.Flight Time.Last 90 Days : 210
Experience.Flight Time.Total : 10200
Experience.Flight Time.Type : 2000
ASRS Report : 631494

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC

Person : 3

Affiliation.Government : FAA
Function.Controller : Radar

Events

Anomaly.Altitude Deviation : Excursion From Assigned Altitude
Anomaly.Inflight Encounter.Other
Anomaly.Other Anomaly : Speed Deviation
Independent Detector.Other.Flight CrewA : 1

Independent Detector.Other.Flight CrewB : 2
Resolutory Action.Flight Crew : Exited Adverse Environment
Resolutory Action.Flight Crew : Regained Aircraft Control

Assessments

Problem Areas : Aircraft
Problem Areas : Environmental Factor

Narrative

WE ENCOUNTERED MODERATE TO SEVERE MOUNTAIN WAVE. WINDS ALOFT WERE OUT OF THE SW AROUND 80 KTS. AUTOTHROTTLES WERE DISENGAGED AND AGGRESSIVE ACTION WAS TAKEN TO CTL AIRSPD AND ALT. APPROX ACFT WT WAS 130000 LBS, BELOW THE MAX WT OF 140000 LBS FOR THE ALT (MACH BUFFER). AIRSPD EXCURSIONS STARTED FROM A STEADY .766 MACH TO .74 AND THEN TO .78 MACH AND THEN THE NEXT EXCURSION WENT UP TO .80 MACH (WITH THROTTLES REDUCED) DOWN TO .71 MACH (THROTTLES MAX THRUST). HIGH SPD MACH **BUFFET** WAS FELT, BUT NEVER LOW SPD **BUFFET**. BOTH THE CAPT AND I WERE READY TO START AN EMER DSCNT BUT THE AIRSPD WAS STARTING TO INCREASE ONCE AGAIN AND SLOWLY STABILIZED. ALT EXCURSIONS WERE UP TO +/-150 FT OVER AND BELOW ASSIGNED ALT. NO PRIOR ACFT/ATC RPTS WERE GIVEN. WE DID RPT THE ENCOUNTER WITH ATC.

Synopsis

FLT CREW OF MD80 EXPERIENCE SPD AND ALT FLUCTUATIONS DURING ENCOUNTER WITH MOUNTAIN WAVE OVER NORTHERN NEW MEXICO.

ACN: 620415

Time / Day

Date : 200406
Day : Sun
Local Time Of Day : 1801 To 2400

Place

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

Aircraft : 1

Controlling Facilities.Tower : ZZZ.Tower
Operator.Common Carrier : Air Carrier
Make Model Name : MD-82
Operating Under FAR Part : Part 121
Flight Phase.Climbout : Initial
Flight Phase.Climbout : Intermediate Altitude

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP
ASRS Report : 620415

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer

Events

Anomaly.Non Adherence : Published Procedure
Independent Detector.Aircraft Equipment.Other Aircraft Equipment : Low Spd Warning
Independent Detector.Other.Flight CrewA : 1
Resolutory Action.Other
Consequence.Other : Company Review

Assessments

Problem Areas : Company
Problem Areas : FAA

Narrative

ON INITIAL CLBOUT 'SPD LOW' (10 PERCENT LESS THAN ALPHA SPD) ANNUNCIATED AT V2 PLUS 20 KTS. AFTER CLEAN UP 'ALPHA SPD' WAS ANNUNCIATED A '0 RET/MIN MAN.' I HAD TO SET THE SPD BUG AT 248 KTS OR SEVEN KTS ABOVE OUR PAPER PLAN TO GET IT TO EXTINGUISH. WE HAD

CORRESPONDING SIX OR EIGHT KTS HIGHER THAN PLANNED ALPHA ANNUNCIATION AT EACH FLAP SPD WHEN USING OUR PAPER SPDS ON LNDG. AT CRUISE FL330 THE THROTTLES STAYED AT CRUISE LIMIT 1.96 EPR, ONLY GIVING US .74 MACH WITH A TAS OF 439 KTS. SAT WAS MINUS 41 DEGS C. IT WASN'T UNTIL WE BURNED OUR WT DOWN THE THROTTLES CAME OFF THE PEGS. THIS ACFT WAS IN EXCESS OF THE PLANNED WT BY THOUSANDS OF POUNDS. IF ACR COMPANY AND THE FAA CONTINUE TO USE FALSE AND MISLEADING WTS AS 'AVERAGES' THERE WILL BE A FUTURE LOSS OF AIRFRAME AND LIFE ON A MISLOADED MAXIMUM GROSS WT TKOF WITH A SUBSEQUENT SYSTEM FAILURE. THE FAA IN AC 120-27C AND ORDER N8300.112, AND N8400.40 HAVE FOUND IN THEIR OWN TESTS, USING REAL TIME EMPIRICAL DATA THAT THE FORMER AVERAGES THAT WERE USED WERE MORE THAN 30 POUNDS BELOW NORMAL. WHAT DID THEY DO ABOUT IT? THE FAA AND THE AIRLINES INCREASED EFFECTIVE AVERAGES USING ONLY HALF OF THEIR OWN FINDINGS! IF PEOPLE ARE FATTER AND LUGGAGE IS LARGER THEN IT BEHOOVES US ALL IN THE NAME OF SAFETY TO USE THE REAL NUMBERS. I PROPOSE THAT THE FLT DEPARTMENT SEND A WRITTEN MESSAGE TO ALL MD82 CAPTS AND FOS TO DOCUMENT EVERY 'SPD LOW' AND 'ALPHA' WARNING WITH DETAILS SUCH AS NOT EXTENDING SLATS EARLY FOR EXAMPLE: (IE 250 KTS AS IS SEEN ON THE LINE) UNTIL THE SPD BUG/ALPHA IS DETERMINED BY THE AOA AND DFGS COMPUTERS. TECHNIQUES ON USING THE SPD BUG TO PROMPT AN ALPHA ANNUNCIATION SHOULD BE ILLUSTRATED. THE WING KNOWS HOW MUCH LIFT IS REQUIRED THROUGH AOA, WE AS PLTS DESERVE THE SAME DATA. ONLY THEN SHOULD THE REMAINING BUGS AND V SPDS BE SET USING INTERPOLATION FROM THE SPD REFERENCE CARDS. WITH SUMMER HERE AND AIRPLANES FULL OF OVERWEIGHT PAX WITH HEAVY LUGGAGE IT IS MY BET THAT THERE WILL BE A SIGNIFICANT NUMBER OF RPTS. CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING INFO: THERE WAS NO BAGGAGE COUNT ON ARR SO LOADING ERROR COULD NOT BE DETERMINED. FEEDBACK FROM THE COMPANY INDICATED THAT THEY WERE CONCERNED, BUT THE PROCS WERE APPROVED AND IN COMPLIANCE WITH THE LATEST FAA DIRECTIVES SO NO CHANGES WERE BEING CONTEMPLATED.

Synopsis

A LOW SPD WARNING DURING INITIAL CLB LEADS AN MD82 PLT TO BELIEVE HIS ACFT IS HEAVIER THAN WT DOCUMENTS BASED ON APPROVED AVERAGES FOR THE FLT INDICATE.

ACN: 598383

Time / Day

Date : 200310
Day : Fri
Local Time Of Day : 1201 To 1800

Place

Locale Reference.Navaid : CSN.VORTAC
State Reference : VA
Altitude.MSL.Bound Lower : 34700
Altitude.MSL.Bound Upper : 35000

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft : 1

Controlling Facilities.ARTCC : ZDC.ARTCC
Operator.Common Carrier : Air Carrier
Make Model Name : MD-88
Operating Under FAR Part : Part 121
Navigation In Use.Other : FMS or FMC
Navigation In Use.Other.VORTAC
Flight Phase.Climbout : Intermediate Altitude
Flight Phase.Climbout : Vacating Altitude
Route In Use.Enroute.Airway : J48.Airway

Aircraft : 2

Controlling Facilities.ARTCC : ZDC.ARTCC
Make Model Name : Commercial Fixed Wing
Flight Phase.Cruise : Level
Route In Use.Enroute.Airway : J48.Airway

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP
Experience.Flight Time.Last 90 Days : 130
Experience.Flight Time.Total : 12000
Experience.Flight Time.Type : 3700
ASRS Report : 598383

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer
Qualification.Pilot : ATP

Experience.Flight Time.Last 90 Days : 200
Experience.Flight Time.Total : 10000
Experience.Flight Time.Type : 4000
ASRS Report : 599004

Person : 3

Person : 4

Affiliation.Government : FAA
Function.Controller : Radar

Events

Anomaly.Conflict : Airborne Less Severe
Anomaly.Other Anomaly.Other
Independent Detector.Other.ControllerA : 4
Resolutory Action.Controller : Issued New Clearance
Resolutory Action.Controller : Separated Traffic
Resolutory Action.Other
Consequence.FAA : Reviewed Incident With Flight Crew

Assessments

Problem Areas : ATC Human Performance
Problem Areas : Aircraft

Narrative

WE WERE CLRED TO CLB TO FL350, WHICH WAS THE HIGHEST THE AIRPLANE COULD CRUISE AT OUR GROSS WT. AS WE REACHED FL347, THE ACFT CLB RATE REDUCED MOMENTARILY, PERHAPS DUE TO THE ATMOSPHERIC CONDITIONS (TEMP), AND WAS STARTING TO SLOWLY CLB UP TO FL350. AT THAT TIME, THE CTLR TOLD US THAT OUR XPONDER SHOWED US 300 FT BELOW FL350, AND URGENTLY ORDERED US TO TURN 60 DEGS L OF COURSE. HE THEN TOLD ANOTHER FLT TO TURN 40 DES L OF THEIR COURSE. SHORTLY THEREAFTER, WE WERE CLRED DIRECT TO CSN, AND WE HAD ATTAINED FL350 IN THAT SHORT TIME. THE CTLR ADMONISHED US TO RPT ANY LEVELOFF IN THE FUTURE. WE DID NOT ANSWER THAT ADMONISHMENT, BUT ANOTHER PLT ON THE FREQ RESPONDED WITH A SARCASTIC 'OOOH!,' WHICH PROBABLY INCENSED THE CTLR. ALTHOUGH OUR ACFT WAS STRUGGLING TO REACH FL350, WE NEVER ACTUALLY LEVELED OFF AT FL347, AS WE CONTINUED A GRADUAL CLB UP TO FL350. THE 60 DEG L TURN DID INHIBIT OUR CLB CAPABILITY DURING THE TURN. THIS ENTIRE EVENT SURPRISED ME, AS ACFT DO SOMETIMES HAVE LOWER VERT CLB RATES AT HIGHER GROSS WTS, BUT WE NEVER LEVELED OFF AND IT WAS NOT US THAT RESPONDED SARCASTICALLY TO THE CTLR. SUPPLEMENTAL INFO FROM ACN 599004: MD88'S OPERATED NEAR THEIR MAX PERFORMANCE CEILING FREQUENTLY EXPERIENCE RAPID CLB RATES AND THEN REDUCED CLB RATES WHICH DIP UNDER 500 FPM FOR MANY SECONDS BEFORE RECOVERING. USE OF VERT SPD CAN HELP TO MAINTAIN A 500 FPM CLB RATE, BUT ELIMINATES **STALL** PROTECTION FOUND IN VNAV MODE. THUS, USE OF VERT SPD REQUIRES VIGILANCE ON THE PART OF CREW MEMBERS WHO USE THIS TECHNIQUE OPERATING NEAR ACFT PERFORMANCE ENVELOPES. ADVISING ATC THAT THE CLB RATE MAY ALTERNATIVELY FALL BELOW 500 FPM FOR A SHORT PERIOD BEFORE CLB RATE RECOVERY, MIGHT HELP AS AN ALTERNATIVE. WITHOUT TCASII DISPLAY OF THE OTHER ACFT AND WITH NO TFC ADVISORY FROM ATL WE HAD

NO IDEA OF ANY POTENTIAL CONFLICT AND FLOWED WITH THE IDIOSYNCRATIC MD88 VNAV. AS PNF WORKING COMS WITH ATC I SHOULD PERHAPS BE MORE SPECIFIC ABOUT WHAT THE AIRPLANE IS DOING AND SEE HOW I CAN HELP ATC. ATC ASKED WHAT OUR ALT WAS FOR A REASON AND PERHAPS I APPEARED SOMEWHAT GLIB WHEN QUERIED ABOUT ALT.

Synopsis

MD80 ON CLBOUT EXPERIENCED ATC TURN TO AVOID OTHER ACFT BECAUSE OF SLOW CLB IN ZDC AIRSPACE.

ACN: 592623

Time / Day

Date : 200309
Day : Mon
Local Time Of Day : 1201 To 1800

Place

Locale Reference.Navaid : SPA.VORTAC
State Reference : NC
Altitude.MSL.Single Value : 35000

Environment

Flight Conditions : IMC
Light : Daylight

Aircraft : 1

Controlling Facilities.ARTCC : ZDC.ARTCC
Operator.Common Carrier : Air Carrier
Make Model Name : MD-88
Operating Under FAR Part : Part 121
Navigation In Use.Other : FMS or FMC
Flight Phase.Cruise : Level

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer
Qualification.Pilot : ATP
Experience.Flight Time.Last 90 Days : 72
Experience.Flight Time.Total : 8000
Experience.Flight Time.Type : 4923
ASRS Report : 592623

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC

Person : 3

Affiliation.Government : FAA
Function.Controller : Radar

Events

Anomaly.Inflight Encounter : Turbulence
Anomaly.Inflight Encounter : Weather
Anomaly.Other Anomaly.Other
Independent Detector.Aircraft Equipment.Other Aircraft Equipment : AIRSPEED MACH INDICATOR

Independent Detector.Other.Flight CrewA : 1
Independent Detector.Other.Flight CrewB : 2
Resolutory Action.Flight Crew : Declared Emergency
Resolutory Action.Flight Crew : Exited Adverse Environment
Resolutory Action.Other

Assessments

Problem Areas : Aircraft
Problem Areas : Environmental Factor
Problem Areas : Flight Crew Human Performance
Problem Areas : Weather

Narrative

DURING CLBOUT OF RICHMOND, REQUESTED CLB FROM PLANNED CRUISING ALT OF FL310 TO FL350 TO AVOID WX. ZDC APPROVED THE CLB WITH A STATED RESTR TO LEVEL AT FL350 FOR CONFLICTING TFC. THE CLB WAS STARTED AT MACH .76, SLOWING TO APPROX MACH .64 AT FL350. FMS GENERATED MAX ALT WAS FL364. AT FL350, THE ACFT WOULD NOT ACCELERATE TO CRUISE MACH OF .76. THE FLT ENTERED LIGHT TURB WHICH RESULTED IN ADDITIONAL AIRSPD DECAY. I REQUESTED IMMEDIATE DSCNT CLRNC TWICE AND IT WAS DENIED DUE TO TFC. I DECLARED AN EMER AND THE CAPT DSNDED THE ACFT TO FL310. CONTRIBUTING FACTORS: 1) HIGHLY QUALIFIED CAPT WHOSE JUDGEMENT AND FLYING SKILLS WERE EXEMPLARY WHICH MADE ME LESS LIKELY TO QUESTION HIS ZOOM MANEUVER. 2) LAST LEG OF A LONG 4 DAY TRIP WHICH MAY HAVE RESULTED IN DECREASED SITUATIONAL AWARENESS. 3) WHAT MUST HAVE BEEN A WARMER THAN STANDARD DAY BECAUSE TYPICALLY THE ACFT, AT THAT GROSS WT, ACCELERATES JUST FINE. 4) PERHAPS LACK OF EXPERIENCE WITH THE ANSWER TO THE QUESTION: 'HOW SLOW IS TOO SLOW?' 5) DESIRE TO PLEASE BOTH PAX AND ATC BY GETTING TO FL350 QUICKLY.

Synopsis

MD88 FLT CREW ATTEMPTS TO CLB TO A HIGHER ALT FOR WX AVOIDANCE AND EXCEEDS THE ACFT'S PERFORMANCE ENVELOPE.

ACN: 589618

Time / Day

Date : 200308
Day : Fri
Local Time Of Day : 1801 To 2400

Place

Locale Reference.ATC Facility : ZLC.ARTCC
State Reference : UT
Altitude.MSL.Bound Lower : 29000
Altitude.MSL.Bound Upper : 33000

Environment

Flight Conditions : Mixed
Weather Elements : Thunderstorm
Weather Elements : Windshear
Light : Night

Aircraft : 1

Controlling Facilities.ARTCC : ZLC.ARTCC
Operator.Common Carrier : Air Carrier
Make Model Name : MD-80 Super 80
Operating Under FAR Part : Part 121
Navigation In Use.Other : FMS or FMC
Flight Phase.Cruise : Level

Component : 1

Aircraft Component : Throttle/Power Level

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer
ASRS Report : 589618

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC

Person : 3

Affiliation.Government : FAA
Function.Controller : Radar

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Altitude Deviation : Excursion From Assigned Altitude
Anomaly.Inflight Encounter : Weather

Anomaly.Non Adherence : Company Policies
Anomaly.Other Anomaly
Anomaly.Other Anomaly : Speed Deviation
Independent Detector.Other.Flight CrewA : 1
Independent Detector.Other.Flight CrewB : 2
Resolutory Action.Aircraft : Equipment Problem Dissipated
Resolutory Action.Flight Crew : Declared Emergency
Resolutory Action.Flight Crew : Overcame Equipment Problem
Resolutory Action.Flight Crew : Overrode Automation
Resolutory Action.Flight Crew : Regained Aircraft Control
Consequence.FAA : Reviewed Incident With Flight Crew
Consequence.Other : Company Review

Assessments

Problem Areas : Aircraft
Problem Areas : Environmental Factor
Problem Areas : Flight Crew Human Performance
Problem Areas : Weather

Narrative

THE CAPT AND I DEPARTED FOR DFW. ABOUT 1 HR INTO THE FLT, WHILE IN AND OUT OF CLOUDS AND DEVIATING AROUND WX, A LOUD RUMBLING SOUND STARTED UP, SEEMINGLY OUT OF NOWHERE. WE HAD JUST RECENTLY RETURNED TO VFR CONDITIONS AND WERE WAITING FOR THE TAIL DEICE TO CYCLE BEFORE TURNING OFF THE DEICING AND ANTI-ICING FOR THE AIRFRAME AND ENGS. THE RUMBLING SOUND SEEMED TO START AT THE BACK OF THE PLANE AND MOVE FORWARD, ENVELOPING THE PLANE LIKE A GIANT WAVE BREAKING OVER A SMALL BOAT. AS THE SOUND REACHED THE COCKPIT, THE AIRPLANE BEGAN TO **BUFFET**, LIGHTLY AT FIRST, THEN STRONGER. AT FIRST THE CAPT AND I THOUGHT WE HAD A STRUCTURAL PROB, BUT THEN WE NOTICED THE AIRPLANE WAS STRUGGLING TO MAINTAIN ALT. I DISENGAGED THE AUTOPLT AND AUTOTHROTTLES AND LOWERED THE NOSE WHILE THE CAPT DECLARED AN EMER WITH ATC AND ASKED FOR THE CLOSEST SUITABLE ARPT. IT WAS NOT UNTIL WE WERE IN THE DSCNT THAT I REALIZED WE MAY HAD NEARLY APCHED A **STALL** SIT. DURING THE DSCNT FROM FL330 TO FL290, THE AIRPLANE WENT THROUGH A SERIES OF **BUFFET**S FROM LIGHT TO STRONGER WITH BREAKS IN BTWN, EACH BREAK LEADING ME TO BELIEVE THE PROB WAS SOLVED. AT ABOUT FL300, THE CAPT ASKED TO TAKE CTL OF THE PLANE. I RELINQUISHED CTL AND HE REQUESTED TO LEVEL OFF AT FL290. AFTER LEVELOFF, THE CAPT RETURNED CTL OF THE AIRPLANE TO ME AND AFTER CHKING THE TRIM, I RE-ENGAGED THE AUTOTHROTTLES AND AUTOPLT. THE AIRPLANE FLEW NORMALLY. AT THE TIME OF THE EVENT, THE AIRPLANE WT INDICATED APPROX 129000 LBS AND PERFORMANCE MODE ENGAGED. I HAD INITIALLY TRIMMED THE AIRPLANE UPON REACHING FL330 AT .77 MACH. ALL WAS NORMAL. AT THE TIME PRIOR TO THE EVENT, WE WERE INVOLVED IN WX AVOIDANCE. HOWEVER, I DO NOT BELIEVE WE WERE SO FIXATED ON THE WX THAT WE MISSED ANY LARGE CLUES THAT SET THE STAGE FOR THIS EVENT. WHATEVER CAUSED THE AIRPLANE TO LOSE AIRSPD, SUCH AS MOUNTAIN WAVE OR A SEVERE DOWNDRAFT, CAME ON IN AN INSIDIOUS MANNER. NEITHER THE CAPT NOR I BECAME AWARE OF ANY TRIM OR THROTTLE MOVEMENT THAT WOULD HAVE DIRECTED OUR ATTN TO THE AIRSPD INDICATOR. AS AN EX-ACR Y PLT, I HAD TO PERFORM ALL TYPES OF **STALL**S AT THE BEGINNING OF EVERY RECURRENT SIMULATOR TRAINING SESSION. WHAT I

EXPERIENCED IN THE AIRPLANE WAS NOTHING LIKE THE **STALL** TRAINING EXPERIENCES I HAD IN THE SIMULATOR. I BELIEVE THAT IS THE REASON I DID NOT IMMEDIATELY REACT AS IF THIS WAS A **STALL** RECOVERY SIT.

Synopsis

A LOSS OF AIRSPD CREATES A PARTIAL LOSS OF ACFT CTL AND SUBSEQUENT LOSS OF ALT DURING AN INFLT ENCOUNTER WITH WX ENRTE AT FL330 NEAR FMN, NM.

ACN: 550697

Time / Day

Date : 200206
Day : Thu
Local Time Of Day : 1201 To 1800

Place

Locale Reference.Intersection : PHILS
State Reference : TX
Altitude.MSL.Single Value : 33000

Aircraft : 1

Controlling Facilities.ARTCC : ZFW.ARTCC
Operator.Common Carrier : Air Carrier
Make Model Name : MD-80 Super 80
Operating Under FAR Part : Part 121
Navigation In Use.Other : FMS or FMC
Flight Phase.Cruise : Holding

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP
ASRS Report : 550697

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer
Qualification.Pilot : Commercial
Qualification.Pilot : Instrument
Qualification.Pilot : Multi Engine
ASRS Report : 550698

Person : 3

Affiliation.Government : FAA
Function.Controller : Radar

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Altitude Deviation : Excursion From Assigned Altitude
Anomaly.Non Adherence : Clearance
Anomaly.Other Anomaly.Other
Independent Detector.Other.Flight CrewA : 1
Independent Detector.Other.Flight CrewB : 2
Resolutory Action.Flight Crew : Overrode Automation
Resolutory Action.Flight Crew : Regained Aircraft Control

Resolutory Action.Flight Crew : Returned To Assigned Altitude
Consequence.FAA : Reviewed Incident With Flight Crew

Assessments

Problem Areas : Aircraft
Problem Areas : Flight Crew Human Performance

Narrative

AFTER PASSING TQA VOR, GIVEN INSTRUCTIONS TO RETURN TO PHILS INTXN AND HOLD DUE TO WX. PROGRAMMED FMS TO ENTER HOLDING, AND SLOWED ACFT TO 253 KTS (20 KTS ABOVE CLEAN MINIMUM MANEUVERING). ACFT ARRIVED AT THE FIX REQUIRING A R 260 DEG TURN TO PARALLEL THE OUTBOUND COURSE. A 30 KT OVERSHOOTING XWIND WAS PRESENT AT ENTRY POINT. ACFT ENTERED PROPER R TURN IN APPROX 20 DEG ANGLE OF BANK. ONCE ESTABLISHED IN THE TURN I LOOKED DOWN INTO MY KIT BAG FOR APPROX 3-4 SECONDS. AURAL 'ALT ALERT' SOUNDED. I LOOKED UP TO SEE THE ACFT DSNDING THROUGH 32800 FT IN A R 38-40 DEG ANGLE OF BANK TURN. THE AFT BEGAN TO **BUFFET** AND THE AUTOPLT DISCONNECTED. AS THIS WAS ALL OCCURRING, I IMMEDIATELY LEVELED THE WINGS AND ADDED PWR. **BUFFET** CEASED AS SOON AS THE WINGS WERE LEVELED. DSCNT WAS STOPPED AT 32200 FT AND THEN CLBED BACK TO 33000 LBS. ATC WAS IMMEDIATELY NOTIFIED OF OUR ALT LOSS. THE ACFT WAS NOT OVERWT FOR NORMAL OPS AT 133000 LBS. GROSS WT WAS 139000 LBS, SPD AT ENTRY WAS 253 KTS, AIR WAS SMOOTH, OUTSIDE AIR TEMP WAS 10 DEGS ABOVE STANDARD. THE PERFORMANCE MANUAL RECOMMENDED HOLDING SPD FOR THIS WT AND ALT IS 239 KTS. PMS RECOMMENDED HOLDING SPD WAS EVEN LESS. WE CHOSE TO USE CLEAN MINIMUM MANEUVERING SPD PLUS 20 KTS -- OR 253 KTS. SLOW SPD **BUFFET** FOR A 1.3 G (40 DEG ANGLE OF BANK) MANEUVER PUBLISHED AS 242 KTS. AS FAR AS I CAN FIGURE, THE FMS, IN AN ATTEMPT TO REMAIN IN ITS COMPUTED ENTRY TURN PROFILE, OVERBANKED THE ACFT TO NEAR 40 DEGS WITH THE OUTSIDE AIR TEMP AT 10 DEGS ABOVE STANDARD. THIS MUST HAVE SLOWED THE ACFT JUST ENOUGH TO REACH SLOW SPD **BUFFET**. I'M SURE THE SOFTWARE ENGINEERS WILL SAY THE FMS CAN'T DO THIS, BUT IT DID. I HAVE SEEN THIS EXACT SAME PHENOMENON ON THE B757 ENTERING HOLDING IN LNAV. I TAKE FULL RESPONSIBILITY FOR THIS EVENT AND HAVE LEARNED A FEW LESSONS. ALTHOUGH WITHIN THE OPERATING ENVELOPE, I WON'T USE THE FMS FOR ENTRY TURNS INTO HOLDING. I WILL USE HDG SELECT TO LIMIT MY BANK ANGLE. LOOKING AWAY IN THE TURN, EVEN FOR A SHORT PERIOD, WAS A MISTAKE. I RECALLED LATER IN THE FLT I SHOULD NOT HAVE USED NAV TO HOLD IN THIS NON-EFIS ACFT. BOTH HSI'S WERE IN THE RAD MODE. IT IS MY UNDERSTANDING THAT THIS LIMITATION IS A SITUATIONAL AWARENESS ISSUE. BEING A NON EFIS ACFT SHOULD HAVE HAD NO IMPACT ON THE FMS COMMANDING A 38-40 DEG ANGLE OF BANK, BUT MAYBE I AM MISTAKEN. THE OMISSION OF THE LIMITATION WAS NOT INTENTIONAL.

Synopsis

FLC ENTERS HOLDING PATTERN AND ACFT ENTERS **STALL BUFFET**.

ACN: 474052

Time / Day

Date : 200005
Day : Sat
Local Time Of Day : 1201 To 1800

Place

Locale Reference.Navaid : BNA.VORTAC
State Reference : TN
Altitude.MSL.Bound Lower : 33000
Altitude.MSL.Bound Upper : 33300

Environment

Light : Daylight

Aircraft : 1

Controlling Facilities.ARTCC : ZME.ARTCC
Operator.Common Carrier : Air Carrier
Make Model Name : MD-80 Super 80
Operating Under FAR Part : Part 121
Navigation In Use.Other.VORTAC
Flight Phase.Cruise : Level
Route In Use.Enroute.Airway : NS.Airway

Aircraft : 2

Controlling Facilities.ARTCC : ZOB.ARTCC
Operator.Common Carrier : Air Carrier
Make Model Name : Commercial Fixed Wing
Flight Phase.Cruise : Level

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP
ASRS Report : 474052

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer
Qualification.Pilot : Commercial
Qualification.Pilot : Instrument
Qualification.Pilot : Multi Engine
ASRS Report : 474051

Person : 3

Affiliation.Company : Air Carrier
Function.Flight Attendant : On Duty
Qualification.Flight Attendant : Currently Qualified

Person : 4

Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP

Person : 5

Affiliation.Government : FAA
Function.Controller : Radar
Qualification.Controller : Radar

Events

Anomaly.Conflict : Airborne Critical
Anomaly.Non Adherence : Published Procedure
Anomaly.Non Adherence : Required Legal Separation
Independent Detector.Aircraft Equipment : TCAS
Independent Detector.Other.Flight CrewA : 1
Independent Detector.Other.Flight CrewB : 2
Resolutory Action.Controller : Issued New Clearance
Resolutory Action.Flight Crew : Took Evasive Action
Consequence.Other : Company Review
Miss Distance.Horizontal : 18000
Miss Distance.Vertical : 300

Assessments

Problem Areas : ATC Human Performance

Narrative

TCASII RA AT FL330. DURING CRUISE AT FL330, WE RECEIVED A TCASII RA FOR CONVERGING CO-ALT TFC AT 11 O'CLOCK POS. TCASII SOUNDED 'TFC, TFC' AND THEN ATC DIRECTED A 30 DEG R TURN. TCASII THEN COMMANDED A 2000 FPM CLB. MAX CRUISE ALT WITH 1.3 'G' **BUFFET** WAS FL330 SO WE WERE UNABLE TO ESCAPE VERTLY. WE ENTERED A CLBING R TURN TO INCREASE LATERAL SEPARATION AS OUR ONLY OPTION. OTHER AIRPLANE RESPONDED WITH A TCASII RA TO DSND. ESTIMATE MISS DISTANCE 3 MI. OUR ALTDEV WAS 300 FT HIGH. NO PAX OR CABIN CREW RPTED ANY PROBS OR INJURIES. INCIDENT MAY HAVE CAUSED IN PART WITH A SUDDEN RERTE FROM BNA J42 BKW TO BNA DIRECT IIU. SUPPLEMENTAL INFO FROM ACN 474051: IMC IN HIGH LEVEL CLOUDS. JUST PRIOR TO PASSING BNA VOR, WE RECEIVED A RERTE DUE TO FLOW CTL, WHICH REQUIRED A R TURN AT BNA TO IIU INSTEAD OF PROCEEDING ON J42. AFTER MAKING THE TURN, WE IMMEDIATELY WERE ALERTED 'TFC, TFC.' THEN ATC GAVE US A 30 DEG TURN R. WE THEN WERE ALERTED 'CLB, CLB.' WE TRIED TO CLB, BUT WERE AT THE **BUFFET** LIMIT DUE TO WT AND ONLY MANAGED 300 FT, BUT INCREASED THE TURN TO ASSURE LATERAL SEPARATION. THE OTHER ACFT ALSO WAS GIVEN A 30 DEG TURN BY ATC AND RPTED AN RA REQUIRING A DSCNT. PAX ON OUR FLT DID NOT SEEM TO NOTICE THE MANEUVER THOUGH FLT ATTENDANTS DID NOTICE. TOTAL ALTDEV WAS 300 FT HIGH.

Synopsis

MD80 CREW HAD NMAC ON DSCNT INTO RDU.

ACN: 473899

Time / Day

Date : 200005
Day : Wed
Local Time Of Day : 0601 To 1200

Place

Locale Reference.Airport : PHX.Airport
State Reference : AZ
Altitude.MSL.Bound Lower : 27000
Altitude.MSL.Bound Upper : 28000

Environment

Light : Daylight

Aircraft : 1

Controlling Facilities.ARTCC : ZAB.ARTCC
Operator.Common Carrier : Air Carrier
Make Model Name : MD-80 Super 80
Operating Under FAR Part : Part 121
Flight Phase.Climbout : Vacating Altitude

Component : 1

Aircraft Component : Autoflight System

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer
Qualification.Pilot : Commercial
Qualification.Pilot : Instrument
Qualification.Pilot : Multi Engine
ASRS Report : 473899

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP

Person : 3

Affiliation.Government : FAA
Function.Controller : Radar
Qualification.Controller : Radar

Events

Assessments

Problem Areas : Aircraft
Problem Areas : Flight Crew Human Performance

Narrative

I WAS THE PNF. DURING CLBOUT AT AROUND FL270-FL280, I HEARD THE TRIM OPERATING FASTER THAN IT SHOULD AND NOTICED THAT THE AIRSPD HAD DECREASED TO APPROX 10 KIAS ABOVE THE CLEAN MINIMUM MANUAL BUG (THE AUTOPLT WAS ENGAGED AND WAS IN THE VERT SPD MODE). I SAID THAT THE AIRSPD WAS GETTING LOW AND SIMULTANEOUSLY WITH THE CAPT DISENGAGED THE AUTOPLT AND LOWERED THE NOSE WHILE TELLING ZAB THAT WE NEEDED TO STOP THE CLB AND PERHAPS DSND TO INVESTIGATE A PROB. ZAB SAID OK AND TO ADVISE THEM AS NEEDED. THE CAPT CONTINUED TO FLY THE PLANE AND HAD DISENGAGED THE AUTOTHROTTLES AND ADVANCED THE PWR. WE DSNDED SLIGHTLY UNTIL THE AIRSPD HAD BEEN REGAINED THEN CONTINUED OUR CLB AND THE REMAINDER OF THE FLT UNEVENTFULLY. CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING INFO: RPTR INDICATED THAT THE PF WAS A MGMNT PLT WITH VERY LITTLE FLT TIME IN RECENT MONTHS. HE SAID THAT VERT SPD WAS THE MODE IN USE AND THAT THIS IS UNUSUAL TO USE IT AT THE ALT RPTED UNDER NORMAL PROCS. THE AUTOFLT SYS WAS TRYING TO MAINTAIN THE REQUESTED VERT SPD AND COULD NOT WITHOUT SACRIFICING AIRSPD. THE RPTR FAULTS HIMSELF FOR NOT CATCHING THE REDUCING AIRSPD SOONER. THE COMPANY INVOLVED HAS REVIEWED THIS RPT AND IS CONSIDERING MAKING A CHANGE IN THE FLYING PROFICIENCY REQUIREMENTS FOR THEIR PERSONNEL WHO DO NOT ROUTINELY OPERATE ON A SCHEDULED BASIS.

Synopsis

ACR CREW ALLOWS AIRSPD TO GET TOO LOW DURING CLB.

ACN: 472679

Time / Day

Date : 200005
Day : Wed
Local Time Of Day : 0601 To 1200

Place

Locale Reference.Airport : PHX.Airport
State Reference : AZ
Altitude.MSL.Bound Lower : 28000
Altitude.MSL.Bound Upper : 29500

Environment

Light : Daylight

Aircraft : 1

Controlling Facilities.ARTCC : ZAB.ARTCC
Operator.Common Carrier : Air Carrier
Make Model Name : MD-80 Super 80
Operating Under FAR Part : Part 121
Navigation In Use.Other : FMS or FMC
Flight Phase.Climbout : Intermediate Altitude

Component : 1

Aircraft Component : MCP

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP
ASRS Report : 472679

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer
Qualification.Pilot : Commercial
Qualification.Pilot : Instrument
Qualification.Pilot : Multi Engine

Person : 3

Affiliation.Government : FAA
Function.Controller : Radar
Qualification.Controller : Radar

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Non Adherence : Company Policies
Anomaly.Non Adherence : Published Procedure
Anomaly.Other Anomaly
Independent Detector.Aircraft Equipment.Other Aircraft Equipment : A/S INDICATOR
Independent Detector.Other.Flight CrewA : 1
Resolutory Action.Controller : Issued New Clearance
Resolutory Action.Flight Crew : Overrode Automation
Resolutory Action.Flight Crew : Regained Aircraft Control

Assessments

Problem Areas : Aircraft
Problem Areas : Flight Crew Human Performance

Narrative

AFTER INTERMEDIATE LEVELOFF ON CLBOUT FROM PHX, RECEIVED CLRNC TO FL330. USED VERT SPD TO START CLB, THEN USED EPR LIMIT FOR THRUST SETTING. I BELIEVED I PUSHED IAS, BUT APPARENTLY DID NOT VERIFY THE FLT MGMNT ANNUNCIATOR. FROM THAT POINT ON, WAS DISTR AND DID NOT NOTICE AIRSPD DECAY SLOWLY FROM APPROX 300 KTS TO 210 KTS. BOTH FO AND I SUDDENLY NOTICED IT WAS GETTING QUIET, AND BOTH NOTICED LOW AIRSPD. SO I DISCONNECTED AUTOPLT, LEVELED OFF AT FL295, AND FO CALLED ATC TO REQUEST FL280. THEN DISCONNECTED AUTOTHROTTLES AND ADVANCED THRUST LEVERS, BUT DID NOT EXCEED EGT OR RPM LIMITS. FO NOTICED EPR'S WERE HIGHER THAN BUGS, SO I CALLED FOR MAX CONTINUOUS THRUST. AFTER ATC CLRED US FOR 280 KTS, I SLOWLY LOWERED THE NOSE AND ACCELERATED WHILE DRIFTING DOWN TO FL280. ONCE NORMAL AIRSPD ESTABLISHED, CONTINUED CLB TO FL330. DURING THE RECOVERY, NOTICED THAT ENG PWR LOWER ON R SIDE FOR SAME THRUST LEVER POS, SO TURNED ON ENG ANTI-ICE ONE AT A TIME DUE TO SUSPECTED PROBE ICING. THE ENG IMMEDIATELY RESPONDED BACK TO NORMAL INDICATIONS AND THRUST LEVERS WERE AGAIN ALIGNED NORMALLY. THERE ARE A COUPLE OF ITEMS TO BE NOTED: 1) THE TRAINING WE RECEIVE FOR THIS TYPE OF SIT IS PRETTY GOOD AND HELPED IN THIS CASE. 2) HOWEVER, UNLIKE TRAINING, DID NOT HEAR (OR NOTICE) THE CONSTANT AUTOPILOT TRIM HORN THAT LEADS UP TO THE EVENT. 3) WE SHOULD EMPHASIZE 'SLOW CTL MOVEMENT' AND EVEN THOUGH I EXERCISED THIS, I GOT THE SPD LOW FLT MODE ANNUNCIATOR ALERT AND A MOMENTARY **BUFFET** DURING THE RECOVERY.

Synopsis

MD80 CREW FLIES TO NEAR **STALL** WHILE DEPENDING ON AUTOFLT.

ACN: 472646

Time / Day

Date : 200005
Day : Mon
Local Time Of Day : 1801 To 2400

Place

State Reference : VA
Altitude.MSL.Bound Lower : 32800
Altitude.MSL.Bound Upper : 33000

Environment

Flight Conditions : VMC
Light : Night

Aircraft : 1

Controlling Facilities.ARTCC : ZDC.ARTCC
Operator.Common Carrier : Air Carrier
Make Model Name : MD-82
Operating Under FAR Part : Part 121
Navigation In Use.Other : FMS or FMC
Flight Phase.Cruise : Holding

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer
Qualification.Pilot : ATP
Experience.Flight Time.Last 90 Days : 210
Experience.Flight Time.Total : 4000
Experience.Flight Time.Type : 900
ASRS Report : 472646

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP

Person : 3

Affiliation.Government : FAA
Function.Controller : Radar
Qualification.Controller : Radar

Events

Anomaly.Altitude Deviation : Excursion From Assigned Altitude
Anomaly.Non Adherence : Published Procedure
Anomaly.Other Anomaly.Other

Independent Detector.ATC Equipment : Conflict Alert
Independent Detector.Aircraft Equipment : TCAS
Independent Detector.Aircraft Equipment.Other Aircraft Equipment : **STALL** WARNING
Independent Detector.Other.ControllerA : 1
Resolutory Action.Flight Crew : Declared Emergency
Resolutory Action.Other

Assessments

Problem Areas : Company
Problem Areas : Flight Crew Human Performance

Narrative

DEPARTED MYR HEADED FOR LGA. WE WERE GIVEN HOLDING INSTRUCTIONS PRIOR TO FAK AND BEGAN TO SLOW THE ACFT. WE CHKED HOLDING SPDS FOR OUR INDICATED WT IN THE BOOK AND ALSO WITH THE INFLT COMPUTER. SET HOLDING SPD (PLUS A LITTLE). AS WE TURNED INTO THE HOLD, THE PWR WAS SLOWLY BLEEDING OFF , SO PWR WAS ADDED, AND BANK ANGLE DECREASED FROM 15-10 DEGS. ACFT WAS STILL SLOWING WITH AN ADDITIONAL APPLICATION OF PWR. ALL OTHER PARAMETERS BEING NORMAL. WE FELT A SLIGHT BURBLE AND IMMEDIATELY NOSED DOWN SLIGHTLY TO INCREASE SPD, DSNDED (FL330 TO FL328). WE WERE TRYING TO GET LOWER FROM ATC WHICH WAS UNAVAILABLE. THE ACFT WAS STILL ON THE EDGE OF A **STALL** AND WE INSISTED LOWER. THE CTLR ASKED IF WE WERE EXERCISING 'EMER AUTH.' OUR RESPONSE WAS 'YES.' WE RECEIVED FL310 AND A TURN TO 180 DEGS. ACFT FLT CHARACTERISTICS RETURNED TO NORMAL. WE FIGURE THAT OUR ACTUAL BAGGAGE (GOLF CLUBS FROM MTR) AND PAX WTS WERE GIVEN TO US AND CALCULATED IN ERROR, CAUSING OUR ACFT TO BE HEAVIER THAN INDICATED.

Synopsis

HOLDING AT HIGH ALT, AN ACR CREW FINDS THEMSELVES TOO SLOW. THEY USE EMER AUTH TO DSND WHILE INCREASING SPD.

ACN: 463941

Time / Day

Date : 200002
Day : Fri
Local Time Of Day : 1801 To 2400

Place

Locale Reference.Navaid : DQN.VORTAC
State Reference : OH
Altitude.MSL.Bound Lower : 32000
Altitude.MSL.Bound Upper : 33000

Environment

Flight Conditions : IMC
Weather Elements : Ice
Weather Elements : Thunderstorm
Weather Elements : Turbulence
Light : Night

Aircraft : 1

Controlling Facilities.ARTCC : ZID.ARTCC
Operator.Common Carrier : Air Carrier
Make Model Name : MD-88
Operating Under FAR Part : Part 121
Navigation In Use.Other : FMS or FMC
Flight Phase.Cruise : Level

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer
Qualification.Pilot : ATP
Experience.Flight Time.Last 90 Days : 157
Experience.Flight Time.Total : 4247
Experience.Flight Time.Type : 1408
ASRS Report : 463941

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP

Person : 3

Affiliation.Government : FAA
Function.Controller : Radar
Qualification.Controller : Radar

Events

Anomaly.Altitude Deviation : Excursion From Assigned Altitude
Anomaly.Inflight Encounter : Weather
Anomaly.Non Adherence : Clearance
Anomaly.Other Anomaly
Anomaly.Other Anomaly.Other
Independent Detector.Other.ControllerA : 3
Independent Detector.Other.Flight CrewA : 1
Independent Detector.Other.Flight CrewB : 2
Resolutory Action.Controller : Issued New Clearance
Resolutory Action.Flight Crew : Regained Aircraft Control
Resolutory Action.None Taken : Anomaly Accepted

Assessments

Problem Areas : Flight Crew Human Performance
Problem Areas : Weather

Narrative

THOUGH FILED AT FL280, A CLB HAD BEEN ACCOMPLISHED TO FL350, PER ZID'S RECOMMENDATION, TO PENETRATE A SQUALL LINE AHEAD. WITH LIGHT-MODERATE TURB, WE PENETRATED THE TSTM SQUALL LINE (THAT REACHED BEYOND FL410) AND CAME UPON CLR AIR ON THE BACK (N) SIDE. SIMULTANEOUSLY, CTR ISSUED A CLRNC TO FL330 FOR TFC. THE DSCNT WAS UNEVENTFUL. AT FL330, THE CAPT (PF) BEGAN TO BRIEF THE PLANNED APCH AT OUR DEST (DTW). AS THE BRIEF BEGAN, I NOTICED OUR IAS OF 240 KIAS, AND THOUGHT THIS TO BE SLIGHTLY UNUSUAL, BUT TOOK NO ACTION. THE PF CHKED THE AUTOMATION TO BE 'ON' AND CHKED THE ENGAGED THROTTLES FORWARD. CONTINUING WITH THE BRIEF, I BEGAN TO REALIZE THAT THE AIRSPD WAS INSIDIOUSLY FALLING AND WAS NOW AT 230 KIAS. THOUGH ALL ENG INSTS/PARAMETERS WERE INDICATING NORMAL, I COMMENTED THAT SOMETHING WAS NOT RIGHT. AT THIS POINT THE PF DISCONNECTED THE AUTOMATION, PUSHED THE THROTTLES UP TO MAX CRUISE EPR LIMIT, BUT WAS NOT ABLE TO MAINTAIN CURRENT AIRSPD. AT 220 KIAS, THE ACFT BEGAN TO **BUFFET** AND THE CAPT INSTRUCTED TO REQUEST A LOWER ALT FROM ATC. UNFORTUNATELY, THE CTLR WAS RELAYING A LENGTHY FLT CONDITION RPT TO ANOTHER ACFT AND WE WERE UNABLE TO GET IN A TIMELY REQUEST. THE ONLY WAY TO MAINTAIN AN AIRSPD OF 225 KIAS, AT THIS POINT, WAS TO DSND AT LEAST 600 FPM. AT THE FIRST OPPORTUNITY, THE REQUEST TO DSND TO FL310 WAS SUCCESSFULLY XMITTED AND CLRNC WAS ISSUED TO MAINTAIN FL310. THE CLRNC CAME JUST AS WE PASSED THROUGH FL320. NO SIGN OF TFC OR CONFLICT WAS NOTED ON THE TCASII OR WITH THE CTLR. WITH THE ONLY EXPLANATION POSSIBLE, I IMMEDIATELY INITIATED ENG AND AIRFOIL ANTI-ICE SYS, BELIEVING THAT OUR PROB WAS CLR ICE ON THE ACFT. WITHIN 90 SECONDS, AT FL310, THE ACFT BEGAN TO ACCELERATE AND OPERATE NORMALLY. WE RETAINED THE ANTI-ICE SYS ON FOR AN ADDITIONAL 5 MINS, AND THEN SECURED THEM. IN THE CLR AIR, ABOVE AN OVCST DECK, THE REMAINDER OF THE CRUISE PHASE OF FLT WAS UNEVENTFUL. IT IS MY OPINION THAT A SIGNIFICANT AMOUNT OF CLR ICE WAS ACCUMULATED ON THE CRITICAL SURFACES OF OUR ACFT DURING THE BRIEF PERIOD THAT WE TRANSITED THROUGH THE SQUALL LINE. SINCE THE CLRNC TO DSND TO FL330 CAME SO SOON AFTER OUR PENETRATION, A LOWER AOA (ANGLE OF ATTACK) WAS POSSIBLE, AND THEREFORE NO APPARENT PROB EXISTED. HOWEVER, WHILE LEVEL AT FL330, WITH THE AUTOPLT/AUTOTHROTTLES ENGAGED, THE ACFT

ATTEMPTED TO HOLD AIRSPD AND ALT, BUT WAS LOSING THE BATTLE AT AN EVER SO SLOWLY RATE. IT WAS NOT UNTIL THE ANTI-ICE SYS TOOK AFFECT AND A LOWER ALT WAS RECEIVED THAT CONDITIONS RETURNED TO NORMAL. LESSON LEARNED: IN ANTICIPATION OF A NECESSARY PENETRATION OF A SQUALL LINE, EVEN WHEN THE DEPTH (THICKNESS) APPEARS NOMINAL AND THE ALT ADEQUATE (BOTH FOR TURB AND ICING), APPLY ALL ANTI-ICE SYS IN ADVANCE. WE HAD TAKEN CARE OF THE ENGS, BUT HAD NOT CONSIDERED THE ACFT'S CRITICAL SURFACES VULNERABLE UNDER THE EXISTING CONDITIONS.

Synopsis

MD88 CREW HAD ALTDEV.

ACN: 462010

Time / Day

Date : 200001
Day : Sun
Local Time Of Day : 1801 To 2400

Place

Locale Reference.Navaid : ATL.VORTAC
State Reference : GA
Altitude.MSL.Single Value : 35000

Environment

Flight Conditions : VMC
Light : Night

Aircraft : 1

Controlling Facilities.ARTCC : ZTL.ARTCC
Operator.Common Carrier : Air Carrier
Make Model Name : MD-82
Operating Under FAR Part : Part 121
Flight Phase.Cruise : Level
Route In Use.Enroute : On Vectors

Component : 1

Aircraft Component : Turbine Engine

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP
Experience.Flight Time.Last 90 Days : 110
Experience.Flight Time.Total : 9500
Experience.Flight Time.Type : 100
ASRS Report : 462010

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer
Qualification.Pilot : Commercial
Qualification.Pilot : Instrument
Qualification.Pilot : Multi Engine

Person : 3

Function.Controller : Radar
Qualification.Controller : Radar

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Other Anomaly
Anomaly.Other Anomaly.Other
Independent Detector.Other.Flight CrewA : 1
Independent Detector.Other.Flight CrewB : 2
Resolutory Action.Controller : Issued New Clearance
Resolutory Action.Flight Crew : Regained Aircraft Control
Resolutory Action.None Taken : Anomaly Accepted
Consequence.FAA : Assigned Or Threatened Penalties
Consequence.FAA : Investigated
Consequence.Other : Company Review
Consequence.Other

Assessments

Problem Areas : Aircraft
Problem Areas : Flight Crew Human Performance
Problem Areas : Weather

Narrative

THE FOLLOWING DETAILS AN INCIDENT ON JAN/XA/00, WHILE ENRTE FROM FORT MEYERS, FL, TO DETROIT, MI. AT THE TIME OF THE INCIDENT, THE ACFT HAD BEEN OPERATING AT FL350 FOR APPROX 10-15 MINS AND WAS APPROX 100 MI N OF ATLANTA, GA, ON AN ATC ASSIGNED VECTOR TO VOLUNTEER VOR (KNOXVILLE, TN). THE SIC WAS THE PF, WITH THE ACFT ON AUTOPLT AND AUTOTHROTTLE. TIME OF THE INCIDENT WAS NOT NOTED. ACFT WT WAS APPROX 136000 LBS. WHILE IN LEVEL FLT AT FL350, WE BECAME AWARE OF A HIGH FREQ VIBRATION, WHICH WAS FIRST THOUGHT TO BE CAUSED BY TURB. THE VIBRATION WAS UNUSUAL, IN THAT IT WAS RAPID 'STACCATO' IN NATURE AND SEEMED TO GROW IN MAGNITUDE AT A REGULAR RATE. THE ONLY TIME I HAD FELT A SIMILAR VIBRATION WAS DURING A MACH **BUFFET** DEMONSTRATION IN A B737 SIMULATOR. I FELT THAT THE VIBRATION MIGHT HAVE BEEN CAUSED BY MACH **BUFFET**, CTL FLUTTER, OR A STRUCTURAL PROB. THE VIBRATION WAS INCREASING IN SEVERITY AND I TOLD THE SIC TO REDUCE SPD. THE SIC DISCONNECTED THE AUTOTHROTTLES AND MADE A PWR REDUCTION WHICH HAD NO EFFECT. THE VIBRATION CONTINUED TO GET WORSE AND I ORDERED A SECOND PWR REDUCTION. AT SOME TIME DURING THIS SCENARIO, THE SIC DISCONNECTED THE AUTOPLT AND HAND FLEW THE ACFT. HE LATER STATED THAT WHEN HE DISCONNECTED THE AUTOPLT, THE ACFT WAS 'IN TRIM' AND STILL MAINTAINING ALT. A SHORT TIME LATER, THE **STALL** WARNING ACTUATED. THE SIC ADVANCED THE PWR LEVERS AND I BACKED HIM UP TO FIREWALL PWR. THE **STALL** WARNING PERSISTED. I TOLD THE SIC TO LOWER THE NOSE AND WE STARTED A DSCNT. AT APPROX FL340 THE **STALL** WARNING CEASED, BUT WHEN THE SIC ATTEMPTED TO LEVEL THE ACFT, THE **STALL** WARNING SOUNDED AGAIN. WE CONTINUED THE DSCNT AND THE **STALL** WARNING TERMINATED. I ADVISED ATC THAT WE HAD LEFT FL350 AS A RESULT OF A **STALL** WARNING AND REQUESTED FL310. THE COCKPIT WAS VERY NOISY AND I WAS UNABLE TO HEAR THE CTLR'S READBACK. I MADE THE ADVISORY/REQUEST AGAIN AND WAS ISSUED FL310. WE CONTINUED THE DSCNT TO FL310 WITHOUT FURTHER INCIDENT OR QUERY FROM ATC. AT NO TIME WERE THERE ANY OTHER INDICATIONS THAT THE ACFT WAS IN A **STALL** OR APCH TO **STALL** SIT, OTHER THAN THE ACTUATION OF THE **STALL** WARNING SYS. THE SIC STATED THAT THE

ACFT RESPONDED NORMALLY TO BOTH PITCH AND ROLL COMMANDS AT ALL TIMES DURING THE INCIDENT. HOWEVER, AT FL310, WE OBSERVED RAPID CHANGES IN MACH NUMBER WITH NO CHANGES IN PWR OR INDICATED AIRSPD. AT ONE TIME, THE MACH CHANGED FROM .754 TO .770 IN LESS THAN 4 SECONDS. IN ANOTHER EXCURSION, THE MACH WAS SEEN TO MOVE FROM .754 TO .776 IN ABOUT 10 SECONDS. BASED ON THE SIC'S DESCRIPTION OF CTL RESPONSE, THE ACFT'S STABILITY AND IN-TRIM CONDITION AT THE TIME OF THE **STALL** WARNING EVENT, AND THE NOTED MALFUNCTIONS OF THE MACH SPD INDICATING SYS, WE BELIEVED THE **STALL** WARNING TO BE A FALSE INDICATION. AFTER REVIEWING THE QRH, CHAPTER 13 (AIRSPD/MACH INDICATIONS UNRELIABLE), I DETERMINED THAT WE COULD SAFELY CONTINUE THE FLT TO THE DEST USING INDICATED AIRSPD ONLY. CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING INFO: CREW WAS FLYING AN MD82 ACFT. A NEW PLT, WITH APPROX 100 HRS IN TYPE, DESCRIBED MACH **BUFFET**. THIS CAME ON SO INTENSELY THAT HE WAS UNSURE WHAT IT WAS. PWR REDUCTION DID NOT SEEM TO HELP. THE MD82 HAS AN AURAL '**STALL**' VOICE WARNING SYS. THIS IS WHAT ACTIVATED ALONG WITH A **STALL** WARNING ANNUNCIATOR LIGHT. AT NO TIME WAS THE **STICK SHAKER** SYS ACTIVATED. THEY ENCOUNTERED A SECONDARY **STALL** WARNING AFTER DSNDING ONLY 1000 FT. MAINT CHKED THE ENTIRE AIRFRAME FOR POSSIBLE SOURCES OF VIBRATION, AND NOTHING WAS FOUND. BOTH MACH METERS VARIED IN UNISON. THE MACH, AIR DATA SYS WERE CHKED IN DETAIL, AND NOTHING WAS FOUND.

Synopsis

MD82 CREW HAD AIRFRAME VIBRATION, AURAL **STALL** WARNING ACTIVATION, AND MACH INDICATION FLUCTUATION.

ACN: 435673

Time / Day

Date : 199904
Day : Fri
Local Time Of Day : 0601 To 1200

Place

Locale Reference.Navaid : ROD.VORTAC
State Reference : OH
Altitude.MSL.Bound Lower : 33000
Altitude.MSL.Bound Upper : 35000

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft : 1

Controlling Facilities.ARTCC : ZID.ARTCC
Operator.Common Carrier : Air Carrier
Make Model Name : MD-88
Operating Under FAR Part : Part 121
Navigation In Use.Other : FMS or FMC
Navigation In Use.Other.VORTAC
Flight Phase.Cruise : Enroute Altitude Change

Component : 1

Aircraft Component : FMS/FMC

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP
Qualification.Pilot : Commercial
Qualification.Pilot : Instrument
Qualification.Pilot : Multi Engine
Experience.Flight Time.Last 90 Days : 180
Experience.Flight Time.Total : 9500
Experience.Flight Time.Type : 3500
ASRS Report : 435673

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer
Qualification.Pilot : ATP
Qualification.Pilot : Commercial
Qualification.Pilot : Instrument

Qualification.Pilot : Multi Engine
Experience.Flight Time.Last 90 Days : 100
Experience.Flight Time.Total : 7500
Experience.Flight Time.Type : 700
ASRS Report : 435498

Person : 3

Affiliation.Government : FAA
Function.Controller : Radar
Qualification.Controller : Radar

Events

Anomaly.Altitude Deviation : Excursion From Assigned Altitude
Anomaly.Non Adherence : Clearance
Anomaly.Other Anomaly.Other
Independent Detector.Other.Flight CrewA : 1
Independent Detector.Other.Flight CrewB : 2
Resolutory Action.Controller : Issued New Clearance
Resolutory Action.Flight Crew : Exited Adverse Environment

Assessments

Problem Areas : ATC Human Performance
Problem Areas : Aircraft
Problem Areas : Flight Crew Human Performance

Narrative

WE WERE LEVEL AT FL310 HDG 225 DEGS TALKING TO ZID. CTR CLRED US TO CLB TO FL350, TO BE THERE IN 4 MINS OR LESS. FMS CRUISE PAGE INDICATED FL350 WAS A GOOD CRUISE ALT. WE TRADED SPD FOR ALT TO MAKE THE ALT CLRNC, WITH THE TIME RESTR. REACHING FL350 OUR SPD WAS APPROX 240 KTS. WE STARTED EXPERIENCING SLIGHT AIRFRAME **BUFFET**ING AND ASSUMED AT FIRST THAT IT WAS JUST CLR AIR TURB. THEN THE AIRSPD BEGAN TO DECREASE AND WOULD NOT RECOVER WITH FULL PWR SET. THE FO WAS FLYING THE ACFT. HE DISCONNECTED THE AUTOPLT AND BEGAN A DSCNT AT MY COMMAND AS WE REALIZED THIS WAS APCH TO A **STALL BUFFET**. I ASKED CTR FOR CLRNC TO FL330, BUT ATC SAID TO MAINTAIN FL350. I TOLD HIM WE WERE UNABLE AND HAD TO DSND. ATC ASSIGNED US FL330 AND A L TURN TO 180 DEGS.

Synopsis

MD88 CREW EXPERIENCES PRE**STALL BUFFET** AT FL350.

ACN: 432256

Time / Day

Date : 199902
Day : Sat
Local Time Of Day : 1201 To 1800

Place

Locale Reference.Navaid : TXK.VORTAC
State Reference : AR
Altitude.MSL.Single Value : 33000

Environment

Weather Elements : Thunderstorm
Light : Daylight

Aircraft : 1

Controlling Facilities.ARTCC : ZFW.ARTCC
Operator.Common Carrier : Air Carrier
Make Model Name : MD-80 Super 80
Operating Under FAR Part : Part 121
Navigation In Use.Other : FMS or FMC
Flight Phase.Cruise : Level
Route In Use.Enroute : Direct

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP
ASRS Report : 432256

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer
Qualification.Pilot : Commercial
Qualification.Pilot : Instrument
Qualification.Pilot : Multi Engine
ASRS Report : 432255

Person : 3

Affiliation.Company : Air Carrier
Function.Other Personnel.Other

Person : 4

Affiliation.Government : FAA
Function.Controller : Radar
Qualification.Controller : Radar

Events

Anomaly.Conflict : Ground Less Severe
Anomaly.Non Adherence : FAR
Anomaly.Other Anomaly.Other
Independent Detector.Other.Flight CrewA : 1
Independent Detector.Other.Flight CrewB : 2
Resolutory Action.Controller : Issued Advisory
Resolutory Action.Controller : Issued New Clearance
Resolutory Action.Flight Crew : Exited Adverse Environment
Consequence.Other : Company Review

Assessments

Problem Areas : Company

Narrative

WHILE CLBING TO OUR CLRED ALT OF FL330 FROM FL290, ATC REQUESTED WE EXPEDITE OUR CLB. THE REQUIRED CLB RATE WAS 1000 FPM. WE LEVELED OFF AT 240 KIAS, MACH .690. WHILE LEVEL, THE AIRSPD STARTED TO DECREASE DESPITE MAX CONTINUOUS THRUST BEING SELECTED ON THE THRUST RATING INDICATOR. WE IMMEDIATELY REQUESTED A DSCNT BACK TO FL290, BUT WAS DENIED BY ATC DUE TO CONFLICTING TFC. AS THE AIRSPD CONTINUED TO DECREASE, WE ENCOUNTERED MODERATE TURB, AND ONCE AGAIN ASKED FOR AN IMMEDIATE DSCNT AND WAS DENIED CLRNC AGAIN. AT 1-2 KTS BELOW 230 KIAS, A SLIGHT **BUFFET** DEVELOPED. WE DECLARED AN EMER AND DSNDED BACK TO FL290 WITH A 20 DEG HDG CHANGE PROVIDED BY ATC. SUBSEQUENT CHK OF THE PERFORMANCE MANUAL REVEALED THE OPTIMUM CRUISE ALT FOR A 135000 LB ACFT AT .76 MACH CRUISE TO BE A LITTLE ABOVE FL330, CONCURRING WITH THE PMS, INITIAL **BUFFET** BOUNDARY TO BE 212 KIAS, AND ENG HOLDING SPD TO BE 241 KIAS. WT AUDIT UPON LNDG SHOWED AN OVERAGE OF 31 BAGS THAN THAT ACCOUNTING FOR ON THE CLOSEOUT.

Synopsis

AN ACR MD80 FLC FIND THAT THEIR PERFORMANCE DATA FOR THE OPTIMUM CRUISE ALT WAS IN ERROR BECAUSE THEY WERE HEAVIER THAN THE WT AND BAL TOTALS INDICATED. EMER DECLARED.

ACN: 430595

Time / Day

Date : 199903
Day : Thu
Local Time Of Day : 1201 To 1800

Place

Locale Reference.Navaid : ATL.VORTAC
State Reference : GA
Altitude.MSL.Bound Lower : 34100
Altitude.MSL.Bound Upper : 35000

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft : 1

Controlling Facilities.ARTCC : ZTL.ARTCC
Operator.Common Carrier : Air Carrier
Make Model Name : MD-88
Operating Under FAR Part : Part 121
Navigation In Use.Other : FMS or FMC
Navigation In Use.Other.VORTAC
Route In Use.Enroute.Airway : J43.Airway

Aircraft : 2

Controlling Facilities.ARTCC : ZTL.ARTCC
Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer
Flight Phase.Cruise : Level
Route In Use.Enroute.Airway : J43.Airway

Component : 1

Aircraft Component : Autothrottle/Speed Control

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer
Qualification.Pilot : ATP
Qualification.Pilot : CFI
Qualification.Pilot : Commercial
Qualification.Pilot : Multi Engine
Experience.Flight Time.Last 90 Days : 132
Experience.Flight Time.Total : 4900
Experience.Flight Time.Type : 380
ASRS Report : 430595

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP
Qualification.Pilot : Flight Engineer
Qualification.Pilot : Instrument
Qualification.Pilot : Multi Engine
Experience.Flight Time.Last 90 Days : 200
Experience.Flight Time.Total : 15000
Experience.Flight Time.Type : 11000
ASRS Report : 430596

Person : 3

Affiliation.Government : FAA
Function.Controller : Radar
Qualification.Controller : Radar

Person : 4

Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Altitude Deviation : Excursion From Assigned Altitude
Anomaly.Conflict : Airborne Less Severe
Anomaly.Non Adherence : Clearance
Anomaly.Other Anomaly
Independent Detector.Aircraft Equipment.Other Aircraft Equipment : Aircraft **STALL** Warning **BUFFET**t
Independent Detector.Other.Flight CrewA : 2
Resolutory Action.Controller : Issued Advisory
Resolutory Action.Flight Crew : Overcame Equipment Problem
Resolutory Action.Flight Crew : Regained Aircraft Control
Consequence.FAA : Reviewed Incident With Flight Crew
Consequence.Other
Miss Distance.Horizontal : 20000
Miss Distance.Vertical : 1100

Assessments

Problem Areas : Aircraft
Problem Areas : Flight Crew Human Performance

Narrative

FLT FROM ORLANDO TO MILWAUKEE. ACFT WAS LEVEL AT FL310 OVER ATLANTA. AS FO, I WAS PF. THE FLT PLAN LISTED FL350 AS A FINAL ALT. THE FMS SHOWED THAT FL363 WAS ACTUALLY AVAILABLE SO THE CAPT HAD PUT IN A REQUEST FOR FL350, WHICH WAS DENIED BY CTR. APPROX 5-10 MINS PRIOR TO CLB TO FL350, THE AUTOTHROTTLES AUTOMATICALLY DISENGAGED, PROBABLY BECAUSE OF .18 DISPARITY IN EPR READOUTS (OTHER INDICATIONS RELATIVELY MATCHED, IE, FF, N1, N2). I BUMPED UP PWR ON R ENG CLOSER TO L EPR READING AND RE-ENGAGED AUTOTHROTTLES. THE CAPT DECIDED TO CALL OUR MAINT CTL OVER

COCKPIT AIRPLANE TO LET THEM KNOW OF DISPARITY AND WHAT HAD HAPPENED. WHILE HE WAS ON THE PHONE, CTR SAID FL350 WAS AVAILABLE IF WE COULD BE THERE WITHIN 2 MINS BECAUSE OF TFC. I ACCEPTED THE CLRNC AND BEGAN CLB TO FL350 IN THE VERT SPD MODE (2000 FPM CLB). THE CAPT WAS AWARE WE WERE GOING TO FL350 WHILE HE WAS STILL TALKING TO OUR MAINT. AS ACFT CLBED THROUGH APPROX FL330 THE AUTOTHROTTLES DISENGAGED A SECOND TIME. I MANUALLY BROUGHT PWR ON R SIDE (WHICH WAS LESS THAN L SIDE AGAIN). UP TO MATCH L EPR TO MAX CLB SETTING. I WAS AWARE OF THE AIRSPD DECAY AS WE APCHED FL350. BECAUSE THE PLANE WAS NOT ACCELERATING, I INITIATED A SHALLOW DSCNT (200 FPM DOWN). THE PLANE BEGAN TO **BUFFET**, I IMMEDIATELY DISENGAGED THE AUTOPLT AND CALLED ALOUD THE CAPT'S NAME. I HAD ALREADY STATED A DSCNT WHILE HE EMPHASIZED 'PUT THE NOSE DOWN,' WHEN HE WAS SURPRISED TO SEE HOW SLOW WE WERE (APPROX 210 KTS). THE **BUFFET** CEASED BUT WE WERE DSNDING. I WAS CONCERNED ABOUT THE TFC, AND IN FACT SAW THE TFC BELOW US AND TO OUR L PASS BY. CTR INQUIRED IF WE HAD SEEN THE TFC. THE CAPT ACKNOWLEDGED WITH 'AFFIRMATIVE' AND STATED WE NEEDED TO DSND TO FL310 BECAUSE OUR SPD WAS SLOW (OR SOMETHING TO THAT EFFECT). CTR DID CLR US TO FL310 AND THEN CAME BACK GIVING US A PHONE NUMBER TO CALL AFTER LNDG IN MILWAUKEE. REMAINDER OF FLT UNEVENTFUL. PHONE CALL TO ZTL REVEALED WE WERE 1100 FT ABOVE AND 3.2 MI E OF TFC. CONTRIBUTING FACTORS: CAPT'S ATTN DISTR WHILE TALKING TO OUR MAINT CTL CONCERNING EPR DISPARITY DURING OUR CLB. EXPEDITIOUS CLB TO FL350 AND GOING INTO VERT SPD MODE TO REACH FL350 WITHIN 2 MINS, THUS EXCEEDING CLB LIMITATION OF ACFT BASED ON OUR WT. MY LACK OF KNOWLEDGE OF WHEN TO EXPECT SLOW SPD **BUFFET**. MY CONCERN TO REACH FL350 TO AVOID CONFLICT.

Synopsis

FO OF AN MD88 LOST CTL OF ACFT DURING HIGH ALT LEVELOFF DUE TO LACK OF AIRSPD CAUSING LTSS WITH ANOTHER ACFT.

ACN: 419737

Time / Day

Date : 199811
Day : Thu
Local Time Of Day : 0601 To 1200

Place

Locale Reference.ATC Facility : OTK
State Reference : GA
Altitude.MSL.Bound Lower : 33000
Altitude.MSL.Bound Upper : 33000

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft : 1

Controlling Facilities.ARTCC : ZJX
Operator.Common Carrier : Air Carrier
Make Model Name : MD-83
Operating Under FAR Part : Part 121
Flight Phase.Cruise.Other
Route In Use.Enroute.Airway : J-89

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP
Experience.Flight Time.Last 90 Days : 119
Experience.Flight Time.Total : 10842
Experience.Flight Time.Type : 4071
ASRS Report : 419737

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer
Qualification.Pilot : Commercial
Qualification.Pilot : Instrument

Person : 3

Affiliation.Government : FAA
Function.Controller : Radar
Qualification.Controller : Radar

Events

Anomaly.Altitude Deviation : Excursion From Assigned Altitude
Anomaly.Non Adherence : FAR
Anomaly.Other Anomaly.Other
Independent Detector.Other.Flight CrewA : Unspecified
Resolutory Action.Flight Crew : Declared Emergency
Resolutory Action.None Taken : Insufficient Time
Resolutory Action.None Taken : Unable

Assessments

Narrative

DURING A NORMAL AND REGULAR FLT FROM ATL, GA, TO CANCUN, MEXICO, ON NOV/XA/98, FLYING ON AN MD-83 OF A CHARTER ACR, WE WERE CLBING TO OUR FINAL CLRED ALT OF FL330 WHEN WE RECEIVED A REQUEST FROM ATC TO REACH FL330 IN 2 MINS OR LESS. AT THAT POINT WE WERE ABOUT FL295 WITH A RATE OF CLB OF 1300 FPM TO 1500 FPM. THE SPD WE USE FOR NORMAL CLB IS 290 KTS TO APPROX FL270 AND .72 MACH FROM THERE TO WHATEVER THE CRUISE ALT WILL BE. SO WE HAD .72 MACH AT THE TIME WE RECEIVED THE REQUEST AND I INCREASED THE RATE OF CLB REDUCING THE MACH NUMBER TO MACH .70, ACQUIRING A GOOD RATE TO COMPLY WITH ATC REQUEST. WE REACHED FL330 WITH MACH .70 AND STARTED TO EXPERIENCE LIGHT AND OCCASIONAL MODERATE TURB AT THAT ALT AFFECTING CONSIDERABLY THE PERFORMANCE OF THE ACFT. FEW MINS LATER, WE WERE CLRED TO FLY DIRECT TO AN INTXN AHEAD ON THE RTE. THE TURN WORSENED THE CONDITION, MAKING IT IMPOSSIBLE TO HOLD THE AIRSPD, AND WE STARTED TO DROP DOWN FAST. AT THAT POINT WE MADE SEVERAL AND DESPERATE ATTEMPTS WITH ATC TO DSND TO A LOWER ALT, BUT UNFORTUNATELY THERE WAS TFC AFFECTING OUR DSCNT. I SAW HOW THE AIRSPD WAS DROPPING LOW AND AT THE FIRST CHANCE I ADVISED ATC THAT WE WERE UNABLE TO HOLD THE ALT AND WE WERE LEAVING FL330 TO FL280. JUST BEFORE WE STARTED THE DSCNT, THE ACFT CAME INTO ONE APCH TO **STALL** AND OTHER CAME ON FEW SECONDS LATER. AT THAT TIME WE WERE ALREADY DSNDING AND AIRSPD BEGAN TO RECUPERATE. WE HAD CTL OF THE AIRPLANE ALL THE TIME, BUT I THINK THAT IF WE WOULD HAVE STAYED MORE TIME AT THAT ALT A VERY BAD SIT WOULD HAVE HAPPENED. NOW I UNDERSTAND THAT I MADE A GREAT MISTAKE ACCEPTING A REQUEST THAT HAS TO BE ANSWERED IMMEDIATELY, CONSIDERING THAT WE HAVE TO CHK ON THE BEST RATE OF CLB SPD, TURB RPTS, AND MANY OTHER FACTORS INVOLVING THE SECURITY OF THE FLT THAT MAY TAKE MORE THAN 2 MINS TO CHK ON. ALSO, THE COM WITH ATC COULD HAVE BEEN MORE CLR AND PRECISE OF WHAT WAS GOING ON IN ADDITION TO THE TURB. I AM TRULY VERY CONCERNED OF WHAT HAPPENED TO ME THAT DAY AND I LEARNED THAT NO MATTER HOW PROFESSIONAL YOU ARE OR HOW EXPERIENCED YOU ARE, QUICK DECISIONS ARE NEVER EASY TO MAKE.

Synopsis

FLC OF AN MD83 EXCEEDED THE ACFT PERFORMANCE LIMITATIONS AS A RESULT OF INSUFFICIENT AIRSPD AT A HIGH CRUISE ALT CAUSED BY A SLOWER CLB SPD FOR A HIGHER RATE OF CLB TO ASSIGNED ALT. THE ACFT REACTED BY **STALL BUFFET**ING BEFORE REGAINING SUFFICIENT AIRSPD IN AN EMER DSCNT. IN ADDITION, THE ACFT'S WT AND BAL EXCEEDED CTR OF GRAVITY FORWARD LIMIT.

ACN: 418260

Time / Day

Date : 199810
Day : Mon
Local Time Of Day : 0601 To 1200

Place

Locale Reference.ATC Facility : JNC
State Reference : CO
Altitude.MSL.Bound Lower : 34000
Altitude.MSL.Bound Upper : 35000

Environment

Flight Conditions : IMC
Light : Daylight

Aircraft : 1

Controlling Facilities.ARTCC : ZDV
Operator.Common Carrier : Air Carrier
Make Model Name : MD-80 Super 80
Operating Under FAR Part : Part 121
Flight Phase.Climbout : Intermediate Altitude
Flight Phase.Descent.Other
Flight Phase.Other
Route In Use.Enroute.Airway : ZDV

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP
ASRS Report : 418260

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer
Qualification.Pilot : Commercial
Qualification.Pilot : Instrument
ASRS Report : 418259

Person : 3

Affiliation.Government : FAA
Function.Controller : Radar
Qualification.Controller : Radar

Events

Anomaly.Altitude Deviation : Crossing Restriction Not Met
Anomaly.Inflight Encounter : Weather
Anomaly.Inflight Encounter.Other
Anomaly.Non Adherence : Clearance
Anomaly.Non Adherence : Published Procedure
Anomaly.Other Anomaly.Other
Independent Detector.Other.Flight CrewA : Unspecified
Resolutory Action.Controller : Issued New Clearance
Resolutory Action.Flight Crew : Exited Adverse Environment

Assessments

Narrative

THE EVENT STARTED WHEN WE ENCOUNTERED LIGHT TURB AT FL310. I WAS THE PF. OUR WT, 123000 LBS, ALLOWED A CLB TO FL350 SO WE ASKED FOR AND RECEIVED CLRNC TO CLB TO FL350. WE WERE IN CLOUDS AND THE ANTI-ICE SYS WERE ON. CLB PERFORMANCE SEEMED POOR AND I ALLOWED THE AIRSPD TO SLOW TO .64 MACH WHICH WAS ABOVE THE MINIMUM INDICATED ON THE PMS. AS WE APCHED FL350 I FELT A PRONOUNCED **BUFFET**ING WHICH FELT LIKE A LOW SPD WING **BUFFET** AND THE WING DIPPED SEVERAL TIMES AS IF IT WERE NEAR **STALL**. THERE WERE NO OTHER INDICATIONS OF A NEAR **STALL** CONDITION, IE, SPD LOW, ETC. I IMMEDIATELY ASKED THE FO TO REQUEST LOWER AND STARTED DSNDING. WE RECEIVED CLRNC TO FL310 AS WE APCHED FL340. THE CTLR DID NOT COMMENT ON OUR ALT. GIVEN THE CIRCUMSTANCES I WOULD HAVE DECLARED AN EMER IF WE HAD NOT RECEIVED CLRNC FOR LOWER AT FIRST CONTACT WITH CTR. ALL INDICATIONS I HAD SAID THE ACFT WAS CAPABLE OF FL350 AT THAT WT AND AIRSPD. I DID NOT DO ANY ABRUPT MANEUVERING DURING THE EVENT BUT SOME PAX COMMENTED ON THE **BUFFET**ING. SUPPLEMENTAL INFO FROM ACN 418259: THERE WAS NO INDICATION OF ICING OR ANY OTHER CLUE WHY THE PLANE WOULD NOT HOLD FL350.

Synopsis

A CLBING S80 IS UNABLE TO MAINTAIN ITS ASSIGNED ALT WITH ANTI-ICE SYS ON. AN ALT EXCURSION OCCURS WHEN THE ACFT IS FELT TO BE IN AN INITIAL **BUFFET**.

ACN: 412144

Time / Day

Date : 199808
Day : Wed
Local Time Of Day : 0601 To 1200

Place

Locale Reference.ATC Facility : FSD
State Reference : SD
Altitude.MSL.Bound Lower : 31000
Altitude.MSL.Bound Upper : 35000

Environment

Flight Conditions : Mixed
Light : Daylight

Aircraft : 1

Controlling Facilities.ARTCC : ZMP
Operator.Common Carrier : Air Carrier
Make Model Name : MD-80 Super 80
Operating Under FAR Part : Part 121
Flight Phase.Cruise.Other

Component : 1

Aircraft Component : Weather Radar

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer
Qualification.Pilot : Commercial
Qualification.Pilot : Instrument
ASRS Report : 412144

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP

Person : 3

Affiliation.Government : FAA
Function.Controller : Radar
Qualification.Controller : Radar

Events

Anomaly.Inflight Encounter : Weather
Anomaly.Other Anomaly

Anomaly.Other Anomaly.Other
Independent Detector.Other.Flight CrewA : Unspecified
Resolutory Action.Controller : Issued New Clearance
Resolutory Action.Flight Crew : Regained Aircraft Control
Resolutory Action.Other

Assessments

Narrative

A LINE OF WX EXTENDED FROM SYDNEY, NE, TO DULUTH, MN, WITH A HOLE ALONG A LINE FROM FSD TO DPR WHICH OTHER ACFT WERE GETTING THROUGH WITHOUT COMPLAINTS. ANOTHER ACFT AT FL350 JUST PASSED THROUGH AHEAD OF US AND RPTED A SMOOTH RIDE. WE REQUESTED AND RECEIVED A BLOCK FL330 TO FL350. WE ENTERED THE HOLE AT FL340. THE WX WAS CLOSING IN QUICKLY. UPON ENTERING THE WX AT NORMAL CRUISE MACH, WE ENCOUNTERED A STRONG UPDRAFT WITH MODERATE RAIN AND CHOP. ACFT STARTED TO CLB WITH A RAPID LOSS OF AIRSPD DOWN TO STICKSHAKER WITHOUT A CHANGE IN PITCH ATTITUDE. AUTOPLT/AUTOTHROTTLE WERE DISCONNECTED AND FULL PWR WAS APPLIED. STICKSHAKER WAS ACCOMPANIED WITH **BUFFET**. CLB WAS STOPPED AT FL350 AND A LOWER ALT WAS REQUESTED. WE WERE THEN CLRED ANY ALT. WE DSNDED TO FL310 TO REGAIN AIRSPD. ENTIRE EVENT LASTED APPROX 90 SECONDS. SEATBELT SIGN WAS ON. FLT ATTENDANT AND PAX WERE SEATED. NO INJURIES OR ACFT DAMAGE.

Synopsis

AFTER ENTERING A CLB AT NORMAL CRUISE MACH, MD80 FLT CREW ENCOUNTERED WX AT FL340 WITH STRONG UPDRAFTS AND MODERATE RAIN AND CHOP. RAPID LOSS OF AIRSPD ENSUED AND CLB WAS TERMINATED AFTER FULL PWR FAILED TO TERMINATE **STICK SHAKER** AND **BUFFET**. FLT CREW DSNDED TO REGAIN AIRSPD.

ACN: 403716

Time / Day

Date : 199805
Day : Tue
Local Time Of Day : 0601 To 1200

Place

Locale Reference.ATC Facility : DRK
State Reference : AZ
Altitude.MSL.Bound Lower : 28000
Altitude.MSL.Bound Upper : 29000

Environment

Light : Daylight

Aircraft : 1

Controlling Facilities.ARTCC : ZAB
Operator.Common Carrier : Air Carrier
Make Model Name : MD-80 Super 80
Operating Under FAR Part : Part 121
Flight Phase.Climbout : Intermediate Altitude
Flight Phase.Cruise.Other
Flight Phase.Descent.Other

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP
ASRS Report : 403716

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer
Qualification.Pilot : Commercial
Qualification.Pilot : Instrument
ASRS Report : 403715

Person : 3

Affiliation.Government : FAA
Function.Controller : Radar
Qualification.Controller : Radar

Events

Anomaly.Altitude Deviation : Crossing Restriction Not Met
Anomaly.Altitude Deviation : Excursion From Assigned Altitude
Anomaly.Other Anomaly.Other

Independent Detector.Other.Flight CrewA : Unspecified
Resolutory Action.Flight Crew : Declared Emergency
Resolutory Action.Other

Assessments

Narrative

ZAB 134.32. COPLT FLYING. RECEIVED CLB CLRNC TO CROSS 35 MI E OF DRAKE, AT FL290, TO MAKE CLB RESTR. AS WE WERE APCHING FL290, SLOWED AIRPLANE TO 230 KIAS. WE ENCOUNTERED AN INITIAL LOW SPD **BUFFET**. (OUR GROSS WT AT THE TIME WAS APPROX 142000 LBS.) WE REQUESTED AN IMMEDIATE DSCNT. ATC SAID UNABLE. WE DECLARED AN EMER AND DSNDED TO FL280. ACCELERATED TO CRUISE MACH AND RETURNED BACK TO FL290. WE CANCELED THE EMER AND THE REMAINDER OF FLT WAS UNEVENTFUL.

Synopsis

FLC OF A SUPER MD80 DECLARED AN EMER AND DSNDED WHEN THEIR ACFT COULD NOT MAINTAIN A SAFE FLYING SPD AT ASSIGNED CRUISE ALT DUE TO THE ACFT GROSS WT.

ACN: 364937

Time / Day

Date : 199703
Day : Mon
Local Time Of Day : 0601 To 1200

Place

Locale Reference.ATC Facility : CTR
State Reference : MA
Altitude.MSL.Bound Lower : 31000
Altitude.MSL.Bound Upper : 35000

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft : 1

Controlling Facilities.ARTCC : ZBW
Operator.Common Carrier : Air Carrier
Make Model Name : MD-88
Operating Under FAR Part : Part 121
Flight Phase.Climbout : Intermediate Altitude

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer
Qualification.Pilot : ATP
Qualification.Pilot : CFI
Qualification.Pilot : Flight Engineer
Experience.Flight Time.Last 90 Days : 135
Experience.Flight Time.Total : 12500
Experience.Flight Time.Type : 3950
ASRS Report : 364937

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP
Experience.Flight Time.Last 90 Days : 150
Experience.Flight Time.Total : 13000
Experience.Flight Time.Type : 5000
ASRS Report : 364942

Person : 3

Affiliation.Government : FAA
Function.Controller : Radar
Qualification.Controller : Radar

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Other Anomaly.Other
Independent Detector.Other.Flight CrewA : Unspecified
Resolutory Action.Flight Crew : Overcame Equipment Problem

Assessments

Situations

Narrative

CLBING IN VERT AND HORIZ NAV MODES OF AUTOPLT (NORMAL OP) ON SCHEDULED FLT IN MD88 FROM BOS TO ATL. UPON LEAVING CLOUD DECK, ENG ANTI-ICE WAS TURNED OFF AT FL290. ADDITIONAL THRUST FROM THIS ACTION (APPARENTLY) CAUSED ACCELERATION TO MACH .78, ABOUT .02 ABOVE NORMAL CLB MACH. ACFT CLB RATE INCREASED TO 5000-6000 FPM AND VNAV CAPTURE APPEARED ON 'FLT MODE ANNUNCIATOR PANEL,' INDICATING AUTOPLT CAPTURE OF FL350. THIS OCCURRED AT FL310. MACH WAS APPROX .76 AT THIS POINT (APPROX 260 KIAS) AND DECREASING, HOWEVER, AUTOPLT DID NOT PITCH OVER TO MAINTAIN CLB SPD -- IT CONTINUED ON A CAPTURE PROFILE THAT WAS APPARENTLY BASED ON THE CLB RATE AT CAPTURE INITIATION. THE AIRSPD BLED OFF WITH FULL CLB PWR APPLIED UNTIL THE AUTOPLT WAS DISCONNECTED AT 214 KIAS ABOVE FL340. A DSCNT OF NEARLY 1000 FT WAS REQUIRED TO GAIN ENOUGH AIRSPD FOR THE ACFT TO ACCELERATE TO NORMAL CLB SPD OF APPROX 260 KIAS AT THIS ALT. LIGHT PRE**STALL BUFFET** WAS EXPERIENCED. I HAVE NO DOUBT THE ACFT WOULD HAVE **STALL**ED AT NEARLY FL350 IF THE AUTOPLT HAD NOT BEEN DISCONNECTED. 'WHAT REALLY CAUSED THE PROB, AND WHAT CAN BE DONE TO PREVENT A REOCCURRENCE, OR CORRECT THE SIT?' THIS IS THE SAME PROB THAT CAUSED THE A330 FLT TEST ACCIDENT AT TOULOUSE. GIVEN DIFFERENT CIRCUMSTANCES AND DISTRACTIONS IT COULD HAVE CAUSED SERIOUS INJURY OR AN ACCIDENT. PLTS ARE TERRIBLE MONITORS OF SYS THAT WORK WELL FOR 99.99% OF THE TIME, ESPECIALLY, SYS THAT REDUCE WORKLOAD SO THAT 2 PLTS CAN DO THE JOB. IF WE CAN'T TRUST AUTOPLTS TO WORK CORRECTLY OR TELL US WHEN THEY ARE MALFUNCTIONING, WE CANNOT OPERATE WELL IN HIGH WORKLOAD SITS. CERTIFICATION STANDARDS SHOULD BE CHANGED TO REQUIRE SAFE OP IN ALL POSSIBLE SITS AND NOT RELY ON PLT INTERVENTION TO INSURE SAFETY. SITS BEYOND NORMAL CTL OF THE AUTOPLT OR CONFLICTS BTWN DIFFERENT INPUT DEVICES (EG, PITCH WHEEL AND ALT SET WINDOW) SHOULD CAUSE ERROR MESSAGES AND INACTION UNTIL THE CONFLICT IS RESOLVED, OR DISCONNECTION OF THE AUTOPLT AND HIGH LEVEL DISCONNECT WARNINGS. WE MUST BE ABLE TO TRUST AUTOMATION!! AUTOMATION CERTIFICATION STANDARDS MUST BE IMPROVED.

Synopsis

MD88 ACFT IN CLB INCREASED PITCH AFTER ENG ANTI-ICE WAS TURNED OFF DUE TO INCREASED PWR AND VNAV MODE. CLB RATE VERY HIGH AND ALT CAPTURE WAS ANNUNCIATED ON MODE PANEL AT 31000 FT FOR A 35000 FT LEVELOFF. AIRSPD BLED OFF, AUTOTHROTTLES DIDN'T CORRECT NOR DID PITCH

ATTITUDE. FLC HAD TO DISCONNECT AUTO SYS AND PUSH OVER TO REGAIN AIRSPD.

ACN: 281568

Time / Day

Date : 199408
Day : Sun
Local Time Of Day : 1201 To 1800

Place

Locale Reference.ATC Facility : GTK
State Reference : FO
Altitude.MSL.Bound Lower : 32000
Altitude.MSL.Bound Upper : 33000

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft : 1

Controlling Facilities.ARTCC : ZMA
Operator.Common Carrier : Air Carrier
Make Model Name : MD-83
Operating Under FAR Part : Part 121
Flight Phase.Cruise.Other
Flight Phase.Other
Route In Use.Enroute : Atlantic
Route In Use.Enroute : Other Oceanic

Component : 1

Aircraft Component : Turbine Engine

Component : 2

Aircraft Component : Intake Ice System

Person : 1

Affiliation.Company : Air Carrier
Function.Flight Crew : Captain
Function.Oversight : PIC
Qualification.Pilot : ATP
Qualification.Pilot : Commercial
Qualification.Pilot : Instrument
Experience.Flight Time.Last 90 Days : 185
Experience.Flight Time.Total : 16737
Experience.Flight Time.Type : 3156
ASRS Report : 281568

Person : 2

Affiliation.Company : Air Carrier
Function.Flight Crew : First Officer

Qualification.Pilot : Commercial
Qualification.Pilot : Instrument

Person : 3

Affiliation.Government : FAA
Function.Controller : Non Radar
Qualification.Controller : Non Radar

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Altitude Deviation : Excursion From Assigned Altitude
Anomaly.Non Adherence : Clearance
Anomaly.Other Anomaly.Other
Independent Detector.Aircraft Equipment.Other Aircraft Equipment : Unspecified
Independent Detector.Other.Flight CrewA : Unspecified
Resolutory Action.Flight Crew : Declared Emergency
Resolutory Action.Flight Crew : Overcame Equipment Problem

Assessments

Narrative

BOTH ENGS LOST PWR TO APPROX 1-2-1.3 EPR-IAS BLED TO APPROX 220 KTS. MACH .610 (FROM .760). AN IMMEDIATE ATTEMPT WAS MADE TO CONTACT ZMA FOR A LOWER ALT (290). UNABLE TO CONTACT ATC IMMEDIATELY DUE TO FREQ CONGESTION. DSNDED ANYWAY TO FL320 BECAUSE OF IMPENDING **STALL BUFFET**. AT FL320 CONTACT WAS ESTABLISHED WITH MIAMI ATC ADVISING THEM OF THE SIT. BY FL320, PWR WAS RESTORED (AFTER USE OF ENG ANTI-ICE) AND CLB BACK TO FL330 WAS ACCOMPLISHED, WE WERE IN THE CLR AT THE TIME OF THE PWR LOSS. APPROX 15-20 MINS EARLIER ENG ANTI-ICE HAD BEEN USED DUE TO TROPICAL TSTM ACTIVITY AND VISIBLE MOISTURE AS CIRRUS CLOUDS, AND AS PER MD83 PROCS. FUEL HEAT WAS ALSO APPLIED, HOWEVER, THERE WAS NO ANNUNCIATOR PANEL WARNING INDICATING A NEED FOR FUEL HEAT. IT WAS NOTED THERE WAS AN APPROX 15 DEG FUEL TEMP DISPARITY BTWN THE L (PLUS 12 DEG CENTIGRADE) ENG AND THE R (MINUS 30 DEG CENTIGRADE) ENG. THE FLT PROCEEDED ON TO SJU WITHOUT FURTHER INCIDENT. JET FUEL CTLRS? ENG ICE IN CLR AIR? BERMUDA TRIANGLE? CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING INFO: EVEN AFTER 3 MONTHS PASSAGE OF TIME. THE RPTR DOES NOT KNOW WHAT THE PROB WAS. IT MIGHT HAVE BEEN THE PERFORMANCE MGMNT SYS BEING IN THE 'PERFORMANCE MODE' AND THEN PARTIALLY FAILING, OR THE BERMUDA TRIANGLE. TURNING ON THE ENG ANTI-ICE BROUGHT THE ENGS BACK TO PWR.

Synopsis

PARTIAL PWR LOSS ON BOTH ENGS.