Flightdeck Crew Alerting Issures:
An Aviation Safety Reporting System Analysis

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16. Abstract

This document describes an analysis of the Aviation Safety Reporting System (ASRS) database flightdeck crew alerting deficiencies. The ASRS database contains thousands of reports concerning or potential deficiencies, which may compromise the safety of aviation operations in the National System. This analysis searched the ASRS database for incidents of flight technical errors resulting from confusion, distraction, or annoyance associated with the sounds and lights present in the

The analysis of the ASRS reports produced six major crew alerting problem areas: 1) Distraction of 2) Missed Alerts; 3) Lack of Alerts; 4) Alert Inhibit Logic; 5) Non-distinguishable Alerts; and 6) Alerts. These problem areas results in a variety of flight technical errors, such as altitude and heading attention deviations, and aborted

The crew alerting problems indicated in the ASRS reports are examined in detail, and any pertinence the design of the Data Link system is concluded.

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FOREWORD

This report documents work performed by Crew System Ergonomics Information Analysis Center (CSERIAC) on subtask 1 out of 3 of the task entitled "Aviation Safety Reporting System Analysis." The task was a provision of an interagency agreement between the Federal Aviation Administration (FAA) Technical Center (Department of Transportation (DOT)) and the Defense Technical Information Center (DTIC). It was conducted under DOD Contract Number DLA900-88-D-0393, and the CSERIAC Task Number was 93956-19. The CSERIAC Program Manager was Mr. Don Dreesbach. The CSERIAC Task Leader was Mr. Michael C. Reynolds. The FAA Technical Program Manager (TPM) was Mr. Albert J. Rehmann, and the FAA project engineer was Mr. Pocholo Bravo.

Special thanks to all personnel at the Aviation Safety Reporting System (ASRS), at National Aeronautics and Space Administration (NASA) Ames Research Center, for their cooperation.

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EXECUTIVE SUMMARY

This document describes the first of three studies relating to the analysis of the Aviation Safety Reporting System (ASRS) database with regards to human factors aspects concerning the implementation of Data Link into the flightdeck. The ASRS database contains thousands of reports concerning actual or potential deficiencies that may compromise the safety of aviation operations in the National Aviation System (NAS). This first study searches the ASRS database for incidents of flight technical errors (FTEs) resulting from the confusion, distraction, or annoyance associated with the sounds and lights present in the cockpit - Crew Alerting. The purpose of this report is to provide basis material to guide the Federal Aviation Administration (FAA) in choosing crew alerting designs for its Data Link operations simulations.

A keyword list relating to crew alerting was sent to ASRS to be used to search the database. Reports obtained were analyzed for their applicability to the task of identifying crew alerting issues that should be addressed when designing a Data Link system. The reports considered relevant produced six major crew-alerting problem areas: (1) Distraction of Alerts; (2) Missed Alerts; (3) Lack of Alerts; (4) Alert Inhibit Logic; (5) Non-distinguishable Alerts; and (6) Multiple Alerts. These problem areas resulted in a variety of FTEs, such as altitude and heading deviations, attention deviations, and aborted takeoffs. Furthermore, many specific crew-alerting issues were determined to cause the reported problems. These issues included alerts being too loud or too low in volume, and confusion resulting from alerts being too similar and activating simultaneously. The crew-alerting problems indicated in the ASRS reports are examined in detail, and any pertinence to the design of a Data Link system is concluded.

1. BACKGROUND.

Many aviation accidents, investigated by the National Transportation Safety Board (NTSB), are caused by breakdowns in information transfer, the communication among crew members and, from a larger degree, between aircraft and ground-based control facilities. Analysis of these accident reports has resulted in many design changes, from aircraft display issues to changes in communication procedures. Nonetheless, the cause of an error is not always known, thereby robbing the research community of an explanation for such accidents. In an attempt to gain further information, the Aviation Safety Reporting System (ASRS) was established to collect anonymous accounts of incidents having safety implications that have not, necessarily, resulted in a catastrophic event. The review and analysis of the ASRS data resulted in a further understanding of the pilot/crew and controller environments, and the problems associated with each.

The implementation of digital data communications (Data Link) into the National Aviation System (NAS) is imminent, but for researchers in the Data Link community, there are still several questions that need to be answered. One topic currently receiving attention is the design of a functional crew alerting scheme for Data Link. Various aspects of crew alerting need to be investigated to aid in the derivation of a Data Link crew alerting design. Relevant questions to ask are: What type of alert is best, visual, aural, or both? Should different classes of Data Link services (advisory, strategic, etc.) have a different type of alert? Should an alerting scheme change because of the phase of flight? Also, questions regarding whether to integrate Data Link into an existing warning system, or to provide separate and unique alerts, need to be addressed. The work described herein is an analysis of present crew alerting design characteristics reported to be inefficient by members of the NAS. This analysis will hopefully provide guidance toward answering these questions.

This ASRS research will be used to augment design issues/concerns gathered throughout the Data Link research community. Specifically, this report addresses how current crew alerting mechanisms may or may not achieve the design objectives for their respective onboard systems. This information regarding present crew alerting mechanisms can be applied toward the development of a digital Data Link communications system. In addition, the information may supplement and/or support the design of future NASs.

2. INTRODUCTION.

2.1 GENERAL.

The work described herein is an analysis of information obtained from the ASRS database on a prominent research topic area: Crew Alerting. This area will be investigated to provide information for the Federal Aviation Administration (FAA) to consider when choosing crew alerting methods for its flightdeck Data Link operations simulations. Flight technical errors (FTEs) caused by confusion and distraction due to sounds and lights in the cockpit, will be identified in this report. The report will conclude with some recommendations for future work to

further investigate what specific design criteria should be included in the implementation of Data Link into the flightdeck.

The report will begin with a brief introduction describing the history of the ASRS, and its function in the NAS. Next, the procedure executed to obtain the ASRS reports is outlined. This section is a comprehensive explanation of the tasks performed to formulate this report, from the initial contact with ASRS to the receiving and analyzing of the incident reports.

The Results and Discussion section contains analyses of the different crew alerting problems reported in the ASRS reports. Six issues regarding crew alerting were most prevalent in the reports: Distraction of Alerts, Missed Alerts, Lack of Alerts, Alert Inhibit Logic, Non-Distinguishable Alerts, and Multiple Alerts. These issues are thoroughly examined as to their potential for causing FTEs. Also, a brief synopsis of specific ASRS reports is included to further explain the actual crew alerting problems experienced.

The ASRS reports, about the task of identifying crew alerting deficiencies, are categorized and briefly described in appendix A. A description of the alerting problem, and the error that resulted, is given for each report. Furthermore, the complete reports, as received from ASRS, are listed in appendix B.

Finally, a Conclusions section summarizes the findings mentioned in the Results section. The results are reiterated and discussed as to their applicability to the design of crew alerting characteristics for a Data Link system. Also, recommendations are provided for further research to investigate potential crew alerting issues, and their application to the design of a Data Link system.

2.2 ASRS DATABASE.

The ASRS was established in 1975 under a memorandum of agreement between the FAA and the National Aeronautics and Space Administration (NASA). The FAA provides most of the program funding, while NASA administers the program, and sets its policies. This cooperative safety reporting program invites pilots, controllers, and other users of the NAS to report to NASA actual or potential deficiencies involving the safety of aviation operations.

ASRS data is used to support planning and improvements to the NAS, and strengthen aviation human factors safety research. All submissions to ASRS are completely voluntary, and are held in strict confidence. Furthermore, the FAA determined that ASRS would be more effective if receipt, processing, and analysis were performed by NASA. This would ensure the anonymity of all reporters, including those involved in the incident. Consequently, this anonymity has increased the flow of information necessary for the effective evaluation of the safety and efficiency of the NAS.

The FAA offers ASRS reporters further guarantees to report safety incidents. It is committed not to use ASRS information in enforcement actions. It has also chosen to waive fines and penalties for unintentional violations of Federal Aviation Regulations (FARs) which are reported to ASRS.

The FAA's initiation of ASRS, and its agreement to waive penalties prove the importance it puts on gathering information about potential aviation safety deficiencies.

Incident reports are read and analyzed by ASRS aviation safety analysts. Each report is read by at least two analysts. Their first task is to look for any aviation hazards discussed in the reports. When a hazard is identified, an alerting message is sent to the appropriate FAA office. The analyst's next task is to classify reports, and determine the causes underlying each reported incident. Once analysis is completed, the ASRS reports are ready to be de-identified and entered into the database. The de-identification process involves generalizing or eliminating all information that could be used to infer an identity of the reporter.

3. OBJECTIVE.

The analysis contained in this report will serve as basis material to guide the FAA in choosing crew alerting methods in its Data Link operations simulations. The task takes advantage of the ASRS database, in which pilots report incidents or conditions observed in daily operations which may compromise safety of flight. Because of the anonymity associated with the reports, pilots routinely generate reports, and the resultant database is current and extensive. Therefore, the ASRS database is valuable to researchers studying problem areas. This report analyzes a search of the ASRS database concentrating on incidents of confusion, distraction, fatigue, or annoyance due to sounds or lights in the cockpit that may cause FTEs to occur.

4. PROCEDURE.

The Crew System Ergonomics Information Analysis Center (CSERIAC) analysis of crew alerting required a great deal of preliminary research before the actual task began. The initial phase of the research required making contact with ASRS, and determining how to go about conducting a search. Contact was made with an ASRS employee to discuss the capabilities of ASRS and how to initiate a search. A keyword list dealing with crew alerting had to be sent to ASRS to begin the search.

A list of broad keywords was developed by the CSERIAC FAA staff from previous knowledge in the area of crew alerting. These keywords were then used to search the Wright-Patterson Air Force Base Technical Library's database of scientific research reports. The Library has a variety of informational databases containing thousands of scientific research reports; i.e., National Technical Information Service (NTIS), Aerospace, Compendex, etc. The broad keywords were used to search the database, and produced hundreds of reports dealing in crew alerting topics. A quick review of these reports produced a comprehensive list of keywords that could be used in the ASRS search on crew alerting. This list was scrutinized and any overlapping or unnecessary keywords were deleted to generate a more specific list.

Finally, a roundtable discussion with group members was used to arrive at a single keyword list to best search ASRS for information on problems associated to crew alerting. Figure 1 contains the keyword list as it was sent to ASRS. After receiving the keyword list, ASRS needed 4 weeks to provide the results.

Alert(s)(ing) **AND**

- Visual
- Auditory
- Aural
- Distinction
- Discrimination
- Recognition
- Confusion
- Distraction
- Mechanisms
- Message
- Systems
- Annoyance

ACARS
SELCAL
EICAS
TCAS

Warning **AND**

- Indicators
- Systems
- Signals
- Caution, Warning & Advisory

Message **AND**

- Notification
- Annunciation

Annunciation **AND**

- Systems
- Signals
- Status

FIGURE 1. ASRS KEYWORD LIST

Upon receipt of the ASRS search results (492 reports), the reports were analyzed and rated according to their relevance to the task of looking for deficiencies in present day crew alerting methodologies. All reports were analyzed by at least two members of the CSERIAC FAA staff. All reports that were rated irrelevant by both reviewers were disregarded to reduce the number of reports to be critically analyzed. The remaining reports were further analyzed to assess exactly what the actual crew alerting problem was in each particular incident. All reports containing incidents of errors caused by crew alerting deficiencies were singled out and used to report the results of the ASRS search.

5. RESULTS AND DISCUSSION.

5.1 ASRS SEARCH.

The ASRS search for crew alerting problem areas proved to be futile and informational. Out of the 492 reports received from ASRS, only 54 were deemed relevant to the task of identifying problems associated with crew alerting methods, an 11 percent hit rate. There were many factors that may have contributed to the lack of relevant reports received. One factor affecting the hit rate might have been the fact that ASRS receives reports voluntarily, and not all cases of crew alerting problems are reported. As a result, ASRS does not receive a representative sample of all crew alerting incidents that occur. Furthermore, many crew alerting problems may not be significant enough to the pilot to warrant writing a report to ASRS.

Another factor was the ASRS database itself. It is an enormous source of information on potential deficiencies and discrepancies in aviation safety. At the time of this search, the ASRS database contained 48,193 full-form reports received since January 1, 1986. Two factors bias the analysis results obtained from the reported incidents in the database. One of which had a positive affect on the crew alerting database search, and the other had a negative affect.

First, 96 percent of all reports received are from pilots, and only 3 percent from controllers. This aided the search on crew alerting by practically eliminating any chance of receiving reports on controller alerting problems. The second biasing factor of the database is that 65 percent of all ASRS reports describe a loss in aircraft separation due to altitude or track deviation. The exceedingly high occurrence of these problems is caused by the computerized error detection capabilities at FAA Air Route Traffic Control Centers (ARTCCs). The reports received from the crew alerting ASRS search were practically all incidents of loss of separation due to altitude or track deviations. Many of these incidents just made reference to an alert, and provided no further information on the alert characteristics or problems associated with the alert. This information could not be used in the analysis. Therefore, the hit rate of relevant incident reports was negatively effected.

ASRS database usage guidelines also affected the hit rate of reports received. One guideline is that all searches must be linked to a major system in the aircraft, for example, the Engine Indication and Crew Alerting System (EICAS), Aircraft Communication Addressing and Reporting System (ACARS), and so on. This search guideline most likely affected the results obtained from the crew alerting search. Given the keyword list shown in figure 1, ASRS analysts searched their database only for keywords linked to major aircraft systems. The search was limited to looking for the following character strings: Alert(s)(ing), Confusion, Distraction, or Caution, Warning & Advisory. These character strings had to be linked with either ACARS, Selective Call (SELCAL), Traffic Alert and Collision Avoidance System (TCAS), or EICAS to be found in the search. This ASRS search guideline may have left reported crew alerting safety incidents out of the search results.

Another guideline is the limit on the number of reports they will send to the customer. ASRS typically will send only about 400 - 500 reports no matter how many were found that met the desired search requirements. In the case of a broad topic such as crew alerting, with potentially thousands of relevant reports, a researcher has to work with reports deemed pertinent by ASRS. These reports may not be a representative sample of the entire group found in the database search. This practice could potentially leave out hundreds of applicable reports, given the large number in the database.

5.2 ASRS REPORT CLASSIFICATION.

The reported safety incidents found to be pertinent to crew alerting problems are summarized in table form in appendix A. This information is useful for the task of trying to identify certain problems with current crew alerting methods. However, this information cannot be used to infer the prevalence of a certain problem within the NAS. As stated before, ASRS reports are received

on a voluntary basis and are subjected to reporter bias. Therefore, they cannot be considered as a representative sample of the full population of safety incidents that occur.

The table classifying the crew alerting problem areas contains six columns of information describing the alerting problems depicted in the reports. The alerting problems found in the table are grouped into those six major problem areas. Furthermore, many of the ASRS reports indicated more than one of the specified alerting problem areas, and therefore are listed in the table more than once. The ACCESS NO. represents the accession number assigned by ASRS to identify each report. This number can also be used to locate each report in the appendixes of this document. They are listed in numerical order within each major problem area. The DATE identifies what month/year the incident was reported to ASRS. The TYPE column states what type of aircraft is involved in the incident. In an attempt to de-identify the reports, ASRS uses category codes to apply to certain size aircraft. The crew alerting search of the ASRS database concentrated on the following aircraft categories:

MLG - medium large transport (60,001-150,000 lbs)
e.g. - Boeing 737, Fokker 100, MD 87

LGT - large transport (150,001-300,000 lbs)
e.g. - MD 88, Boeing 757, Airbus A320

HVT - large transport (over 300,000 lbs)
e.g. - Lockheed L-1011, DC 8

WDB - wide body (over 300,000 lbs)
e.g. - Airbus A340, Boeing 747, MD 11

The majority of the reported incidents involved MLG aircraft. This high percentage of MLG aircraft is not surprising given the fact that the majority of the commercial transport aircraft flying in the NAS fall into this category. Figure 2 shows the different aircraft types, and their respective percentage of occurrence, within the analyzed ASRS reports.

The PHASE of flight is also recorded in the table for each incident, and indicates in what environment the aircraft was flying when the incident occurred. The next two columns in the table deal with the specific crew ALERTING INCIDENT experienced, and what RESULTING ERROR took place as a consequence. Further information regarding any of the reports found in the table can be found in appendix B, which contains the complete reports as received from ASRS.

The specific crew alerting problem areas will be introduced and analyzed in detail in section 5.3. As for the resulting errors that were experienced by the reporters, one specific error was experienced in the majority of the reports. Altitude deviations were experienced in 58 percent of the 54 reports that were used for this analysis. This high percentage of altitude deviations is not surprising given the overall percentage (65 percent) of these types of errors found in the ASRS database. As stated in section 5.1, this large number of reported altitude deviations is caused by

the computerized error detection capabilities at FAA ARTCCs. The reported crew alerting deficiencies caused a variety of different FTEs. The major errors, along with their percentage of occurrence, are shown in figure 3. The 20 percent corresponding to ‘OTHER’ resulting errors represents a variety of specific errors that were caused by the alerting problems. The table in appendix A can be referenced if further information regarding these 'OTHER' resulting errors is desired.

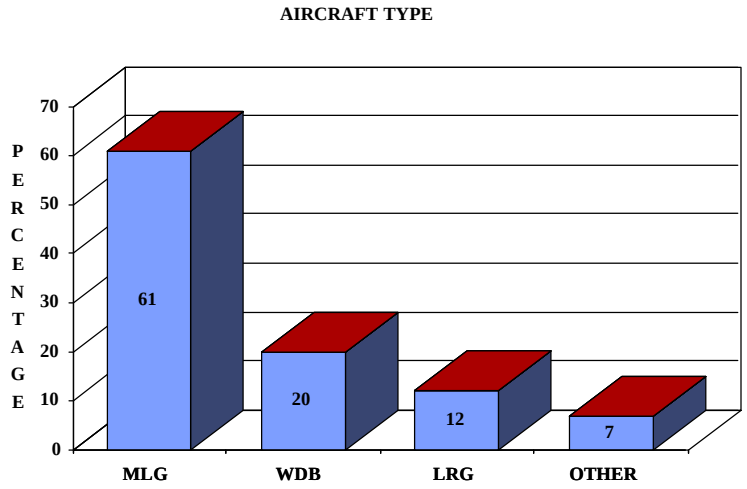

FIGURE 2. ALERTING INCIDENT AIRCRAFT TYPE

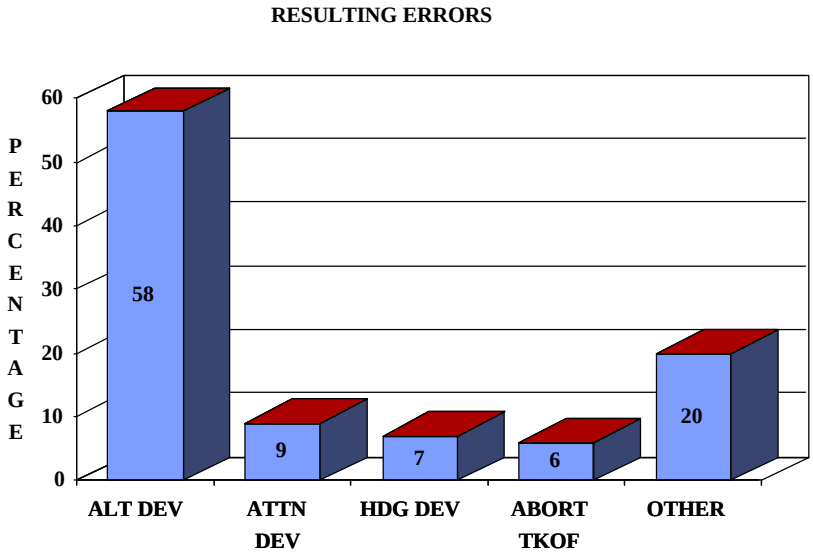

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FIGURE 3. CREW ALERTING RESULTING ERRORS

5.3 MAJOR CREW ALERTING PROBLEM AREAS.

While taking into account the possible lack of representation to the entire NAS, there were some significant crew alerting problem areas revealed in the ASRS database search. The majority of the incidents can be categorized into six different groups of crew alerting problems (figure 4): (1) Distraction of Alerts; (2) Missed Alerts; (3) Lack of Alert; (4) Alert Inhibit Logic; (5) Non-Distinguishable Alerts; and (6) Multiple Alerts. Each one of these categories will be individually analyzed and discussed, to define the actual crew alerting problems reported. After the results of the ASRS search are discussed, conclusions will be drawn as to their applicability to the development of crew alerting characteristics to be considered for Data Link.

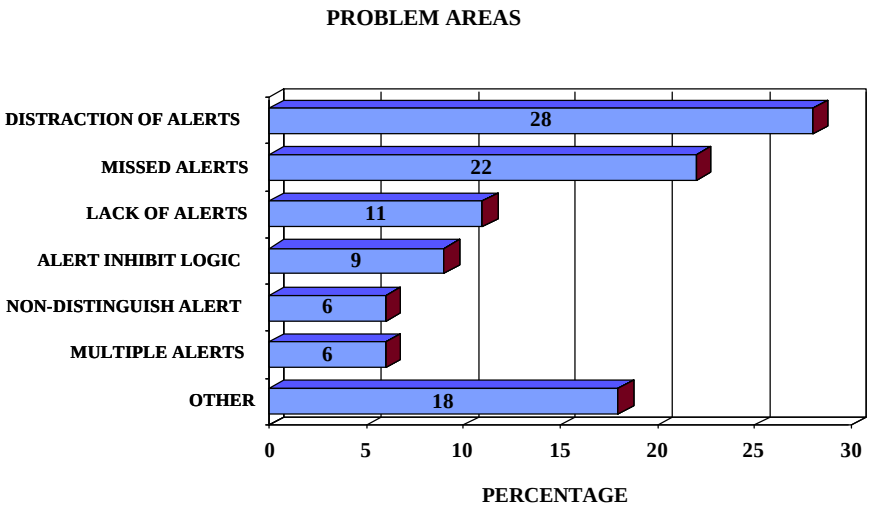

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FIGURE 4. CREW ALERTING PROBLEM AREAS

The following sections will discuss the crew alerting deficiencies found in the analysis of the ASRS reports. The first six sections will address the major groups of crew alerting problems found. The seventh section describes a few other crew alerting problems. Examples from specific reports are included to help explain the actual crew alerting problem.

5.3.1 Distraction of Alerts.

The majority of the crew alerting problems found in the ASRS search indicated that the distraction experienced during the activation of an alert resulted in the occurrence of the reported safety incident. The bulk of the distractions were mainly a result of aural alerts that had volumes set too high. Upon activation, these loud alerts completely disrupted the crew's concentration on flight responsibilities, and in many instances, they prohibited the crew from performing tasks necessary to maintain a safe flight. Examples of cockpit alerts that were reported to have unusually loud volumes are the TCAS, Ground Proximity Warning Systems (GPWS), Landing Gear Warning, and Overspeed Warning alerts. These alerts are definitely flight critical, but there

were many instances reported when their activation was premature given the situation, and the affect they elicited in the crew was as dangerous as the condition responsible for activating the alert.

The loud volume associated with these alerts caused two different types of situations that lead to the occurrence of FTEs. First, the immediate distraction of the loud alert caused a startling affect in the crew, and they would immediately attend to this alert disregarding any other responsibilities. This diversion of attention could be hazardous if the crew is busy with a complicated maneuver during a critical phase of flight, or looking out the window during heavy traffic. The loudness of these types of alerts command immediate attention by the crew, as needed when their respective alerting condition is met. The problem is that these alerts have very wide parameters for activation, and any time conditions are met, the alert is activated. This leads to occasional activation of these alerts before the situation warrants, and hence a distraction.

In ASRS report #180629, the crew's immediate attention to an alert caused an FTE to occur. The incident involved a loud TCAS alert activation, and while the crew was attending to the alert, they experienced a heading deviation. The incident occurred during climbout after a routine departure. The crew received a loud TCAS traffic advisory; the urgency conveyed by the loudness of the alert caused both pilots to immediately try to visually locate the traffic. By the time they had determined that they were not in a see and avoid situation, they had overshot their clearance heading. Reporter states that the TCAS system, with its preset volume level, can be more of a distraction than a help in some situations. This incident is a good example of a loud alert commanding immediate attention from the crew, before the situation calls for such attention. The immediate attention given to the alert causes an FTE that could potentially be more dangerous than the condition that activated the alert initially.

The second type of situation that is experienced due to loud distracting alerts is the confusion associated with missed communications. During the activation of these alerts, the crews report they are unable to communicate with each other, or with Air Traffic Control (ATC) due to the loud volume levels associated with these alerts. As mentioned previously, the wide parameters of activation that presently accompany these alerts contribute to their distraction in the cockpit. These wide parameters increase the amount of time the alerts are activated in the cockpit. Once these alerts are recognized and attended to by the crew, this constant activation unnecessarily increases the amount of time where communications are prohibited. This type of situation can lead to heading and altitude deviations, as a result of instructions being missed due to an extremely loud alert.

An example of a loud alert constantly activating and prohibiting communications was reported in ASRS report #196984. The incident involved a crew on approach experiencing multiple loud TCAS alerts that prohibited listening to ATC, which resulted in missing instructions from ATC. The approach was being made in an MLG aircraft, with numerous light aircraft in the area. The crew was constantly out-the-window scanning for traffic that was reported in the area.

While on approach, the crew received several TCAS traffic advisories, and three TCAS resolution advisories that increased the workload during this critical phase of flight. The loud volume of the

numerous TCAS alerts compromised the crew's ability to receive and follow ATC instructions. Consequently, the crew missed a heading change instruction, which resulted in a heading deviation during approach. The reporter stated that the constant chatter of TCAS messages adds an element of interruption and confusion to the flightdeck, while preventing pilots from receiving timely verbal commands from ATC.

The distraction experienced due to loud alerts has the potential, as shown above, to result in hazardous situations. Distraction from flight critical responsibilities and missed ATC communications during high workload phases of flight can jeopardize overall flight safety. These specific loud volume alerts notify the crew to important flight critical conditions being experienced in the aircraft. This explains the need for the alerts to be loud enough to assure attention of the crew at any time during a flight. On the other hand, the constant activation of these loud alerts sometimes causes an unnecessary distraction, given the situation being experienced. Further research is needed to determine if narrowing the parameters for activation, or varying the volume levels given the urgency of the situation, would decrease the reported distractions experienced as a result of these loud volume alerts.

5.3.2 Missed Alerts.

The ASRS database search provided numerous examples where a safety incident took place because of an alert being missed. The reported incidents involved aural alerts not being heard due to how loud the alert was upon activation, and the amount of workload, distraction, or confusion being experienced at the time the alert was missed. The distraction associated with increased workload also resulted in many visual only alerts being missed by the crew.

The characteristics of an alert have a major affect on its ability to be detected. An aural alert may be too soft, or the actual sound may be masked by other sounds experienced within the cockpit. Aural alerts need to be easily recognized during high workload times, as well as normal operations. One problem that contributes to alerts being missed is the lack of standardization in the aviation industry. Every manufacturer has their own set of guidelines as to the characteristics aural alerts should have. Furthermore, some models within the same manufacturer have different characteristics for the same function alert mechanism.

In the ASRS report #54213, the reporter cites that an alert was not heard because it was not loud enough to attend to. The crew was discussing an ACARS message, when an altitude alert warning was activated. The crew also stated that the alert was not consistent with other altitude alerts in their company's fleet. The lack of a single standard for aural alert characteristics is an important problem that needs to be addressed by the NAS, as a whole. How can the crew be expected to react expediently to an alert situation when they are not completely confident, due to lack of standardization, what each alert is indicating, and what action to take?

The safety incident reported in ASRS report #223811 describes an alert being missed due to additional workload. The crew was attending to multiple flight responsibilities while descending to assigned altitude. Furthermore, they were in a high traffic area, and the entire crew was watching for traffic instead of having someone scanning the instruments. During this period of

high workload, the crew missed the aural altitude alert, and experienced a loss of legal separation with traffic before realizing and correcting the problem. This kind of problem is reported frequently, and has the potential to result in a dangerous situation for the flight crew.

Alerts were missed during normal operations, and during high workload, because they were not loud enough to get the crew's attention. This problem needs to be further examined in the research community to determine if any change in the loudness of an alert would improve the situation. In terms of missed alerts during normal operations, a louder alert may cause a startling affect to the flightdeck, or it may prove to increase detection abilities. The case of a louder alert during times of additional workload may either increase detection or prove workload requirements would require too much attention to detect the alert at any level of loudness. In any case, research is necessary to determine specifications for the characteristics of alerts, and a process of total manufacturer standardization of alerts should be set up.

The majority of the reported missed alerts were aural in modality, but there were also incidents where visual alerts were missed as well. Visual type alerts consist of simple annunciator lights, and include warning messages on the Flight Management Computer (FMC). These alerts are generally missed as a result of one of two reasons. First, some visual alerts are located outside the normal field of view within the cockpit, and unless the crew is looking specifically for that alert, it may be difficult to recognize. Secondly, the majority of missed visual alerts are a result of the crew's workload while attending to out-the-window responsibilities. The crew cannot attend to two different visual locations simultaneously, therefore the heads down scan of instruments and annunciators is diminished. The following example describes an incident where a visual alert is missed.

In ASRS report #189853, a visual annunciator on the Overhead Annunciator Panel (OAP) was missed by crew. The crew was busy performing accelerated preflight checklists, and starting to proceed with takeoff duties. As a result, they missed the cabin door open light on the OAP. While the First Officer was executing takeoff, the Captain reached up to turn anti skid on, and finally caught the cabin door open annunciator. The takeoff was aborted at high speed, and the open cargo door had left a trail of luggage on the runway. This visual alert was missed due to its location, and the crew's attention out-the-window during takeoff. If visual-only alerts are to be used to indicate a condition to the flight crew, they must be located in a position where they can be easily detected if their function is flight critical. An easier way to decrease the chance of important visual alerts being missed is to design an accompanying aural alert to backup the visual alert. There are too many instances where crew's visual workload is at a maximum, and little attention can be given to other locations. In these types of situations, an aural alert could be used to alert the crew, since the crew can still attend to an aural alert while visually out-the-window.

To reiterate, many alerts are missed by the flight crew during instances of high workload and distraction. The main concern expressed in the ASRS reports is that aural alerts are being missed due to their individual characteristics. However, the problems associated with visual-only alerts being missed should be given some attention as well, as they also can lead to a hazardous situation in the event they are not attended to sufficiently. These deficiencies need to be further addressed,

and any changes that could possibly decrease the number of alerts being missed should be implemented into existing and future alerting designs.

5.3.3 Lack of Alert.

Many of the reported safety incidents found in the search of the ASRS database stated that a lack of an alert caused the incident. These incidents identify a potentially hazardous situation where an operation on the airplane had changed, or a function or condition had been set incorrectly, and no alert was present to indicate as such. Depending upon the severity of the situation, the lack of an alert to notify the crew could be disastrous.

One item to consider when examining the lack of alerts is that many of the safety incidents occurred due to pilot error in the first place. These errors occurred when incorrect information was entered regarding function settings, flight plans, and so on. This is a difficult area to address because the alert would not be necessary if checklists and procedures were carried out correctly. On the other hand, if an error can be entered into the system that could lead to a hazardous situation, one would expect there to be a warning or alert to advise the crew.

An example of this problem was reported in ASRS report #118803. Due to high weight and temperature, a flaps 5 "Improved Climb" takeoff was to be utilized. All bug speeds were set for a flap 5 takeoff. During the takeoff checklist, the pilot confirmed the flaps were set at one degree, an obvious mistake. Halfway down the runway, the pilot realized the error, and adjusted the flap setting to five degrees in time for a normal takeoff. A serious problem with the takeoff could have resulted if the flap setting had remained at one degree.

An error in entering information caused another safety incident to be reported in ASRS report #181623. In this example, the crew was flying a common route, when they received clearance for the next leg of the flight. The clearance received and entered into the Flight Management System (FMS) was not the same as the filed flight plan already programmed into the system. The familiarity with the route allowed the crew to enter a different route clearance, while believing it was the one always flown on this flight and already filed in the FMS.

Both of these aforementioned safety incidents were caused by pilot error. Pilot complacency in performing checklists and entering data resulted in a safety incident being experienced. It is impossible to think that an alert can be designed for all instances of pilot error. Nonetheless, some type of an alert is obviously necessary when a function setting or information is entered erroneously, given the severity of problems that could occur.

A second area reported to cause safety incidents was the lack of an alert to indicate when aircraft operations had changed modes. Pilots indicated that many times aircraft systems, like the autopilot, would change modes without sufficiently alerting crew. Many of these types of occurrences do have an annunciator light to indicate which system mode is functioning. Given the distractions and workload experienced during flight, there needs to be a more significant alert to advise crew of changes in operation.

ASRS report #77914 describes a safety incident caused by lack of an alert to notify aircraft of operational changes. In this report, the aircraft was on autopilot during climbout to clearance altitude. The autopilot had switched to the Control Wheel Steering (CWS) pitch mode, and the aircraft continued to climb through the cleared altitude. The crew was busy with other duties, and did not notice the small yellow CWS pitch warning on the Electronic Attitude Director Indicator (EADI). The error was corrected, and the aircraft was returned to assigned altitude without incident. This problem could have been negated with a more significant type of alert being used to notify crew of change in autopilot modes.

The last area reported concerning the lack of an alert examines the need for aural alerts to supplement various visual alerts. The reported safety incidents stated that during times of high workload, while continually scanning for traffic, visual alerts sometimes do not get noticed right away. In the event of a critical visual alert, this delay could lead to a hazardous situation.

In ASRS report #211433, the flight crew missed an altitude on descent due to a visual message being missed. The crew was issued a clearance and entered it into the FMC, but failed to enter the altitude in the Mode Control Panel (MCP). As a result, they received a command in the FMC message pad to reset the MCP, but never acknowledged it. A brief aural warning or chime to announce flight critical messages could alleviate this problem.

The lack of alert problem associated with crew alerting is a complicated area to investigate. On one hand, the flight crew should be aware of any potentially dangerous situations that may arise during flight. But, on the other hand, there can't be an alert for every possible noncommon incident that may arise. Furthermore, the pilot community has frequently said that "there are already too many bells, whistles, and alert messages that inundate the cockpit." Further research needs to be performed to examine the pros/cons of addressing any of the previously-mentioned lack of alerting problems in the development of future crew alerting methods. Each problem dealing with the lack of an alert could be eliminated if the flight crew were able to have complete situation awareness at all times. At present, with all the tasks for which the crew is responsible, and the workload under which they perform, it is impossible to be aware of all aircraft operations at all times. Any type of alert that could draw attention to a possible problem, while not adding to confusion, would enhance the crew's ability to fly safely.

5.3.4 Alert Inhibit Logic.

The ASRS search identified numerous safety incidents that described hazardous situations resulting from the sounding of transient alerts during critical moments in flight (takeoffs and landings). Many noncritical alerts, such as a SELCAL or ACARS printer chime, were reported to have activated at critical times inflight, and the resulting distraction caused FTEs to occur. Noncritical alerts should be subjected to a designed inhibit logic that would ensure no activation of transient alerts during critical flight maneuvers.

The activation of transient alerts during critical phases of flight can elicit hazardous situations on the flightdeck. For example, during a difficult landing, while under extreme workload, a transient alert can be easily misinterpreted, causing the crew to possibly react inadvertently and jeopardize

the safety of the flight. Furthermore, the distraction associated with attending to a noncritical alert during a critical approach or landing diverts the crew's attention from more important responsibilities. Either of these situations could unnecessarily lead to hazardous flying conditions. ASRS report #92828 cites a scenario where a transient alert was misinterpreted as a more severe alert during a critical phase of flight. During takeoff roll at about 90 knots, the crew received a SELCAL chime and misinterpreted it as a cabin emergency. The takeoff was aborted at 110 knots, and while braking the aircraft experienced brake overheating and had to return to the gate for inspection. This incident resulted when a noncritical SELCAL alert activated during a high workload phase of flight. Due to the high workload experienced during the takeoff, the alert was misinterpreted as a cabin emergency chime. These types of situations can cause the crew to carry out inadvertent evasive actions that may be dangerous to the safety of flight.

An incident where the activation of a noncritical alert distracted the crew from their primary duties was reported in ASRS report #189654. The crew was descending for approach in bad weather conditions with an international controller at ATC. The First Officer was busy with FMC duties associated with new arrival and new approach instructions. The aircraft descent was initiated late, and the Captain elected to hand fly the aircraft to meet crossing restrictions. While under this heavy workload, the crew was distracted by the autopilot off alarm. The crew was managing the stressful situation during approach, but the distraction of the noncritical alert caused the crew to divert attention from the most critical responsibilities of flying the approach. Consequently, the aircraft altitude was not being monitored, and the crew experienced an altitude deviation. This safety incident occurred when a noncritical alert distracted the crew during a high workload phase of flight (approach to land). These situations when the crew's attention is diverted from their primary tasks can elicit serious FTEs.

The incidents just discussed are examples of problems that might be eliminated with the implementation of a well designed alert inhibit logic scheme. During a critical time of flight, such as takeoff or landing while experiencing extreme workload, the pilot needs only the pertinent information for the task at hand. Transient alerts that are not flight critical only hinder the pilots' ability to perform their tasks, and may result in an extremely hazardous situation taking place.

5.3.5 Non-Distinguishable Alert.

The search produced another group of alerting problems that dealt with the ability to distinguish between different alerts. Several reports were found where an alert was sounded and heard, but was interpreted incorrectly, causing a safety incident. These interpretation problems are very dangerous because of the actions that may be taken in response to a misinterpreted alert. Most alerts are distinguishable to some degree, but there should be a very definite degree of difference between alerts that are flight critical and those that are not. The reported safety incidents found in the ASRS database search describe situations where noncritical and critical alerts were non-distinguishable.

In ASRS report #153103, the reporter had trouble recognizing an alert because it was perceived as being too similar to another alert. The crew experienced a chime that went off continually and the ACARS printer light was flashing. They interpreted this situation as a printer malfunction and

disabled the ACARS printer. The chime stopped for a few seconds then resumed in the same manner as before. At this time, the alert was finally realized as four chimes, specifying a cabin emergency. It turned out there was an oven fire in the galley, and the flight attendant had been trying to contact the flight crew for some time. This is an example of a critical alert being interpreted as a transient nuisance message due to the similar sounding alerts. This type of situation could cost the crew precious seconds in reacting to a flight critical alert.

The ASRS report #92828, mentioned in section 5.3.4, indicated a safety incident where a noncritical alert was misinterpreted as a critical alert. During a high-speed takeoff, the crew received a SELCAL chime and thought it was a cabin emergency chime. The transient alert was not distinguishably different from the cabin emergency alert, resulting in unnecessarily aborting a takeoff, overheating the brakes, and necessitating a return to the gate for inspection. This example resulted in evasive emergency actions being taken inadvertently due to a noncritical alert being misinterpreted. These evasive actions, although taken in response to apparent emergencies, can put aircraft in other precarious situations.

Many alerts use the same chime in different variations to alert the crew of both critical and noncritical problems. It would be ridiculous to suggest that all possible situations have a different type of alert mechanism (bell, chime, horn, etc.). Considering this improbability, perhaps further research in the area could elicit what type of distinction is necessary for an alert to be easily distinguished. Then alerts could be categorized as flight critical or noncritical, and one of the proven distinguishable alerts could be assigned to each. At a minimum, there definitely needs to be a distinction between the criticality of an alert. This would reduce the situations of misinterpretation that potentially could cause the most danger to aircraft operations.

5.3.6 Multiple Alerts.

The last major group of crew alerting safety incidents indicate the problems associated with multiple alerts being activated simultaneously. These reported incidents had many different resulting errors and problems, but all were caused by multiple alerts and messages activating at the same time. The problem with multiple alerts can be hazardous if the situation becomes unmanageable, and the most serious system malfunctions are not detected or not acted upon.

The main problem experienced as a result of multiple alerts was caused by the confusion associated with reacting to multiple alerts. The confusion was exacerbated by a number of factors, all of which can be attributed to the multiple alerts. Initial confusion is a result of trying to recognize all the different alerts. Then, the task of deciphering the various alerts adds more confusion. The final task of reacting to the different alerts, and trying to address any critical malfunctions, can elicit total confusion on the flightdeck. Furthermore, all this attention to the multiple alerts results in less time spent on the most important task of flying the airplane.

In ASRS report #66046, the safety incident reported was experienced because of the confusion attributed to multiple alerts. The report indicates that numerous hydraulic and electrical abnormal indications occurred when the autopilot was disconnected by an elevator servo input. EICAS messages filled the upper cathode ray tube (CRT), and three maintenance messages filled the

lower CRT. Three different lights illuminated on the overhead panel. The alert messages appeared so rapidly they could not all be understood and recognized. While trying to interpret the various alerts and messages, the crew allowed the aircraft to descend past its cleared altitude by 500 feet before responding to, and correcting the deviation. The workload associated with receiving multiple alerts can become dangerously high and conceivably can lead to hazardous situations.

Another problem reported in the ASRS reports concerning multiple alerts was the lack of procedures to handle the confusing situation. Granted, there can't be a procedure for every separate combination of multiple alerts, but there could be a general procedure to step the crew through a multiple alert situation. Almost all systems and functions on the flightdeck presently have a procedure to follow when an alert or advisory warning is activated. When multiple alerts arise, the crew needs assistance as to which alerts to react to first, and how to determine which alerts are flight critical and which are not. Any assistance to the crew in this time of high workload would improve the crew's ability to react to alerts, and decrease the chances of missing an alert or experiencing a flight critical error.

The lack of a procedure to address multiple alerts was reported in ASRS report #237910. During this safety incident, the crew received multiple aural and visual warnings. While trying to decipher all the problems, the crew checked the pilot's handbook for a procedure to assist in correcting problems. Inspection of the handbook produced no checklist procedure for the problem they were having with the "landing gear door lock switch," nor was there a procedure for reacting to the multiple alert situation they were experiencing. Consequently, the crew had to return to the airport for inspection of the problem. In this case, the lack of procedure was not critical to the overall safety of the flight. However, if multiple critical alerts are activated simultaneously, a lack of procedure could severely affect safety.

These two aspects of multiple alert situations are definite safety issues that can affect the performance of the flight crew. Alerts can be missed, reacted to inefficiently and ineffectively, and critical flight tasks can be forgotten during a situation comprising multiple alerts and messages. The problems associated with multiple alerts must be examined further than just analyzing pilot reports. Further research may be able to provide ideas as to how to eliminate situations of multiple alerts, or provide ways to better deal with the situation. Research might suggest prohibiting transient or noncritical alerts when a flight critical alert is activated. Another suggestion research might elicit is a classification scheme for alerts. This would allow only the most critical alerts to be activated in the event of multiple alerts. As the critical alerts were acted upon, the others could then announce themselves to the crew.

Further research in these areas may prove that these ideas would not decrease confusion during multiple alerts, or that these suggestions may not be technically feasible. However, taking into account potential situations that could and have arisen in the NAS, the problem concerning multiple alerts need to be further investigated before additional systems with more alerts and messages are integrated into the flightdeck.

5.3.7 Further Crew Alerting Issues.

Most of the reports found to be pertinent in the ASRS database search fell into one of these six categories. There were, however, a few other reported incidents that contained relevant crew alerting problems that need to be examined.

The problem of distinguishing alerts was the inconsistency within fleets. In ASRS report #117785, the reporter states that the altitude alert in the airplane being flown was different from the alert used in the 17 other models included in the company's fleet. Given the potential danger associated with misinterpreting an alert, this inconsistency should not take place. All alerts pertaining to the same function or system should be designed identically within any manufacturer. This type of policy or design strategy would help provide a greater degree of safety within the flightdeck.

The crew alerting reports described incidents where the alerts were not descriptive enough to provide the flight crew with the total information regarding the problem. Most alerts on the flightdeck have a checklist to follow once an alert has been issued. The crew cycles through the checklist to determine the problem. Many times, these procedures do not provide the crew with enough information regarding the aircraft condition being experienced due to an alerting situation. The procedure will indicate the specific malfunction (stuck valve, inoperable pump, etc.) that caused the alert, but does not always convey the affect of the malfunction on aircraft conditions. These types of incidents, where the situation is worse than detected by the alerting system, could result in a fatal catastrophe. By the time the flight crew realizes the severity of the problem, it may be too late for any emergency actions.

An incident similar in nature was reported in ASRS report #210730. This incident started with the Turbine Case Cooling light alerting the crew of a problem. The checklist informed the crew that they could expect a higher rate of fuel consumption. The warning light in question only warned the crew that a valve in the fuel system was not in the position it should have been. The crew experienced increased fuel consumption, but did not declare an emergency after determining they still would have enough fuel to make destination. Upon landing, the tower reported smoke and fuel leaking from #1 engine. Inspection revealed a small fuel leak in the engine. This incident could have been more severe if a major fuel leak had developed. Furthermore, there was no pilot action required for the alert that was presented to the crew, even though the resulting situation was definitely an emergency.

The search produced incidents where bright sunlight made it difficult for the crew to recognize and respond to an alert. Many of the visual alert messages and annunciators become washed out when direct sunlight invades the flightdeck. As described in ASRS report #201659, master caution alerts illuminated and the crew tried to scan the overhead annunciation panel for any system malfunction lights, or any other evidence of aircraft malfunction. The panel was washed out by bright sunlight, and the crew had to spend extra time scanning for the malfunction. The crew could not detect any illuminated alerts, and it turned out that the master caution light was illuminating inadvertently. While the crew was straining to identify the apparent system malfunction on the washed out overhead panel, they experienced a heading track deviation. In the

event of an actual system malfunction, the crew needs to receive the information as soon as possible. Any delay in interpreting the alert due to sunlight could be hazardous.

5.4 INTERPRETATION CAVEAT.

The results obtained from this ASRS search on crew alerting provided substantial information on operational problems experienced and reported by pilots flying in the NAS. Many apparent deficiencies and discrepancies with current crew alerting methods were indicated in the reports received from ASRS. Before any recommendations or design standards are to be developed based on this information, one must remember the nature of the ASRS database, and the results obtained. The reports are submitted voluntarily and are subject to self-reporting biases.

Furthermore, the low hit rate obtained during this search, caused by a number of factors mentioned at the beginning of the RESULTS section, affects the generality of the results. Finally, the crew alerting problems found in the reports and discussed previously should not be used to infer a prevalence of that type of problem within the NAS.

6. CONCLUSIONS.

This task required a search of the Aviation Safety Reporting System (ASRS) database for incidents of aviation safety being jeopardized due to crew alerting methodologies. The results obtained are to be used to determine issues regarding crew alerting that, with further analysis, might be used in developing design criteria for the Federal Aviation Administration's (FAA) Data Link operations simulations. The results and supplemental discussions are based solely on the information deduced from the ASRS reports. In no way are any of the suggestions mentioned based on scientific research or present standards with regards to crew alerting.

Many of the crew alerting problems mentioned in this report have already been concluded by the research community. The design of crew alerting methodologies for Data Link is already addressing many of the problem areas reported to ASRS. Two documents in particular, FAA Advisory Circular AC No. 20-XX and SAE Aerospace Resource Document ARD50027, contain guidance material for the design of Data Link crew alerting methods that correlates with the problems discussed in this report.

The SAE document introduces a list of human engineering issues for Data Link systems compiled by the SAE G-10K Flight Deck Information Management Subcommittee. The list contains many issues that were reported as areas of crew alerting deficiencies in the ASRS reports. The capability to detect human errors was deemed important to Data Link by the G-10K committee. This problem was discussed in section 5.3.3, and ASRS reports #118803 and #181623 reported incidents where pilot error was not detected, and a safety incident resulted. Additionally, message prioritization was stated by the G-10K committee as pertinent to Data Link. An alert classification scheme was discussed in section 5.3.6, and an incident of lack of message prioritization and resulting inhibition was reported in ASRS report #66046. Another issue introduced by the G-10K committee was the need for inhibit logic capabilities in Data Link systems. The issues concerning the lack of inhibit logic to determine when certain alerts should be

deactivated is discussed in section 5.3.4. ASRS report #92828 describes a scenario where inhibit logic could have played a huge role in preventing a safety incident.

The fact that many of the crew alerting issues reported to ASRS are already recognized by the designers of Data Link systems provides support for present design strategies. However, upon analysis of the results of this ASRS database search, it was found that additional factors regarding crew alerting issues need to be examined as to their applicability to Data Link.

The majority of the reported safety incidents indicated that a distraction associated with the activation of a loud alert resulted in a flight technical error (FTE). An alert should not startle the crew upon activation, but it should insure recognition by the crew. Workload and ambient noise levels vary throughout a flight, and the ASRS results show the effects of a loud distracting alert. Therefore, serious attention needs to be addressed toward the design of a Data Link alert that will produce sufficient recognition in all circumstances. Research in the area of adjusting volume levels as a function of ambient noise may provide design criteria for Data Link crew alerting that could decrease distraction of the crew.

When examining the problem of aural alerts being missed, the deficiencies reported either the alert was not loud enough, or there was too much workload to detect the alert. Given that flightdeck workload may be increased due to Data Link implementation, one way to address this problem would be to design a louder or more detectable alert. Further research is necessary to determine if a louder alert would increase detection during heavy workload.

The reported instances where visual alerts were being missed usually resulted from increased workload and/or crew attention out-the-window. The design of a crew alerting scheme for Data Link must address the deficiencies associated with visual only alerts, if immediate attention is to be desired for certain Data Link messages. The situations reported to ASRS indicated that many instances when workload is high or crew attending out-the-window, visual only alerts are easily missed. In the event that Data Link will transmit any immediately necessary flight information, the use of an aural backup alert must be investigated.

These opinions pose an important question for researchers. All the apparent problems discussed were a result of pilot error. Pilot error will always be a factor in the cockpit, as well as in a Data Link equipped cockpit. The aviation community needs to investigate ways of detecting human error, to reduce its potential for resulting in FTEs. Also, further training of crew members might assist in the effort to reduce pilot errors.

Given some of the safety incidents that were reported because of transient alerts being activated during critical phases of flight, a design for Data Link alerting must be subjected to some type of alert inhibit logic scheme. During a critical time of flight such as takeoff or landing, while experiencing extreme workload, the pilot needs only the pertinent information for the present task. The majority of Data Link transmissions will not contain information critical to the immediate safety of the flight. Therefore, their activation should be inhibited during high workload phases of flight (takeoffs and landings), as are other transient alerts present in modern aircraft today.

The fact that many alerts are being misinterpreted due to their similarity should be addressed when designing crew alerting methods for Data Link systems. Critical and noncritical Data Link alerts should be easily distinguished. Furthermore, the entire aviation community should devise a plan to help the distinction of alerts that are present in the cockpit.

The major crew alerting complaint of too many bells, whistles, and messages in the cockpit provides an obstacle to researchers and designers trying to implement Data Link crew alerting methods. A problem with multiple alerts was indicated in the ASRS reports. The addition of Data Link alerts may result in more occurrences of multiple alert confusion.

Other crew alerting issues were mentioned in the ASRS reports that need to be investigated. Consideration should be given when formulating Data Link crew alerting designs to the other problem areas mentioned, such as: inconsistency of similar alerts within a fleet of aircraft; alert messages not providing a proper description of aircraft discrepancy; and the effect bright sunlight tends to have on visual alerts.

One of the most important issues regarding crew alerting is the need for standardization. Fleet inconsistency was reported to induce safety incidents several times in the ASRS reports. Any future crew alerting system designs should be standard within manufacturers, if not between. The effect of having different alerting methods in the same company's fleet can elicit major safety incidents. The design of crew alerting methods for Data Link could be seen as a leader in the attempt to standardize alerting methods in the National Aviation System (NAS).

This section discussed the conclusions extracted from the ASRS search on crew alerting. The major problem areas and the specific alert characteristics which caused them were mentioned, and any pertinence to the design of Data Link crew alerting was introduced. Table 1 indicates specific alerting issues of concern, as reported to ASRS for Data Link, and the effects they can elicit in the cockpit if not addressed during design.

TABLE 1. ASRS REPORTED CREW ALERTING ISSUES TO CONSIDER WHEN DESIGNING DATA LINK

1. Aural alerts that are too loud in volume	Loud alerts can startle the crew into making an incorrect action; Loud volume alerts can distract the crew from normal flight duties and communication activities
2. Aural alerts that are too low in volume	Aural alerts can be missed by the crew, or misinterpreted because the crew was unable to distinguish the alert
3. No aural backup for visual alerts	Visual-only alerts can be missed by the crew when the visual workload level is too great to continuously monitor all indicators

4. Lack of standardization for alerts	Non-standard alerts can add confusion while the crew is trying to attend to an alert, and alerts can be misinterpreted, resulting in inappropriate actions being taken
5. Prioritization for alert activation	Simultaneous activation of multiple alerts can cause confusion and result in misinterpretation of alerts; critical alerts can be missed due to concurrent activation of noncritical alerts
6. Inhibit logic for alert activation	Activation of noncritical alerts during critical phases of flight can increase crew workload and unnecessary, possibly hazardous, actions can be taken if alerts are misinterpreted
7. Lack of distinction between alerts	Non-distinguishable alerts can cause confusion when trying to attend to an alert; misinterpretation can lead to inadvertent actions being performed by the crew
8. Efficient procedures for addressing an alert	Difficult or non-descriptive procedures can lead to unnecessary confusion and distraction, and can misinform the crew with regards to the aircraft discrepancy being experienced
9. External factors: sunlight, nighttime	Visual alert indicators that are too dim can be missed during bright sunlight conditions, and during the night these indicators can be too bright causing irritation and distraction

7. RECOMMENDATIONS FOR FUTURE WORK.

This review and analysis on ASRS reports provided valuable information to be considered when implementing Data Link into the flightdeck. The ASRS reports described pilot experiences and operational problems associated with crew alerting. The review and analysis looked at these reports and tried to determine the deficiencies in present flightdeck crew alerting methods, and how these deficiencies could be avoided when designing crew alerting methods for Data Link implementation. Many problems associated with current crew alerting techniques were introduced.

To further augment this information, it is recommended that a follow-up research study be conducted. The study would consist of an analysis of scientific research reports in the area of crew alerting. An analysis of present research in the field would expand upon the information

obtained in this report by providing statistically proven results and recommendations regarding crew alerting techniques.

The most salient problems that were derived from the ASRS database analysis (section 5.3), and the scientific research studies can be supplemented with information gathered through informal interviews with pilot crews and/or surveys and structured questionnaires. Based on the collection of information, a set of crew alerting problem areas will be created. Each problem area will be addressed further by deriving applicable test metrics suitable for an evaluation environment. The development of test metrics is currently a task defined to occur in an upcoming work effort by CSERIAC FAA personnel. Additionally, problem areas can be distributed according to their respective simulator fidelity requirements, which is also an upcoming CSERIAC task.

The goal of this proposed follow-on research study is to provide researchers with guidance material for identifying dependent and independent variables, collection requirements, and simulator or flight training device sophistication requirements for evaluating various crew alerting methods. Secondly, this effort could provide specific guidelines and design criteria/standards to be considered when incorporating Data Link into the flightdecks of the future.

The Reconfigurable Cockpit Simulator (RCS) is an excellent research platform for evaluating various alerting schemes. The increased realism through simulator evaluation would provide the necessary workload and distraction to effectively examine the issues of concern for Data Link crew alerting. Table 2 contains various crew alerting issues for further research mentioned throughout this report that could be examined in the FAA's cockpit simulator network, specifically the RCS. This research will support specific design criteria for Data Link crew alerting.

TABLE 2. DATA LINK CREW ALERTING ISSUES FOR EXAMINATION IN THE RCS

1.	Visual only alerts vs. having aural alert for Data Link to accompany visual
2.	Affects of concurrent Data Link alerts and the procedures to use when addressing them
3.	Affect on crew performance of adding more alerts to cockpit for recognition
4.	Design of a Data Link alert prioritization scheme
5.	How to distinguish criticality of Data Link alerts
6.	Design specifics for Data Link alert to improve recognition (e.g. aural - tone, chime, voice; visual - color, location)
7.	Affect of varying alert volume levels with regards to cockpit ambient noise or criticality of alert
8.	Design of an inhibit logic scheme for Data Link alerts
9.	Affect of non-standardization on Data Link alert recognition
10.	Affects on recognition of a louder alert during phases of flight where workload is increased

To summarize, the collection of information in the form of surveys, questionnaires, and more advanced research studies will provide a means to address crew alerting issues as they relate to integrating Data Link systems onto the flightdecks of commercial airliners.

8. REFERENCES.

FAA Advisory Circular: AC No. 20-XX (1990). Airworthiness Approval of Aeronautical Telecommunications Network Compatible Airborne Data Link Systems.

SAE Aerospace Resource Document: ARD 50027 (1991). Human Engineering Issues for Data Link Systems.

Weislogel, S. Operational Problems Experienced by Single Pilots in Instrument Meteorological Conditions. Report No. NASA CR-166236. Battelle Columbus Laboratories, ASRS Office, Mountain View, California, 1981.

APPENDIX A

ASRS CREW ALERTING PROBLEM AREAS TABLE

TABLE 1. CLASSIFICATION OF ASRS CREW ALERTING REPORTS

ACCESS NO.	DATE	TYPE	PHASE	ALERTING INCIDENT	RESULTING ERRORS
DISTRACTION OF ALERTS					
49852	1/86	MLG	DESCENT	Bright altitude alert distracts crew while busy with descent activities, deactivates alert to extinguish irritating light	ALT DEV/After deactivation of visual alert crew does not respond resulting in deviation from assigned altitude
66046	3/87	WDB	DESCENT	Crew distracted by multiple alert situation, unable to attend to alerts and monitor flight simultaneously	ALT DEV/Overshot clearance altitude during descent
72770	8/87	MLG	APCH	Loud noise of GPWS alert distracted crew when initiating a go-around	Communications with ATC were impossible due to distraction of alert
78609	11/87	MLG	APCH	Loud volume of gear warning horn distracts crew during critical GAR	ALT DEV/Overshot clearance altitude during go-around
130973	12/89	MLG	DESCENT	Distraction of loud landing gear warning increases workload during descent	Crew misses visual altitude alert due to distraction, results in altitude deviation
163720	11/90	MLG	CRUISE	Crew distracted by loud volume of TCAS alert; ATC communication difficult	Distraction of loud TCAS causes crew to miss several ATC instructions
165116	12/90	MLG	CLIMB	Loud volume of TCAS alert distracts crew; ATC communications and aircraft altitude are not attended to by crew	ALT DEV/While trying to attend to ATC communications under distraction from TCAS crew suffers altitude deviation
179621	5/91	MLG	APCH	Crew distracted by loud middle marker aural tone and tries to deselect the alert during landing	Attention deviation is experienced by the crew while trying to deselect middle marker button while landing aircraft
180629	6/91	MLG	CLIMB	Loud volume of TCAS alert distracted crew during flight, caused crew to concentrate out the window for traffic	HDG DEV/Overshot heading clearance while out the window for traffic
181354	6/91	MLG	DESCENT	Loud volume and constant activation of TCAS alert distracts crew during flight; too wide parameters for activation	Unnecessary ALT DEV experienced due to TCAS RA that was inadvertently issued
181762	6/91	MLG	APCH	Upon initiation of a GAR crew receives loud GPWS Alert that distracts them from traffic search and ATC communications	During critical period of initiating GAR crew unable to get avoidance instructions from ATC and traffic watch is diverted

ACCESS NO.	DATE	TYPE	PHASE	ALERTING INCIDENT	RESULTING ERRORS
181971	6/91	MLG	CRUISE	Constant activation of loud TCAS alert distracts crew from efficiently performing duties; too wide parameters for activation	TCAS contributes as crew experiences fatigue resulting in crossing restriction not being met
183735	7/91	MLG	CLIMB	Crew distracted by loud TCAS alert being activated unnecessarily due to the parameters for activation being two wide	Crew unable to attend to departure control instructions, missed a heading instruction and experienced ALT DEV
189170	9/91	LGT	CLIMB	Overspeed warning siren activated inadvertently and its loud volume distracted crew and caused confusion on the flightdeck	Crew missed several ATC calls which resulting in being off course for approach and while trying to disconnect alert crew also experienced altitude deviation
189265	9/91	MDT	DESCENT	TCAS alert too loud, distracts crew from performing other flight duties	ALT DEV associated with responding to the TCAS RA command
189654	9/91	WDB	DESCENT	Loud autopilot off alarm distracted crew resulting in increased workload	ALT DEV/Overshot clearance altitude during descent
196984	12/91	MLG	APCH	TCAS alert too loud, distracts crew during approach; unable to communicate with ATC	HDG DEV/distraction of alert causes crew to miss a heading clearance from ATC resulting in a heading deviation
198608	1/92	LGT	APCH	Crew distracted by numerous loud volume TCAS alerts being activated during approach	NMAC is experienced while crew's out the window traffic watch is diverted by distraction of TCAS alerts
201659	2/92	MLG	CRUISE	Crew distracted by Master Caution light annunciation and the resulting scan of the Overhead Annunciator Panel	HDG DEV/Heading track deviation
205876	3/92	MLG	GROUND	Loud stall recognition system activates and distracts crew during takeoff	Attention deviated from takeoff as crew attempts to decipher and react to alerts
224375	10/92	LGT	APCH	Distraction of loud TCAS and conflicting altitude alert elicits confusion in attending the situation	ALT DEV/Undershot clearance altitude during descent due to confusion associated with multiple alert situation
227833	12/92	MLG	CLIMB	Crew distracted by loud volume of TCAS alert and inability to communicate with ATC induces confusion on the flightdeck	Attention deviation resulted and crew unable to communicate with ATC to verify location of traffic
238848	4/93	MDT	APCH	Distraction of a loud malfunctioning gear warning horn elicits confusion and prohibits ATC communications	ATC communication is prohibited and confusion causes a destabilized approach resulting in a runway excursion

ACCESS NO.	DATE	TYPE	PHASE	ALERTING INCIDENT	RESULTING ERRORS
LACK OF ALERTS					
77914	11/87	MLG	CLIMB	Lack of aural warning to supplement visual indicator when autopilot switches pitch command modes	ALT DEV/Overshot clearance altitude during climbout
85005	4/88	WDB	APCH	Lack of supplemental aural alerts for altitude and spoiler system indication	Missed approach executed due to flap disagree and lockout
110082	4/89	MLG	GROUND	Lack of alert to indicate the position of the tailplane trim actuator (TPI) switches during pre-flight check	Takeoff was made with TPI switches off, resulting in no trim controls and crew had to return to destination
14682	5/90	MLG	GROUND	Lack of alert to indicate trim-in-position and takeoff trim position	Crew begins pre-flight checks and procedures and notices rudder trim had actuated inadvertently with no warning
182888	7/91	MLG	CRUISE	Lack of alert on the FMC to indicate failure of the VNAV mode	ALT DEV/Undershot altitude crossing restriction on descent
209711	4/92	WDB	CRUISE	Lack of alert to indicate complete failure of FMC navigation system; No FMC alert to indicate aircraft off course	Aircraft was 28 miles off course because of navigation system failure, had to manually navigate to destination
211433	5/92	WDB	DESCENT	Lack of aural warning to supplement visual message in the FMC message pad	Crew missed visual message to reset MCP resulting in an altitude deviation
234729	2/93	MLG	GROUND	Lack of alert to indicate if overwing exit doors are open/close in the event of an emergency	Overwing exit doors were open and pax were on the wings before crew ever acknowledged there was an emergency

ACCESS NO.	DATE	TYPE	PHASE	ALERTING INCIDENT	RESULTING ERRORS
MISSED ALERTS					
54213	6/86	MLG	DESCENT	Altitude alert not heard, too soft to detect during crew ACARS discussion	ALT DEV/Overshot clearance altitude during descent
57692	9/86	MLG	CLIMB	Aural altitude alert missed due to attention to other duties, too soft to detect	ALT DEV/Overshot clearance altitude during climbout
61130	12/86	MLG	DESCENT	Visual altitude alert was missed by crew during descent; too dim to detect	ALT DEV/Overshot clearance altitude during descent
61829	12/86	MLG	GROUND	Gear doors open visual warning light was missed during checklist and crew took off with door open; too dim to distinguish	Upon landing at destination the gear doors were damaged as warning had never been acknowledged
63574	2/87	MLG	CLIMB	Altitude alert not heard due to heavy workload, traffic watch on climbout	ALT DEV/Overshot clearance altitude during climbout
77914	11/87	MLG	CLIMB	EADI visual warning indicating that autopilot had switched pitch command modes was missed; no aural backup	ALT DEV/Overshot clearance altitude during climbout
80202	1/88	MLG	CLIMB	Visual altitude alert missed due to out the window traffic watch; no aural backup	ALT DEV/Overshot clearance altitude during climbout
91653	7/88	MLG	CLIMB	Altitude alert missed due to heavy workload and fatigue; too soft to detect	ALT DEV/Overshot clearance altitude during climbout
130973	12/89	MLG	DESCENT	Visual altitude alert missed due to distraction of landing gear alert and attending to ATC comm; no aural backup	ALT DEV/Overshot clearance altitude during descent
153103	8/90	MLG	CLIMB	Altitude alert not heard while crew attends to a cabin emergency	ALT DEV/Overshot clearance altitude during climb
156162	8/90	MLG	DESCENT	Altitude alert missed by crew subjected to heavy workload; to soft to detect	ALT DEV/Overshot clearance altitude during descent
183018	7/91	WDB	CRUISE	TCAS alert command message was missed during cruise; volume set too low	Crew misses initial TCAS alert; ALT DEV resulted while attending to alert
189853	9/91	MLG	GROUND	Cargo door open light was missed by crew when scanning the OAP in the bright sunlight	Aborted takeoff/Crew began takeoff with cargo door open and luggage trailing, annunciator was noticed before rotation
196873	12/91	MLG	CRUISE	Altitude alert not heard due to distraction of cockpit noise; too soft	ALT DEV/Overshot clearance altitude during climbout

ACCESS NO.	DATE	TYPE	PHASE	ALERTING INCIDENT	RESULTING ERRORS
197052	12/91	MLG	GROUND	Cargo door open light was initially missed by crew during taxi in bright sunlight	Crew began taxi with cargo door open, noticed annunciator upon performing last minute checklist before takeoff
211433	5/92	MLG	DESCENT	Visual only FMC message pad alert was missed; no aural backup	ALT DEV/Missed assigned clearance altitude on descent
223811	10/92	LGT	CRUISE	Altitude alert missed during period of high workload, too soft	ALT DEV/Less that legal separation during descent
226546	11/92	SMT	CRUISE	Crew missed autopilot off alarm during cruise; too soft	ALT DEV/Overshot clearance altitude when aircraft rose after autopilot off
ALERT INHIBIT LOGIC					
65129	3/87	WDB	APCH	Crew attends to multiple transient messages during critical phase of flight	ALT DEV/Excursion from assigned altitude
92828	8/88	MLG	GROUND	Transient nuisance aural alert (SELCAL) armed during critical phase of flight	Crew misinterpreted SELCAL as cabin emergency; aborts high speed takeoff
130973	12/89	MLG	DESCENT	Descending at low speed and idle power prompts loud distracting landing gear warning to activate unnecessarily during critical phase of flight	Distraction of alert increases crew workload and causes them to miss several ATC calls, and miss visual altitude alert that results in altitude deviation
179621	5/91	MLG	APCH	On approach to land crew receives non-critical middle marker aural tone during critical phase	Crew distracted by transient alert and attention is diverted from attending to landing the aircraft
189654	9/91	WDB	DESCENT	Crew receives unnecessary autopilot off alert at critical phase of flight	Distraction of crew during high workload descent results in altitude deviation
196984	12/91	MLG	APCH	TCAS alert activated at same time ATC is trying to communicate with crew during critical approach period	Distraction of alert causes crew to miss heading clearance during approach; end result a heading deviation
198608	1/92	LGT	APCH	Crew subjected to multiple TCAS alerts due to dense traffic on approach; while already out the window looking for traffic	While attending to TCAS alerts, crew diverted attention from out the window traffic watch; resulting in NMAC

ACCESS NO.	DATE	TYPE	PHASE	ALERTING INCIDENT	RESULTING ERRORS
MULTIPLE ALERTS					
65129	3/87	WDB	APCH	Multiple transient caution messages appear on EICAS increasing workload	ALT DEV/Excursion from assigned altitude
66046	3/87	WDB	DESCENT	Multiple alerts and warnings inundate the crew, unable to decipher and react accordingly due to distraction	ALT DEV/Overshot clearance altitude during descent
205876	3/92	MLG	GROUND	Multiple alerts associated with loud stall recognition system are activated, crew unable to effectively attend to the alerts	Crew distracted by multiple alerts, unable to attend to alerts effectively results in attention deviation during takeoff
224375	10./92	LGT	APCH	Crew receives multiple conflicting TCAS and altitude alerts at the same time while on approach	Conflicting alerts contributed to confusion that resulted in altitude deviation
237910	3/93	MLG	CLIMB	Multiple alerts recognized and understood by crew; no procedure in pilot handbook to cover situation	No checklist procedure to correct problem, crew has to return to airport for inspection
NON-DISTINGUISHABLE ALERTS					
92828	8/88	MLG	GROUND	Crew unable to distinguish SELCAL chime from the cabin emergency chime during takeoff	Aborted high speed takeoff and had to return to gate due to overheating brakes
117785	7/89	LGT	CLIMB	Crew unable to distinguish altitude alert from SELCAL alert, unfamiliar aural altitude alert	ALT DEV/Overshot clearance altitude during climb
143339	4/90	MLG	GROUND	Tire burst screens/equipment door open annunciator warning light has dual function that is not distinguishable by the crew during pre-flight checklist	Crew misinterprets warning as tire burst screen error (no indication it wasn't) and takes off with equipment door open and can't pressurize aircraft
153103	8/90	MLG	CLIMB	Crew unable to distinguish cabin emergency chime from ACARS chime	No immediate response to cabin emergency
218390	8/92	MLG	CRUISE	Crew misinterprets an altitude alert for a cabin call due to distraction of crew conversation and radio communications	ALT DEV/Overshot clearance altitude during descent

ACCESS NO.	DATE	TYPE	PHASE	ALERTING INCIDENT	RESULTING ERRORS
FURTHER CREW ALERTING ISSUES					
CREW EXPERIENCE					
660460	3/87	WDB	DESCENT	Inexperienced crew is subjected to numerous alerts and warnings	Crew unable to decipher and attend to multiple alerts; flightdeck confusion
189654	9/91	WDB	DESCENT	Crew subjected high workload descent in an aircraft that they had little experience in flying	Workload and loud autopilot off alarm contributed to confusion of the inexperienced crew; ALT DEV resulted
BRIGHT SUNLIGHT					
189853	9/91	MLG	GROUND	Bright sunlight affects crew's ability to effectively scan the overhead annunciator panel to notice cargo door open light	OAP annunciator missed, crew beings takeoff with cargo door open until finally attending to light
197052	12/91	MLG	GROUND	Crew unable to notice cabin door open annunciator on the OAP during bright sunlight	Annunciator light was missed and taxi was initiated with cabin door open
201659	2/92	MLG	CRUISE	Bright sunlight hinders crew ability to scan OAP in a reasonable amount of time	HDG DEV/Heading track deviation
211433	5/92	MLG	DESCENT	FMC message pad is hard to see in the event of bright sunlight; no aural backup	Crew missed visual FMC message to reset MCP resulting in altitude deviation
FATIGUE					
916533	7/88	MLG	CLIMB	Crew suffering from fatigue that was intensified due to heavy workload unable to effectively attend to flight conditions	Crew misses aural altitude alert, too soft under conditions, resulting in altitude deviation
181971	6/91	MLG	CRUISE	Constant activation and loud volume of TCAS contributes to cockpit fatigue	Crew unable to meet crossing restriction
201659	2/92	MLG	CRUISE	Fatigued crew unable to efficiently scan OAP and monitor flight	HDG DEV/Heading track deviation
FLEET INCONSISTENCY					
54213	6/86	MLG	DESCENT	Altitude alert missed; aural alert is softer than the rest of fleet	ALT DEV/Overshot clearance altitude during descent
117785	7/89	LGT	CLIMB	Altitude alert misinterpreted, inconsistent with company fleet, non-standard	Crew unable to distinguish altitude alert from SELCAL, experiences ALT DEV

ACCESS NO.	DATE	TYPE	PHASE	ALERTING INCIDENT	RESULTING ERRORS
FLEET INCONSISTENCY (continued)					
130973	12/89	MLG	DESCENT	Visual alert for impending level off altitude missed; other fleet aircraft have an accompanying aural alert	ALT DEV/Overshot clearance altitude during descent after missing visual only alert during high workload
143339	4/90	MLG	GROUND	Tire burst screens/Equipment door Annunciator light has dual function that is not standard configuration within fleet	Crew attends to alert as tire burst screen error; actually error is with equipment door being open, no indication to crew
NON-DESCRIPTIVE ALERT					
143339	4/90	MLG	GROUND	Tire burst screens/Equipment door visual annunciator light has dual representation not indicated by annunciator light and not mentioned in any manuals	Crew misinterprets annunciator as tire burst screen failure; fails to acknowledge other function of warning light that indicates equipment door is open
210730	5/92	WDB	CRUISE	'Turbine Case Cooling' warning and its respective procedure did not convey severity of situation to crew	Emergency situation of major fuel leak was never acknowledged by crew, continued flight to destination

APPENDIX B

COMPLETE FULL-FORM ASRS REPORTS

The ASRS reports in this appendix are grouped into the 7 different crew alerting problem areas that were discussed in the Results section of this report. Many of the ASRS reports contained incidents that included more than just one of the crew alerting issues discussed. Therefore, these reports are found in each problem area section of the appendix that applies to the reported incident.

DISTRACTION OF ALERTS

ACCESSION NUMBER : 49852
DATE OF OCCURRENCE : 8601
REPORTED BY : FLC
PERSONS FUNCTIONS : FLC,PIC.CAPT;FLC,FO;TRACON,AC
FLIGHT CONDITIONS : VMC
AIRCRAFT TYPE : MLG
ANOMALY DESCRIPTIONS : ALT DEV/OVERSHOOT ON CLB OR DES;ACFT EQUIPMENT PROBLEM/LESS SEVERE;
ANOMALY DETECTOR : COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : AUTOMATED ACFT SUBSYSTEM INTERVENED;FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
SITUATION REPORT SUBJECTS : ACFT EQUIPMENT;
NARRATIVE : WE WERE LANDING AT STL AND WHILE WORKING WITH STL APCH WE WERE CLRD TO 7000 MSL. IT WAS NIGHT AND HE COCKPIT WAS CONFIGURED FOR DIM LIGHTS. AT APPROX 7800 MSL IN DESCENT THE ALT ALERT LITE PROPERLY CAME ON. IT IS A BRIGHT LITE, AND I BEING THE FLYING PLT PUSHED IN ON THE ALT ALERTER BUTTON TO EXTINGUISH THE LITE. AT APPROX 6700 MSL THE ALT ALERT LITE CAME ON AGAIN. I IMMEDIATELY PULLED UP WITHIN CONFINES OF PAX COMFORT AND LEVELED OFF AT 7000 MSL. THE LOWEST ALT WAS ABOUT 6600 MSL. I REALIZED I MISSED THE ALT WHEN THE ALT ALERTER CAME ON THE SECOND TIME. IF THE ALERTER WARNING LITE WAS NOT SO BRIGHT (OR DIMMABLE) I WOULD NOT HAVE CANCELLED THE LITE ON FIRST WARNING (POSSIBLE DESIGN IMPROVEMENT). ALSO I DID NOT KNOW OR REALIZE THAT THE F/O TURNED OFF THE ALT REPORTING FEATURE OF THE TRANSPONDER WHEN THE SECOND WARNING CAME ON AT 6700 MSL. AT 7000 MSL THE APCH CTLR TOLD US TO TURN THE TRANSPONDER BACK ON. I DO NOT FEEL THE TRANSPONDER OR ITS FUNCTIONS SHOULD EVER BE TURNED OFF.
SYNOPSIS : ACR MLG ALT DEVIATION/ALT OVERSHOT DURING DES IN TCA.
CALLBACK/COMMENTS : NONE
LOC ID (LOCATION IDENTIFIER) : ;STL

ACCESSION NUMBER : 66046
DATE OF OCCURRENCE : 8703
REPORTED BY : FLC; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : FLM
FACILITY STATE : KY
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZID;
AIRCRAFT TYPE : WDB;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/LESS SEVERE; ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE; ACFT EQUIP PROBLEM RESOLVED ITSELF;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : ACFT EQUIPMENT;
NARRATIVE : F/O FLYING THIS SEGMENT ON AFDS(AUTOPLT F/D SYSTEM). ENROUTE ATL-CVG. ON DESCENT INTO CVG, ATC HAD CLEARED OUR FLT DIRECT FLM, DIRECT CVG, WITH AN INTERIM CLRNC TO DESCEND TO FL240. DESCENDING THROUGH FL245+, AN UNACCOUNTED FOR ELEVATOR SERVO INPUT DISCONNECTED THE AUTOPLT WHILE SIMULTANEOUSLY NUMEROUS HYDRAULIC AND ELECTRICAL ABNORMAL INDICATIONS OCCURRED. EICAS (ENGINE INDICATING AND CREW ALERT SYSTEM) CRT MESSAGES FILLED UPPER SCREEN AND 3 MAINTENANCE MESSAGES APPEARED ON LOWER CRT -- "FUEL QUANTITY CHANNEL", "AUTO 2 CABIN ALT", AND "AIR/GND DISAGREE". CENTER HYDRAULIC PRESS LOW LIGHTS AND UTILITY ELECTRICAL BUS INOP LIGHTS CAME ON ON OVERHEAD PANEL. ALERT MESSAGES APPEARED SO RAPIDLY THEY COULD NOT ALL BE UNDERSTOOD ESPECIALLY IN VIEW OF THE FACT THAT NEITHER THE F/O NOR MYSELF HAD BEEN FLYING ACFT TYPE FOR MORE THAN 150 HRS TOTAL. THE F/O RESUMED MANUAL CONTROL OF THE ACFT AS I TURNED ON THE APU PRECAUTIONARY TO AN AC BUS OR GENERATOR LOSS. IT WAS AT THIS TIME THAT I REALIZED THE ACFT HAD DESCENDED THROUGH FL240. I ALERTED THE F/O AND TOOK CONTROL, STOPPING THE DESCENT AT FL235. F/O RESUMED CONTROL AND CLIMBED BACK TO FL240. WHEN THE APU CAME ON LINE ALL SYSTEMS RETURNED TO NORMAL. ONLY THE 3 EICAS MESSAGES ON THE LOWER CRT REMAINED. REMAINDER OF THE FLT WAS ROUTINE. ON GND IN CVG, MECHANICS SUSPECTED CAUSE OF OCCURRENCE WAS INDICATIVE OF AN ENGINE GENERATOR ATTEMPTING TO DISCONNECT ITSELF FROM THE AC SYSTEM. THIS PARTICULAR WDB HAD HAD A HISTORY OF SPURIOUS ELECTRICAL QUIRKS THAT ALWAYS SEEMED TO CORRECT THEMSELVES. THIS TYPE OF OCCURRENCE IS NOT OVERLY TROUBLESOME IN A 3 PLT COCKPIT. IN A 2 PLT ENVIRONMENT IN WHICH WHAT WAS FORMERLY THE SECOND OFFICER/FLT ENGINEERS FUNCTIONS ARE NOW TOTALLY AUTOMATED, AN APPARENT FAILURE OF THE AUTOMATION IS PARTICULARLY DISTRACTING TO THE CAPT AND F/O. THE CREW MEMBER FLYING BECOMES IMMEDIATELY ABSORBED IN DETERMINING WHICH FLT INSTRUMENTS ARE RELIABLE WHILE THE REMAINING CREW MEMBER SEEKS THE SOURCE OF THE PROBLEM. THIS RESULTS IN A BRIEF INTERVAL WHEN HDG AND ALT ARE OF SECONDARY CONCERN. STABILIZED FLT IS FIRST. EMPHASIS ON HDG AND ALT RETURNS ALMOST IMMEDIATELY BUT ONLY AFTER THE PRIMARY CONCERN IS CONFIRMED. ALT EXCURSIONS OCCUR DURING THESE BRIEF PERIODS, UNLESS SUCH AN ABNORMALITY OCCURS IN STABILIZED STRAIGHT AND LEVEL FLT. A 2 PLT CREW CONCEPT WORKS GREAT, BUT ONLY AS LONG AS THE AUTOMATIC BLACK BOX ITEMS WHICH HAVE REPLACED THE S/O ARE FEEDING THE CAPT AND F/O ACCURATE INFO.
SYNOPSIS : ACR WDB ALT DEVIATION OVERSHOT DURING DESCENT.
REFERENCE FACILITY ID : FLM
FACILITY STATE : KY
DISTANCE & BEARING FROM REF. : 90,,SO
MSL ALTITUDE : 23500,24000

ACCESSION NUMBER : 72770
DATE OF OCCURRENCE : 8708
REPORTED BY : FLC; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : DEN
FACILITY STATE : CO
FACILITY TYPE : TWR; ARPT;
FACILITY IDENTIFIER : DEN; DEN;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/LESS SEVERE;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : FLC EXECUTED GAR OR MAP;
ANOMALY CONSEQUENCES : OTHER;
NARRATIVE : WHILE COMPLETING A VIS APCH TO RWY 26R AT DEN THE GPWS CAME ON AT ABT 500' AGL. AT THIS TIME IW WAS NOTICED THAT WHILE THE GEAR WERE DOWN (EACH WITH A GREEN LIGHT) THAT THE LNDG GEAR HANDLE WAS NOT COMPLETELY IN THE DOWN DETENT POSITION. A GAR WAS INITIATED, THE LNDG GEAR WAS RECYCLED WITH NORMAL CONDITIONS. DURING THE GAR THE GPWS WAS INHIBITED BUT DUE TO A DIFFERENCE IN SWITCH LOCATION BETWEEN THE BASIC AND THE ADVANCED MODEL COCKPIT, THE PAX O2 WAS INADVERTENTLY ACTIVATED. IN THIS CASE THE GPWS PERFORMED AS ADVERTISED WHEN THE GEAR WAS NOT INDICATING SAFE DOWN AND LOCKED. CONTRIBUTING FACTORS IN THIS INCIDENT WAS THE CLOSE PROX OF OTHER ACFT ON PARALLEL APCHS TO RWY 26L. IN ADDITION THERE WAS AN AIRPLANE TO OUR RT THAT HAD TO MAKE A DRAMATIC COURSE CHANGE. HE WAS GOING TO JOIN UP ON OUR RT WHEN HE WAS ADVISED BY TWR THAT HE WAS TO FOLLOW US TO 26R. WHEN THE GPWS SOUNDED IT WAS THOUGH BY ME TO BE FALSE. THEN I NOTICED THAT THE RED LIGHTS ON THE LNDG GEAR WERE ON AT THE SAME TIME AS THE GREEN. WHEN THE GEAR HANDLE WAS PUT INTO THE DETENT (ABT 1/4") THE RED LIGHTS WENT OUT, THE GPWS CONTINUED TO SOUND SO W/O FURTHER INVESTIGATION A GAR WAS COMMENCED. THE GPWS WAS LOUD ON CLIMBOUT AND BECAUSE WE WERE CLEARLY CLIMBING IT WAS MORE DESIRABLE TO HEAR TWR COMMUNICATIONS WHILE MAINTAINING VIS CLRNC WITH THE GND. BECAUSE WE FLY ACFT WITH THE GPWS ON DIFFERENT LOCATIONS ON THE OVERHEAD PANEL THE PAX O2 SYSTEM WAS INADVERTENTLY ACTIVATED.
SYNOPSIS : FLT CREW DID NOT GET GEAR HANDLE IN DETENT WHEN EXTENDING GEAR CAUSING GPWS ACTUATION AND GO AROUND.
REFERENCE FACILITY ID : DEN
FACILITY STATE : CO
DISTANCE & BEARING FROM REF. : 2,80
AGL ALTITUDE : 500,500

ACCESSION NUMBER : 78609
DATE OF OCCURRENCE : 8711
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; TRACON,AC;
FLIGHT CONDITIONS : IMC
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
FACILITY TYPE : TRACON; ARPT;
FACILITY IDENTIFIER : ORD; ORD;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ALT DEV/OVERSHOOT ON CLB OR DES;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : FLC EXECUTED GAR OR MAP; FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : WE WERE ESTABLISHED ON A COUPLED ILS APCH USING CAT III PROCS, IE COPLT FLYING THE APCH AND THE CAPT WOULD TAKE THE ACFT FOR LNDG. THE WX WAS ABOUT 5 OVCST 2 R-2-F. AS WE CHANGED FROM APCH CTL TO TWR, THE TWR ADVISED US TO GO AROUND. THE F/O PRESSED THE TKOF/GAR BUTTON TO BEGIN THE MISSED APCH. THE CAPT SELECTED FLAPS 15 DEGS ON COMMAND AND REACHED FOR THE GEAR HANDLE. THE F/O REQUESTED THAT THE GEAR BE LEFT DOWN MOMENTARILY, WHICH CAUSED THE CAPT TO QUESTION WHY. IN THE BRIEF DISCUSSION THAT FOLLOWED, THE ALT WAS NOT SET AND ARMED IN A TIMELY MANNER. OUR LEVELOFF EXCEEDED OUR ASSIGNED ALT 4000' BY 300'. AS WE DISCUSSED LATER, THE DIFFERENCE IN THE TIMING OF LNDG GEAR RETRACTION DEPENDS ON THE LNDG FLAP SETTING. FOR EXAMPLE, IF 28 FLAPS IS BEING USED FOR LNDG, THE FLAPS MAY BE RAISED, FOLLOWED IMMEDIATELY BY GEAR RETRACTION W/O GETTING A GEAR WARNING HORN. IF 40 FLAPS IS USED, A MOMENTARY DELAY IS NEEDED TO ALLOW TIME FOR FLAP RETRACTION TO PREVENT THE GEAR WARNING HORN. COMBINED WITH A RELATIVELY HIGH ALT OF OUR MISSED APCH POINT AND THE CLB CAPABILITY OF THIS ACFT AT GO AROUND PWR, TIMING IN THE COCKPIT IS VERY IMPORTANT. IN THIS CASE, CONCERN OVER AN OBNOXIOUSLY LOUD WARNING HORN WAS GIVEN THE WRONG PRIORITY. I'VE USED THESE TRIED AND PROVEN PROCS FOR YRS W/O THIS QUESTION OF TIMING EVER ARISING. I LEARNED A GREAT LESSON. HOPEFULLY SOMEONE ELSE MAY AVOID THE SAME PROB BY READING THIS AND APPLYING IT TO THEIR PROCS.
SYNOPSIS : ALT OVERSHOT ON GO AROUND WHEN PNF FAILED TO SET AND ARM ALT CAPTURE MODE.
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
DISTANCE & BEARING FROM REF. : 6,,NW
MSL ALTITUDE : 4000,4300

ACCESSION NUMBER : 130973
DATE OF OCCURRENCE : 8912
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; TRACON,AC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
FACILITY TYPE : TRACON;
FACILITY IDENTIFIER : ORD;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/LESS SEVERE; NON ADHERENCE LEGAL RQMT/CLNC; ALT DEV/OVERSHOOT ON CLB OR DES;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : NOT RESOLVED/DETECTED AFTER-THE-FACT; FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : AN ACFT TYPE; ACFT EQUIPMENT;
NARRATIVE : OUR CLRNC HAD BEEN "DSND TO 9000', SPD 210 KTS." ORD APCH CTL WAS VERY BUSY. WHILE DSNDING AT 210 KTS THROUGH APPROX 10000', WE WERE ASKED TO SLOW TO 170 KTS. PLEASE NOTE THAT THE ACFT IN QUESTION HAS A LOUD DISTRACTING VOICE WARNING SYS, WHICH AT 210 KTS AND IDLE PWR WARNS YOU "LNDG GEAR." WITH THE LNDG GEAR WARNING GOING OFF AND THE CTLR ISSUING A NEW SPD AT THE SAME TIME, THE 1000' CALL WAS TO BE MADE ("10000 FOR 9000"). BOTH THE CAPT AND I FAILED TO NOTICE THAT THE ALT ARMING AMBER "ALT" LIGHT WAS NOT ON. WHETHER THE CAPT FAILED TO ARM IT OR THE ALT MODE WAS DISARMED BY MY USE OF THE VERT SPD MODE OF THE FGS, IS UNKNOWN. AT 8700' THE CAPT NOTICED OUR ALT DEVIATION, AT WHICH TIME I TURNED OFF THE AUTOPLT AND CLBED BACK TO THE ASSIGNED ALT OF 9000'. IN MY OPINION, THE ALT DEVIATION WAS CAUSED BY A VARIETY OF DISTRS: 1) VERY BUSY ATC ENVIRONMENT, 2) DISTRACTING WARNING HORN FOR LNDG GEAR AT 210 KTS, 3) NO WARNING ON ACFT OF 1000' TO LEVEL-OFF (IT WARNS YOU ONLY AFTER ALT DEVIATION, NOT BEFORE AS ON OTHER ACFT IN FLEET), AND 4) RADIO CALL FROM ATC TO FURTHER SLOW ACFT TO 170 KTS AT CRITICAL TIME (DSNDING FROM 10000 TO 9000'). MY RECOMMENDATIONS: 1) REQUIRE WARNING OTHER THAN LIGHT (AURAL) OF IMPENDING LEVEL-OFF, 2) REMOVE "LNDG GEAR" WARNING UNTIL FLAPS ARE AT LEAST DOWN TO 15 DEGS AND THROTTLES IDLE, AND 3) MODIFY AUTOPLTS SO THAT MOVEMENT OF VERT SPD WHEEL WHILE AUTOPLT IS IN CAPTURE MODE DOES NOT DISENGAGE CAPTURE MODE. (PLEASE NOTE THAT OUR AIRLINES IS CURRENTLY MAKING THIS MODIFICATION, BUT THE ACFT WE WERE ON WAS NOT MODIFIED.)
SYNOPSIS : REPORTER CITES A VARIETY OF REASONS FOR OVERSHOOTING ALT IN DESCENT. BOTTOM LINE IS THAT THE ALT CALLOUT WAS OMITTED. THE DISTRS OF GEAR WARNING, BUSY COCKPIT, COM PROCS AND NO ALT WARNING LIGHT MAY HAVE BEEN CONTRIBUTORY. PLT TECHNIQUE IN USE OF AUTOPLT WAS QUESTIONED BY REPORTER.
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
DISTANCE & BEARING FROM REF. : 40,,E
MSL ALTITUDE : 8700,9000

ACCESSION NUMBER : 163720
DATE OF OCCURRENCE : 9011
REPORTED BY : FLC; FLC; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; TRACON,AC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : SNA
FACILITY STATE : CA
FACILITY TYPE : TRACON;
FACILITY IDENTIFIER : SNA;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : OTHER; ALT DEV/EXCURSION FROM ASSIGNED;
NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR
INTENDED COURSE; NOT RESOLVED/ANOMALY ACCEPTED;
ANOMALY CONSEQUENCES : FLC/ATC REVIEW;
SITUATION REPORT SUBJECTS : ACFT EQUIPMENT; PROC OR POLICY/COMPANY;
PROC OR POLICY/FAA;
NARRATIVE : WHILE LEVEL AT 4000', THE CTLR ISSUED TFC AND DIRECTED A L TURN FROM 220 DEG TO 180 DEG. SIMULTANEOUS TO THE CTLRS INSTRUCTIONS THE TCAS II ISSUED TFC ALERT AND VERY SHORTLY AFTER COMMANDED "CLB". THE CAPT DISCONNECTED THE AUTOPLT WHICH WAS BEING USED FOR CRUISE, AND INITIATED A 1000-1200 FPM CLB AS DIRECTED BY TCAS II. WE GOT TO AN ALT OF 4800' BEFORE COMING IMMEDIATELY BACK DOWN TO 4000'. TFC WAS NEVER SEEN. CTLRS FREQ WAS VERY BUSY, AND IT TOOK ABOUT 30 SECS MORE BEFORE I (F/O) COULD INFORM HIM OF OUR ALT EXCURSION. HIS COMMENT WAS, "YEAH, THAT'S THE TFC I TURNED YOU FOR." OBSERVATION. TCAS II WAS VERY LOUD, AND ACTUALLY CUT OUT SOME OF THE CTLRS INITIAL INSTRUCTIONS. IF INSTRUCTIONS FROM ATC HAD BEEN ISSUED DURING THE "CLB-CLB-CLB" COMMAND, THEY WOULD NOT HAVE BEEN HEARD.
SYNOPSIS : MLG FLT CREW RESPONDS TO TCAS II ALERT. ALT DEVIATION.
REFERENCE FACILITY ID : SNA
FACILITY STATE : CA
DISTANCE & BEARING FROM REF. : 10,,NW
MSL ALTITUDE : 4000,4800

ACCESSION NUMBER : 165116
DATE OF OCCURRENCE : 9012
REPORTED BY : FLC; FLC; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; TRACON,DC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : PVD
FACILITY STATE : RI
FACILITY TYPE : TRACON;
FACILITY IDENTIFIER : PVD;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ALT DEV/OVERSHOOT ON CLB OR DES; OTHER;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : ASSIGNED ALT, 10000'. AT 9700', TCAS ISSUED TFC ADVISORY. AT SAME TIME DEP CTL ISSUED A TURN TO 360 DEG HDG AND FREQ CHANGE. TCAS VERBAL ADVISORY SET TOO LOUD TO UNDERSTAND INSTRUCTIONS ON RADIO. DISTRACTED, I LET ACFT CLB TO 10400' BEFORE RETURNING TO 10000' ASSIGNED ALT.
SYNOPSIS : ALT DEVIATION DUE TCAS II SOUNDING LOUDLY AS FREQ CHANGED AND HEADING CHANGE ISSUED.
REFERENCE FACILITY ID : PVD
FACILITY STATE : RI
DISTANCE & BEARING FROM REF. : 10,270
MSL ALTITUDE : 10000,10400

ACCESSION NUMBER : 179621
DATE OF OCCURRENCE : 9105
REPORTED BY : FLC; ; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; FLC,SO; TWR,LC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
FACILITY TYPE : ARPT; TWR;
FACILITY IDENTIFIER : ORD; ORD;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : OTHER;
ANOMALY DETECTOR : COCKPIT/FLC; COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : NOT RESOLVED/ANOMALY ACCEPTED;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : ON AN APCH INTO ORD, WE PASSED OVER THE OM AND GOT THE NEEDLE SWING, BUT NO AURAL TONE. I FORGOT TO DESELCT THE MARKER BUTTON, AND PASSING OVER THE MM, I WAS STARTLED AT AROUND 300-400' WHEN THE AURAL TONE CAME ON EXCEPTIONALLY LOUD, AS USUAL. I FUMBLED AROUND, TRYING TO DESELECT THE MARKER BUTTON AT A TIME WHEN I SHOULD HAVE HAD MY FULL ATTN ON THE LNDG. I DESELECTED IT AND MADE AN UNEVETNFUL LNDG. THIS HAS HAPPENED TO ME SO MANY TIMES, I HAVE LOST COUNT. IF I WERE THE PERFECT PLT, I WOULD REMEMBER TO DESELECT THE MARKER WHEN I DO NOT GET THE AURAL ON EVERY APCH, BUT IT IS EASY TO FORGET, AND WE ALL FORGET TO DO IT FROM TIME TO TIME, ESPECIALLY WHEN THE WX IS VFR AND WE ARE ONLY USING THE ILS AS A BACKUP. THE PROB WITH THIS SITUATION IS THAT IT IS DISTRACTING AT ONE OF THE MOST DEMANDING POINTS IN THE APCH, AND IT IS TRULY DISTRACTING! THERE IS NO REASON WHY THE MM SHOULD BE SO LOUD. I DON'T MIND AN AURAL WARNING AT THAT ALT, BUT WHY CAN'T THE VOL BE TURNED DOWN AT THE XMITTER? I HAVE ENCOUNTERED THIS AT EITHER BNA OR RDU IN THE TKOF REGIME, ALSO. TKOF INSTRUCTIONS ARE TO TURN TO A HDG AT THE MM. I DO NOT SELECT THE MARKER BUTTON BECAUSE ONCE AGAIN, THE MM IS TOO LOUD.
SYNOPSIS : ACR CAPT COMPLAINS ABOUT LOUD MIDDLE MARKER AT ORD.
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
AGL ALTITUDE : 200,400

ACCESSION NUMBER : 180629
DATE OF OCCURRENCE : 9106
REPORTED BY : FLC; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : BUR
FACILITY STATE : CA
FACILITY TYPE : ARPT; TRACON;
FACILITY IDENTIFIER : BUR; BUR;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : TRACK OR HDG DEVIATION; NON ADHERENCE LEGAL RQMT/CLNC; NON ADHERENCE LEGAL RQMT/PUBLISHED PROC;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : DEPARTED BUR RWY 15 ENRTE TO OAK. WE COMMENCED OUR TURN TO 210 DEG HDG FOR SID AND WERE JUST ABOUT TO REACH THAT HDG WHEN THE TCAS ISSUED A "TFC, TFC" T/A. OUR ALT WAS 1500' AGL AND CLBING. THE VOL OF THE TA WAS LOUD ENOUGH TO CAUSE BOTH PLTS TO TRY TO VISUALLY ACQUIRE THE TFC. BY THE TIME WE
DETERMINED THAT WE WERE NOT IN A SEE AND AVOID SITUATION, WE HAD OVERSHOT THE 210 DEG HDG. NOT WANTING TO DEVIATE SUBSTANTIALLY FROM THE SID, I INITIATED AN AGGRESSIVE TURN BACK TO THE REQUIRED HDG. THE NET RESULT WAS AN SID DEVIATION, AND UNCOMFORTABLE PAX RIDE AND AN ATC CTLR WHO PROBABLY WANTED TO KNOW WHAT WE WERE DOING. IN SHORT, I FEEL THAT THE TCAS SYS WITH ITS PRESET VOL LEVEL CAN BE MORE OF A DISTR THAN A HELP IN SOME SITUATIONS.
SYNOPSIS : ACR MLG TRACK HEADING DEVIATION ON SID FROM BUR.
REFERENCE FACILITY ID : BUR
FACILITY STATE : CA
DISTANCE & BEARING FROM REF. : 4,,SW
AGL ALTITUDE : 1500,1500

ACCESSION NUMBER : 181354
DATE OF OCCURRENCE : 9106
REPORTED BY : FLC; FLC; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; TRACON,AC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : ATL
FACILITY STATE : GA
FACILITY TYPE : TRACON;
FACILITY IDENTIFIER : ATL;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : OTHER; CONFLICT/AIRBORNE LESS SEVERE;
ALT DEV/EXCURSION FROM ASSIGNED; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : FLC AVOIDANCE-EVASIVE ACTION; FLC
RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : WHILE DSNDING TO 11000', WE RECEIVED A TA. I LOOKED AT DISPLAY TO SEE WHERE TFC WAS, THEN VISUALLY ACQUIRED TFC OUTSIDE. AS I WAS WATCHING THE TFC MAYBE 5-10 SECS, WE RECEIVED AN RA CLB COMMAND. CAPT IMMEDIATELY BEGAN A CLB. AS WE RECEIVED THE CLR OF CONFLICT COMMAND, THE ALT ALERT WENT OFF. WE WERE 11400-11500'. ATL VERIFIED THAT WE WERE LEVELING AT 11000'. WE ACKNOWLEDGED THAT WE WERE. THE PROB WAS, WE WERE DSNDING WHILE THE OTHER ACFT WAS CLBING AND THE TCAS DIDN'T KNOW WHAT ALTS THE ACFT WERE TO LEVEL OFF AT. IT BEGAN THE WARNING COMMANDS AND WE WERE DISTRACTED BY THEM AND ENDED UP DEVIATING FROM ALT WHEN THERE WAS REALLY NO CONFLICT. WE WERE IN A DSNT TO 11000'; OTHER ACFT WAS IN A CLB TO 10000'. SUPPLEMENTAL INFO FROM ACN 181361: THE FREQUENT, TOO LOUD AND DISTRACTING TCAS "TFC, TFC" WARNINGS I HAVE HEARD OVER THE PAST SEVERAL MONTHS HAVE MADE ME SOMEWHAT LESS THAN A TRUE FAN OF THE SYS. THE DISTR FACTOR MAY HAVE PLAYED A ROLL IN THIS INCIDENT, BUT IF YOU THROW OUT AL THE SHOULDA'S AND COULDA'S, THE BOTTOM LINE IS THAT THE TCAS SAVED MY BACON ON THIS ONE. I'LL REASSESS MY THINKING ON TCAS.
SYNOPSIS : ACR FLT CREW RECEIVES TCAS ALERT WHILE DESCENDING. RESPONDS.
REFERENCE FACILITY ID : ATL
FACILITY STATE : GA
MSL ALTITUDE : 11000,11400

ACCESSION NUMBER : 181762
DATE OF OCCURRENCE : 9106
REPORTED BY : FLC; ; ; ; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; FLC,SO; FLC, PIC.CAPT; FLC,PIC.CAPT; TWR,LC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : CLE
FACILITY STATE : OH
FACILITY TYPE : TWR; ARPT;
FACILITY IDENTIFIER : CLE; CLE;
AIRCRAFT TYPE : MLG; LTT; MLG;
ANOMALY DESCRIPTIONS : OTHER; CONFLICT/AIRBORNE LESS SEVERE; ACFT EQUIPMENT PROBLEM/LESS SEVERE; TRACK OR HDG DEVIATION;
ANOMALY DETECTOR : COCKPIT/FLC; ATC/CTLR;
ANOMALY RESOLUTION : CTLR INTERVENED; CTLR ISSUED NEW CLNC; ACFT EQUIP PROBLEM RESOLVED ITSELF;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : ACFT EQUIPMENT;
NARRATIVE : IT WAS THE F/O'S LEG. WE WERE CONDUCTING A VIS APCH WITH THE ILS AS A BACKUP. I CONTACTED CLE TWR AT THE MARKER. THEY ASKED IF WE COULD HOLD SHORT OF RWY 28. I CHKED THE APCH PLATE AND ADVISED F/O THAT WE WOULD HAVE 8400'. THE S/O CONFIRMED WE STILL MET THE LNDG PERFORMANCE DATA FOR OUR WT. WE THEN ACKNOWLEDGED AFFIRMATIVE AND CLE TWR CLRED US TO LAND ON RWY 5R. WE KEPT GOOD SPD TO THE MARKER AND WERE SLOWING AS WE DSNDED ON THE G/S. AT 2 1/2 MI OUT, THE TWR ASKED US TO SLOW TO FINAL SPD DUE TO A DEP ON RWY 28. I ACKNOWLEDGED. AT 500' AGL, WITH THE GEAR DOWN AND FLAPS AT 25 THE TWR CLRED A LIGHT TWIN, A COMMUTER TURBO PROP (Y), ON TO RWY 5R FOR AN "IMMEDIATE" TKOF. I ANNOUNCED, "BE PREPARED FOR A GAR." THE F/O, MEANWHILE, HAD CALLED FOR FLAPS 30 (AT 500' AGL) BUT I DELAYED FOR A FEW SECS AS I WATCHED LTT Y TAXI ON TO THE RWY AND BEGIN A LAZY ACCELERATION. I THEN CALLED, "GO AROUND!" SEVERAL SECS LATER, THE TWR ALSO CALLED FOR US TO GO AROUND. THE FOLLOWING EVENTS HAPPENED NEARLY SIMULTANEOUSLY: THE GPWS BEGAN TO SHOUT IN OUR EARS ABOUT FLAPS TOO LOW, ETC. THE F/O CONCURRENTLY PUSHED THE THRUST LEVERS UP, CALLED FOR GO AROUND THRUST - FLAPS 25, AND PULLED BACK ON THE STICK. THE S/O RESPONDED BY 'FINE TUNING' THE THRUST LEVERS, AND ANNOUNCED "GO AROUND THRUST SET." I WOULD ESTIMATE THAT WE WERE BTWN 400' AND 300' IN THE AIR WHEN THE F/O ESTABLISHED GO AROUND PITCH WITH THE WINGS LEVEL. THE GPWS IS STILL SHOUTING. THE TWR IS SAYING SOMETHING BUT I CAN'T UNDERSTAND. THE F/O CALLS, "FLAPS 15." I SEE THAT WE HAVE PLENTY OF AIRSPD, AND OVER 1000 FPM RATE OF CLB SO I SET THE FLAPS TO 15 AND (UNCOMMANDED) PUT THE GEAR LEVER UP. I SEE AN ACR MLG Z CLBING OUT ON RWY 28 DIRECTY AHEAD AND AT OUR ALT. I POINTED AT THE MLG Z (THE F/O NODDED) AND SAID "WHAT DID HE (TWR) SAY?" NEITHER THE F/O OR THE S/O RESPONDED. (THEY LATER TELL ME THEY SAID NOTHING AS THEY COULD NOT HEAR THE TWR EITHER). I KNOW LTT Y IS CLBING OUT DIRECTLY UNDERNEATH US AND I DON'T KNOW WHICH WAY TO TURN. THE GPWS IS NOW SHOUTING IN OUR EARS WHAT SEEMS TO BE ITS' FULL VOCABULARY INCLUDING "GEAR, FLAPS, TERRAIN, TOO LOW, WHOOP WHOOP PULL UP." THE TWR IS NOW REPEATING OUR MISSED APCH INSTRUCTIONS BUT I STILL CAN'T HEAR DUE TO THE LOUDNESS OF THE GPWS! I, AGAIN, SAID OUT LOUD, "WHAT DID HE SAY?" I SAW THAT WE WERE OUT CLBING THE MLG Z AND THAT EVEN IF WE DIDN'T TURN WE WILL CROSS ABOVE HIM, BUT I DON'T KNOW WHERE THE LIGHT TWIN IS. THE S/O SAYS, "ALL I GOT WAS 4000', CLB TO 4000'." I SET IN 4000 IN THE ALT ALERTER AND ATTEMPTED TO SILENCE THE GPWS BY PUSHING ON THE G/S INHIBIT BUTTON (I LATER REALIZED HOW FUTILE THAT WOULD BE, BUT I WAS GETTING DESPERATE TO SHUT THE DAMN THING UP). I DID NOT RESPOND TO THE TWR AS I KNEW I WAS GETTING ONLY PART OF THE INSTRUCTIONS. FINALLY, AT APPROX 1000' AGL, THE GPWS SHUT UP. THE TWR REPEATED THE MISSED APCH INSTRUCTIONS (FOR A THIRD TIME) TO IMMEDIATELY TURN L TO A HDG OF 320 DEGS, AND CLB TO 4000'. I

ACKNOWLEDGED THE TWR'S INSTRUCTIONS EVEN AS THE F/O WAS BANKING RAPIDLY. WE TURNED INSIDE AND ABOVE THE MLG Z. I NEVER DID SEE THE LTT Y. CLBING THROUGH 3450' MSL, TWR SWITCHED US TO DEP WHO TOLD US TO MAINTAIN 3000' MSL AND TURN L TO 230 DEGS. WE HAD RETRACTED THE FLAPS ON SCHEDULE AND UPON CALLING FOR FLAPS UP, THE F/O CALLED FOR THE AFTER TKOF CHKLIST. WE COMPLETED A VIS PATTERN BACK TO RWY 5R AND LANDED UNEVENTFULLY. SUGGESTION TO PREVENT COM PROBS: ON EFIS RETROFITTED MLG ACFT REMOVE GPWS AUDIO FROM THE AUDIO SELECTOR PANELS AND INSTALL A DEDICATED SPEAKER FOR THE GPWS AUDIO.
SYNOPSIS : AUDITORY INTERFERENCE FOR EFIS RETROFITTED FRT MLG FLC LEADS TO UNSAFE SITUATION DURING A GO AROUND. GPWS TOO LOUD.
REFERENCE FACILITY ID : CLE
FACILITY STATE : OH
AGL ALTITUDE : 300,1000

ACCESSION NUMBER : 181971
DATE OF OCCURRENCE : 9106
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; ARTCC,RDR;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : DAG
FACILITY STATE : CA
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZLA;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ALT DEV/UNDERSHOOT ON CLB OR DES; ALT DEV/XING RESTRICTION NOT MET; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC; ATC/CTLR;
ANOMALY RESOLUTION : NOT RESOLVED/ANOMALY ACCEPTED;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : PROC OR POLICY/FAA; PROC OR POLICY/COMPANY; ACFT EQUIPMENT;
NARRATIVE : WHILE CRUISING AT FL280, DSNT TO A XING RESTRICTION 10 MI NE OF DAG VORTAC WAS INITIATED LATE. THE RESTRICTION WAS MADE A FEW MI PAST THE 10 MI RESTRICTION. I BELIEVE THAT CREW FATIGUE WAS A PRIME FACTOR IN THIS INCIDENT. WE WERE ON THE THIRD DAY OF A 4 DAY TRIP PAIRING, WHICH FLEW 27 FLTS IN A 4 DAY PERIOD. FLT TIME SCHEDULED AT 28 HRS AND 15 MINS. ALL BUT 6 OF THESE ROUND TRIPS WERE IN AND OUT OF "KAMIKAZE ALLEY" (AKA, BUR). CREW REST WAS APPROX 14 HRS BTWN EACH OF THESE DAYS. THERE IS SUCH A LET DOWN WHEN NOT DODGING ACFT IN AND OUT OF BUR THAT ONE TENDS TO RELAX AND NOT PAY AS MUCH ATTN AS NEEDED AT CRUISE FLT. WE ALSO NOTED A NEAR MISS OF 2 LIGHT ACFT IN THE BUR AREA ON THE PREVIOUS LEG. ALSO THE LOUD VOL OF THE TCAS SYS CONSTANTLY YELLING AT ONE CONTRIBUTES GREATLY TO OVERALL COCKPIT FATIGUE.
SYNOPSIS : ALT DEVIATION. ALT CROSSING RESTRICTION NOT MADE.
REFERENCE FACILITY ID : DAG
FACILITY STATE : CA
MSL ALTITUDE : 24000,25000

ACCESSION NUMBER : 183735
DATE OF OCCURRENCE : 9107
REPORTED BY : FLC; FLC; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; TRACON,DC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : BNA
FACILITY STATE : TN
FACILITY TYPE : ARPT; TRACON;
FACILITY IDENTIFIER : BNA; BNA;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : CONFLICT/AIRBORNE LESS SEVERE; ACFT EQUIPMENT PROBLEM/LESS SEVERE; ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC; COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE; FLC REGAINED ACFT CONTROL;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : OTHER; ACFT EQUIPMENT; PROC OR POLICY/COMPANY;
NARRATIVE : DEPARTING NASHVILLE (BNA) WE RECEIVED AN UNNECESSARY 'TFC' AURAL WARNING AT ABOUT 4000 FT ON TCAS. THIS AURAL WARNING WAS TOO LOUD AND HAMPERED OUR ABILITY TO HEAR BNA DEP CTL'S (119.35) INSTRUCTION TO TURN L. (TURN NOT MADE BECAUSE OF TCAS WARNING.) THIS CONFUSION RESULTED WITH A CLB THROUGH OUR ASSIGNED ALT OF 5000 TO APPROX 5400. NO CONFLICT RESULTED FROM OUR DEV. RECOMMENDATION: TCAS AURAL WARNING IS MUCH TOO LOUD AND WARNING PARAMETERS ARE TOO WIDE.
SYNOPSIS : DEPARTING BNA, FLC ALLEGES UNWANTED TCAS WARNING, ALT DEV.
REFERENCE FACILITY ID : BNA
FACILITY STATE : TN
DISTANCE & BEARING FROM REF. : 3,,N
MSL ALTITUDE : 5000,5400

ACCESSION NUMBER : 189170
DATE OF OCCURRENCE : 9109
REPORTED BY : FLC; FLC;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : BOS
FACILITY STATE : MA
FACILITY TYPE : ARPT; TRACON;
FACILITY IDENTIFIER : BOS; BOS;
AIRCRAFT TYPE : LRG;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/LESS SEVERE; ALT DEV/EXCURSION FROM ASSIGNED; NON ADHERENCE LEGAL RQMT/CLNC; NON ADHERENCE LEGAL RQMT/PUBLISHED PROC;
ANOMALY DETECTOR : COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : FLC OVERCAME EQUIP PROBLEM; FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : ACFT EQUIPMENT;
NARRATIVE : WE TOOK OFF FROM PORTLAND, ME, FOR 28 MIN FLT TO BOS. SHORTLY AFTER OUT OF 10K, THE 'OVERSPD WARNING' LIGHTS LIT UP AND THE LOUD HOWLING SIREN OR WHATEVER IT IS FILLED THE COCKPIT. WE WERE WELL BELOW VNE, VMA/MMO. THE COPLT BARBER POLE WAS STUCK AT ABOUT 250K AND WE WERE GOING 300. SWITCHED TO HIS ALTERNATE AIRDATA COMPUTER WHICH MOVED POLE TO ABOUT 340K, BUT WARNINGS PERSISTED. (MEANWHILE PRESSING ON TO BOS). I HAD FO TRY TO FIND AN AURAL WARNING HORN CIRCUIT BREAKER, SO HE WAS OUT OF HIS SEAT. I ASKED CENTER FOR HDGS RATHER THAN ME NAVIGATE. THE DAMN NOISE WAS SO LOUD I MISSED SEVERAL CALLS (I ALSO WAS INTERACTING SOMEWHAT WITH FO BECAUSE HE COULDN'T FIND CIRCUIT BREAKERS. FINALLY TOLD HIM TO GET INTO SEAT, I HAD THEN SLOWED BELOW 250 AND SIREN BECAME INTERMITTENT OR STOPPED. GIVEN HDG TO INTERCEPT RWY 27 LOC AT BOS WHILE FO WAS GETTING SEATED (ABOUT 15 MI OUT PLUS/MINUS). RATHER THAN HAVE AUTOPLT DO A HVY BANK TO INTERCEPT, I SELECTED LNAV FOR A MORE GRADUAL TURN ON SINCE SPD STILL OVER 230 KTS AND DECREASING. THE LNAV DID NOT CAPTURE SINCE WE WERE SO CLOSE TO LOC AND BELOW THE CLOUDS. I THINK WE WERE GIVEN SOMETHING LIKE 1700 FT TO INTERCEPT, BUT WE WERE BELOW THE CLOUDS IN GOOD VFR WITH ARPT IN SIGHT AND AT THAT TIME DOING THE DSCNT AND APCH CHKLISTS. I NOTICED WE OVERSHOT THE LOC AND WAS TURNING BACK TOWARD THE R TO GET ON IT AND SELECTED LOC ON FLT DIRECTOR. MEANWHILE, I LET THE ALT GO TO ABOUT 1400-1450 FT (250 +/- BELOW INTERCEPT AT OUTER FIX). APCH GAVE US A HDG TO 300 DEGS AND CLRED US FOR A VISUAL APCH, THEY HAD BEEN ADVISED WE WERE A BIT BUSY AND MADE NO FURTHER COMMENT. IN RETROSPECT, I SIMPLY DISCONNECTED THE AUTOPLT AND PROCEEDED VFR TO THE LOC. THE DEV WAS SLIGHTLY TO THE L OF COURSE AND SHOULD HAVE CIRCLED SOMEWHERE WHEN THE WARNINGS WENT OFF, BUT THE ONLY THING ABOUT IT THAT CONCERNED ME WAS THAT DAMN NOISY WARNING WAIL AND WE HAD NO WAY OF FINDING THE CIRCUIT BREAKERS AS IT IS NOT IN OUR BOOK TO DISABLE THE STUPID THING. AS IT TURNED OUT, THERE ARE 2 CIRCUIT BREAKERS THAT CAN SHUT THE NOISE OFF AT THE SPEAKER, BUT ONLY MAINT HAS THE INFO ON HOW TO FIND THEM FROM A GRID PATH, RATHER THE SEARCH AND MISS TECHNIQUE WE TRIED TO USE ON THE SHORT FLT.
SYNOPSIS : ACR LGT HAD AN AURAL SIGNAL WARNING FAILURE THAT RESULTED IN ACTIVATING THE WARNING SIGNAL. AURAL SIGNAL WAS VERY LOUD AND CAUSED FLC DISTR.
REFERENCE FACILITY ID : BOS
FACILITY STATE : MA
DISTANCE & BEARING FROM REF. : ,,N
MSL ALTITUDE : 1400,1700

ACCESSION NUMBER : 189265
DATE OF OCCURRENCE : 9109
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; TRACON,AC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
FACILITY TYPE : ARPT; TRACON;
FACILITY IDENTIFIER : ORD; ORD;
AIRCRAFT TYPE : MDT; SMT;
ANOMALY DESCRIPTIONS : CONFLICT/AIRBORNE LESS SEVERE; ALT DEV/EXCURSION FROM ASSIGNED;
ANOMALY DETECTOR : COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : OBSERVED TA WHICH TURNED IN RA. DSNDED ACFT 250 FT AS PER TCASII COMMAND AND ALERTED ATC. OBSERVED TFC IN DSCNT AND IT WAS A LIGHT TWIN OPERATING VFR IN THE CHICAGO TCA. TCASII IN THIS SITUATION DID HELP AVERT A MIDAIR. MY ONLY COMPLAINT IS THE AURAL TCASII WARNINGS ARE TOO LOUD.
SYNOPSIS : COMMUTER MDT ALT DEV EXCURSION FROM CLRNC ALT IN RESPONSE TO TCASII RA.
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
DISTANCE & BEARING FROM REF. : 15,,NW
MSL ALTITUDE : 7750,8000

ACCESSION NUMBER : 189654
DATE OF OCCURRENCE : 9109
REPORTED BY : FLC; FLC; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,OTH; FLC,PIC.CAPT; TRACON, AC;
FLIGHT CONDITIONS : IMC
REFERENCE FACILITY ID : NRT
FACILITY STATE : FO
FACILITY TYPE : ARPT; TRACON; TRACON;
FACILITY IDENTIFIER : NRT; NRT; NRT;
AIRCRAFT TYPE : WDB;
ANOMALY DESCRIPTIONS : IN-FLT ENCOUNTER/WX; OTHER; ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : ATC/CTLR;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE; CTLR INTERVENED; CTLR ISSUED NEW CLNC;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : PROC OR POLICY/ATC FACILITY; DESIGN/AIRSPACE; AN ACFT TYPE;
NARRATIVE : I WAS THE FO AND WAS RESPONSIBLE FOR COMPUTER ENTRIES AND RADIO COM. WE WERE CLRED OUT OF FL230 TO 10000 FT BY TOKYO CENTER. WE WERE GIVEN A XING RESTRICTION OF AT OR BELOW 15000 FT AT MELON INTXN. IN SHORT ORDER, WE WERE GIVEN REVISED CLRNC TO 11000 FT THEN HANDED OFF TO TOKYO NARITA APCH WHO THEN GAVE A CLRNC TO HOLD AT ARIES INTXN. WE WERE PERHAPS 20 DME FROM THE FIX. AN ALREADY BUSY ARR WAS MADE MORE SO BY THE FOLLOWING FACTORS: 1) WX - TSTMS, TURB. CAPT WAS CLOSELY MONITORING RADAR. 2) WX AT DEST - RPTED AT MINS. CREW DURING DSCNT WAS DISCUSSING POSSIBLE DIVERT TO OSHKA. INTL OFFICER FELL OUT OF LOOP WHILE GETTING OSHKA WX AND MONITORING ATIS. NEW ATIS INDICATED RWY CHANGE. 3) I WAS OVERLY OCCUPIED WITH COMPUTER DUTIES - HOLDING, NEW ARR, NEW APCH. I DID NOT MONITOR DSCNT CLOSELY ENOUGH. 4) LANGUAGE - THE CTLR WAS DIFFICULT TO UNDERSTAND. I REQUIRED REPEATS OF SEVERAL OF THE TRANSMISSIONS. I ALSO HAD TO ASK FOR EFC. 5) WE WERE DSNDED LATE - CAPT ELECTED TO HAND FLY THE ACFT TO MAKE THE XING RESTRICTION. THE AUTO PLT OFF ALARM DISTRACTED ME FOR A FEW MOMENTS AT A CRITICAL TIME ABOUT 17000 FT (TA 14000 FT). I HAD COMPLETED THE DSCNT CHKLIST TO 18000 FT (OR TRANS ALT). AFTER THE AUTOPLT OFF ALARM I WENT BACK TO THE COMPUTER AND WAS SO ENGAGED WHEN NARITA APCH TOLD US WE WERE BELOW ALT AND TO CLB AND TURN. THE CAPT REACTED IMMEDIATELY. WE HAD FAILED TO RESET ALTIMETERS FROM 29.92 TO 29.19 AT TRANSITION ALT. NOBODY WAS THINKING DSCNT CHKLIST. IT IS EXTREMELY DIFFICULT TO MAINTAIN COCKPIT AWARENESS AND SCAN IN FMC ACFT WHEN RAPID CHANGE IS REQUIRED. PARTICULARLY WITH THE HEAD DOWN KEYPAD. CONTRIBUTING FACTORS: 1) HIGH WORKLOAD ACFT WITH RELATIVELY LOW TIME CREW DSNDING INTO AREA OF HVY WX. 2) LAST MIN HOLDING INSTRUCTIONS TOOK THE FO OUT OF THE LOOP WHILE REPROGRAMMING THE COMPUTER. 3) I NOW BACKING FO UP ON GETTING THE TRANSITION ALT CHKLIST COMPLETED. 4) CAPT NOT DOUBLECHKING TO SEE THAT ALL THE CHKLIST ITEMS HAD BEEN COMPLETED. LESSONS TO BE LEARNED: 1) ALL CREW MEMBERS NEED TO INSURE CHKLIST IS COMPLETE (INCLUDING THE ONE WHO IS FLYING). 2) ALL CREW MEMBERS NEED TO BE IN THE LOOP DURING APCH, PARTICULARLY WHEN WX, LANGUAGE DIFFERENCES, AND LAST MIN CLRNCS COULD COMPLICATE THE APCH.
SYNOPSIS : ACR FLC IN NEW MODEL WDB HAS ALT DEV ALT OVERSHOT ALT EXCURSION DUE TO WRONG ALTIMETER SETTING.
REFERENCE FACILITY ID : NRT
FACILITY STATE : FO
MSL ALTITUDE : 7500,14000

ACCESSION NUMBER : 196984
DATE OF OCCURRENCE : 9112
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; TRACON,AC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : SNA
FACILITY STATE : CA
FACILITY TYPE : TRACON; ARPT;
FACILITY IDENTIFIER : SNA; SNA;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : OTHER; TRACK OR HDG DEVIATION; ALT DEV/EXCURSION FROM ASSIGNED; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC; COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : NOT RESOLVED/ANOMALY ACCEPTED;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : ACFT EQUIPMENT; OTHER; PROC OR POLICY/COMPANY;
NARRATIVE : INBOUND TO SNA ON KAYOH 2 ARR, COAST APCH ADVISED US WE WOULD BE VECTORED ACROSS 19R LOC FOR SPACING, FOR A VISUAL APCH. THIS BEING A SUNDAY WITH LARGE NUMBERS OF LIGHT ACFT, THIS WAS LATER TO EXPOSE US TO A NUMBER OF CONFLICTING TFC. WE ENDED UP BEING TURNED N JUST E OF ANAHEIM AS LOWER ALTS TO DSND TO (FROM 7000 MSL TO 3000 MSL). APCH ALSO POINTED OUT SEVERAL ACFT AS TFC. TCASII GAVE US SEVERAL TFC ALERT MESSAGES (TA) AS WELL AS 3 RESOLUTIONS ADVISORIES (RA). 2 RAS COMMANDED DSCNTS, WHICH WE WERE ABLE TO FOLLOW, MERELY BY INCREASING RATE TO RESOLVE CONFLICT, AND STILL BE ABOVE ALT DSNDING TO. THE THIRD COMMANDED A CLB (STILL DSNDING), WHICH WAS INITIATED, AND AFTER GAINING A COUPLE OF HUNDRED FT AT MOST, WE WERE CLR OF CONFLICT. IN EACH CASE WE SAW TFC AFTER GAINING A COUPLE OF HUNDRED FT AT MOST. WE WERE CLR OF CONFLICT. IN EACH CASE WE SAW TFC AFTER GETTING RA MESSAGE. EACH MESSAGE GAVE CORRECT RA. THIS APCH WAS MADE EXTREMELY BUSY AND DIFFICULT, TO WHERE OUR ABILITY TO RECEIVE AND FOLLOW ATC INSTRUCTIONS WERE COMPROMISED. THE CTLR WAS ADVISED OF THIS, AFTER WE MISSED WHAT HE SAID WHILE THE CTLR AND TCASII COMPUTER (AUDIO) WERE TALKING AT THE SAME TIME. THIS HAPPENED MORE THAN ONCE, SIGNIFICANTLY INCREASING THE WORKLOAD FOR ALL OF US. ACCORDING TO CTLR, WE MISSED A HDG CHANGE, AND WERE NOT AWARE OF THIS UNTIL HE QUESTIONED OUR LACK OF RESPONSE. THE ONLY REASON WE WERE ABLE TO FOLLOW RA COMMANDS, WAS BY VISUAL PICTURE ON IVSI, AS CONSTANT CHATTER GARBLED AUDIO MESSAGE. TCASII DOES NOT PRESENTLY FIT INTO ATC SYS, BUT ADDS AN ELEMENT OF INTERRUPTION AND CONFUSION TO AN ALREADY OVERLOADED SYS. NOR DOES IT FIT INTO OUR PRESENT COCKPIT MGMNT, PREVENTING PLTS FROM MAKING TIMELY VERBAL COMMANDS AND ALSO THEIR ABILITY TO UNDERSTAND SAME.
SYNOPSIS : ATTEMPTING TO FOLLOW APCH CTLRS INSTRUCTIONS, FLC OF MLG WAS DISTR BY OVER LOUD TCASII ALERTS AND UNABLE TO HEAR CTLR INSTRUCTIONS. MISSING A HDG CHANGE.
REFERENCE FACILITY ID : SNA
FACILITY STATE : CA
DISTANCE & BEARING FROM REF. : 7,,N
MSL ALTITUDE : 3000,7000

ACCESSION NUMBER : 198608
DATE OF OCCURRENCE : 9201
REPORTED BY : FLC; ; ; ; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; TWR,LC; TRACON,AC; FLC,PLT; FLC,PLT;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : SNA
FACILITY STATE : CA
FACILITY TYPE : TWR; TRACON; ARPT;
FACILITY IDENTIFIER : SNA; SNA; SNA;
AIRCRAFT TYPE : LRG; SMA; SMT;
ANOMALY DESCRIPTIONS : CONFLICT/NMAC; OTHER;
ANOMALY DETECTOR : COCKPIT/FLC; ATC/CTLR;
ANOMALY RESOLUTION : FLC AVOIDANCE-EVASIVE ACTION; FLC EXECUTED GAR OR MAP;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : WE WERE CLRED FOR A VISUAL APCH BY APCH CTL TO RWY 19R. OUR TFC WAS AN SMA ON A 2 MI FINAL. WE PROCEEDED TO FLY A VISUAL PATTERN TO 19R, TURNING FINAL APPROX 4 MI FROM THE RWY. UNKNOWN TO US, THE TWR HAS CLRED THE SMA TO LAND ON 19L AND HAS SEQUENCED AN SMT TO LAND ON 19R AHEAD OF US. WE CONTACTED TWR AND THEY CLR US TO LAND ON 19R. TWR THEN INSTRUCTS THE SMT TO GAR AND MAKE R TFC. SHORTLY AFTER THIS WE SEE THE SMT IN A CLBING R HAND TURN, IN BTWN THE NOSE AND L WING OF OUR AIRPLANE. WE TAKE EVASIVE ACTION AND GAR. I BELIEVE THE TWR SATURATED WITH LIGHT AIRPLANE TFC AND TRIED TO RELIEVE THIS BY USING BOTH RWYS FOR GENERAL AVIATION. I DON'T BELIEVE THAT THIS IS SAFE IN AN AREA WITH THIS MUCH TFC. COMS WERE DIFFICULT TO MAKE AND HEAR WITH SO MANY ACFT ON THE FREQ. TWR HAD NO TIME TO ALERT US ABOUT SMT TFC, OR EVEN COORD OUR PROGRESS WITH THE SLOWER TFC. TCASII WAS NO HELP WITH THERE BEING AT LEAST 6 TARGETS, YOU HAVE TO BE OUTSIDE THE COCKPIT. THE WARNINGS ONLY ADD TO THE CONFUSION DURING THIS PHASE OF THE FLT.
SYNOPSIS : ACR ON APCH MUST TAKE EVASIVE ACTION TO AVOID SMT SEQUENCED AHEAD WITH NO ADVISORY.
REFERENCE FACILITY ID : SNA
FACILITY STATE : CA
DISTANCE & BEARING FROM REF. : 2,,N
MSL ALTITUDE : 700,700

ACCESSION NUMBER : 201659
DATE OF OCCURRENCE : 9202
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; ARTCC,RDR;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : FWA
FACILITY STATE : IN
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZAU;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/LESS SEVERE;
TRACK OR HDG DEVIATION; NON ADHERENCE LEGAL RQMT/CLNC; NON ADHERENCE LEGAL RQMT/FAR;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE; CTLR ISSUED NEW CLNC;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : WE WERE CLRD FOR THE OXI 2 ARR, FWA TRANSITION TO ORD, FO FLYING THE AIRPLANE. AFTER PASSING FWA, BOTH MASTER CAUTION LIGHTS ON OUR MLG CAME ON AND REMAINED LIT UNTIL THEY WERE RESET. THE OVERHEAD ANNUNCIATION PANEL WAS WASHED OUT BY BRIGHT SUNLIGHT, MAKING IT DIFFICULT TO FIND ILLUMINATED SYS
MALFUNCTION LIGHTS. THE FO AND I BOTH STRAINED TO SEE IF ANY ANNUNCIATOR LIGHT WAS LIT, AND TO FIND EVIDENCE OF ANY OTHER ACFT MALFUNCTION. NO SYS ABNORMALITY OR OTHER MALFUNCTION WAS FOUND. (THE ACFT LOGBOOK HAD SEVERAL RELATED ENTRIES WHICH HAD BEEN ADDRESSED BY PLACARDING ONE OF THE OVERHEAD ANNUNCIATOR LIGHTS. THE 'FLASHING' OF THE MASTER CAUTION LIGHTS WAS NOT DIRECTLY ADDRESSED BY MAINT ACTION). AFTER CONCLUDING THAT THE STEADY ILLUMINATION OF THE CAUTION LIGHTS WAS A NUISANCE WARNING, I BEGAN TO CONSIDER HOW I WOULD WRITE THE LOGBOOK ENTRY TO ENSURE THAT THIS PROBLEM WOULD BE REPAIRED. THE FO HAD BECOME INVOLVED IN ASSESSING THE PROBLEM AND THEN IN JOINING ME IN MY DELIBERATIONS ABOUT THE LOGBOOK ENTRY. ALTHOUGH WE HAD TUNED THE OXI 095 DEG RADIAL FOR THE TURN AT SPANN INTXN, WE FAILED TO TURN BECAUSE OF OUR DISTR. AT FWA 40 DME I NOTICED OUR DIVERGENCE AND HAD THE FO TURN TO HDG 230. TO INTERCEPT THE COURSE (OXI 275 DEG INBOUND). NEXT, WE RECEIVED AN ACARS MESSAGE TO CALL CTR ON A NEW FREQ ASAP. THE FO AND I DO NOT BELIEVE THAT WE MISSED A RADIO CALL, EVEN THOUGH WE WERE DISTR AND WERE OFF COURSE. WE CALLED THE NEW FREQ AND RECEIVED A NEW CLRNC. I BELIEVE THAT MY FAILURE TO MONITOR THE FO'S NAV WHILE I INVESTIGATED POSSIBLE ACFT ABNORMALITIES WAS THE MOST IMPORTANT CONSIDERATION IN THIS OCCURRENCE. ALSO, SHOULD HAVE INSTRUCTED HIM TO FOCUS SOLELY ON FLYING AND NAV WHILE I RESEARCHED THE PROBLEM. SECONDARY FACTORS: REPEATED FAILURE OF MAINT TO REMEDY A SERIOUS PLT DISTR EVEN THOUGH MEL REQUIREMENTS WERE ARGUABLY MET. CREW FATIGUE AND 'LAST FLT OF THE TRIP' COMPLACENCY. RELATIVE INEXPERIENCE OF CAPT. AND FO IN THESE CREW CONDITIONS.
SYNOPSIS : HDG TRACK DEV.
REFERENCE FACILITY ID : FWA
FACILITY STATE : IN
DISTANCE & BEARING FROM REF. : 25,311
MSL ALTITUDE : 31000,31000

ACCESSION NUMBER : 205876
DATE OF OCCURRENCE : 9203
REPORTED BY : FLC; ; ; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; TWR,LC; TRACON,DC; MISC,GNDCREW;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : PIT
FACILITY STATE : PA
FACILITY TYPE : ARPT; TWR; TRACON;
FACILITY IDENTIFIER : PIT; PIT; PIT;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/CRITICAL; OTHER;
ANOMALY DETECTOR : COCKPIT/FLC; COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : FLC OVERCAME EQUIP PROBLEM;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : ACFT EQUIPMENT;
NARRATIVE : FLT DEPARTING PIT AT APPROX PM30 AT CLOSE TO MAX WT -- 104000 POUNDS. WE HAD TO PULL NON-REVENUE AND REVENUE STAND BY PAX DUE TO WT. CREW WAS CLOSE TO LEGAL LIMITS (15 HRS BY THE TIME WE WERE TO LAND AT BTV). CLRED FOR TKOF 28R WITH CLRNC TO 5000 WITH A TURN TO 360 DEGS. THE CAPT WAS FLYING. JUST PAST V1 -- VR -- BOTH STALL RECOGNITION SYS SOUNDED WITH STICK SHAKERS, STALL LIGHTS, AND BOTH HORNS. THE CAPT ROTATED VERY SLOWLY -- I COULD NOT HEAR HIS COMMANDS OVER THE NOISE. WE BOTH DETERMINED THE ACFT WAS SAFELY FLYING. I RAISED THE GEAR AS SOON AS POSITIVE RATE WAS ESTABLISHED. I XMITTED IN THE BLIND TO DEP THAT WE WERE CLBING STRAIGHT OUT (CAPT MAINTAINED FULL PWR FOR 2-3 MINS TO MAINTAIN THE ACFT SAFETY). THE NOISE WAS SO LOUD WE COULD NOT THINK. WE FOLLOWED THE CHKLIST PROC IN THE PLT'S HANDBOOK AND BY TURNING UP THE VOLUME AND BARELY MUTING THE NOISE WE TOLD DEP OUR SITUATION AND WANTED AN ALT AND VECTORS TO WORK ON THE SITUATION. WE WERE ABLE TO SILENCE THE SOUNDS AND ALL SYS WENT BACK TO NORMAL. AS PER ACR OPS AND MAINT SUPVRS WE CONTINUED ON AND LANDED NORMALLY AT BTV. ACR TRAINING WAS EXCELLENT. THE CAPT AND I HANDLED THE PROBLEM AS TRAINED. NO ONE EVER PREPARED US FOR THE NOISE LEVEL THOUGH. ONCE WE REALIZED IT WAS JUST A SYS MALFUNCTION, IT TOOK US A FEW MINS TO PULL CIRCUIT BREAKERS TO SILENCE HORNS. RECOMMENDATION -- 14-15 HR DAYS ARE TO LONG. WE WERE LUCKY -- THE WX WAS GOOD -- NOT MUCH TFC.
SYNOPSIS : STALL WARNING AND STICK SHAKER HORN ACTIVATED DURING TKOF PROC. FALSE WARNING. NIGHT OP.
REFERENCE FACILITY ID : PIT
FACILITY STATE : PA
DISTANCE & BEARING FROM REF. : ,,W
AGL ALTITUDE : 0,5000

ACCESSION NUMBER : 224375
DATE OF OCCURRENCE : 9210
REPORTED BY : FLC; FLC; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; FLC,PLT; TRACON, AC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : EWR
FACILITY STATE : NJ
FACILITY TYPE : ARPT; TRACON;
FACILITY IDENTIFIER : EWR; N90;
AIRCRAFT TYPE : LRG;
ANOMALY DESCRIPTIONS : OTHER; ALT DEV/OVERSHOOT ON CLB OR DES; ALT DEV/EXCURSION FROM ASSIGNED; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC; COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : FLC AVOIDANCE-EVASIVE ACTION; FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : ACFT EQUIPMENT; OTHER; PROC OR POLICY/COMPANY;
NARRATIVE : WHILE APCHING EWR AT 3000 FT, ON THE ILS TO RWY 4R, ATC CALLED OUT TFC AHEAD AT 2500 FT. THIS TFC WAS DISPLAYED ON TCASII AND ALSO SEEN VISUALLY BY THE PNF. AS WE APCHED THE TFC, THE TCASII DISPLAYED AN RA OF 'MONITOR VERT SPD' AND THE 'CLB.' WE CLBED APPROX 300 FT TO AVOID THE TFC UNTIL THE 'CLR OF CONFLICT' ADVISORY CAME. OUR CLB IN RESPONSE TO TCASII WAS IMMEDIATELY RPTED TO APCH CTL. UPON DSNDING AGAIN, WE INADVERTENTLY DSNDED APPROX 250 FT BELOW 3000 FT. OUR CLRNC HAD BEEN TO 'MAINTAIN 3000 UNTIL ESTABLISHED -- CLRED ILS 4R.' DURING THIS ENTIRE EPISODE WE WERE ON THE LOC BUT STILL BELOW THE GLIDE PATH. AMONG THE DISTRACTIONS CONTRIBUTING TO THIS PROBLEM WERE THE CONFLICTING AND LOUD VOICE WARNINGS OF 'ALT' AND THE TCASII COMMANDS MAKING COM WITH APCH DIFFICULT. SUPPLEMENTAL INFO FROM ACN 223997: I THINK THE FO INADVERTENTLY DSNDED BELOW OUR ASSIGNED ALT FOR SEVERAL REASONS: HE BECAME DISTRACTED BY THE MULTITUDE OF AURAL WARNINGS AND VISUAL INDICATIONS. FOR EXAMPLE, TCASII AURAL WARNINGS INCLUDED 2 DIFFERENT VOICE WARNINGS, WITH THE VISUAL VSI LIGHT INDICATIONS. AT THE SAME TIME, THE ACFT ALTDEV AURAL WARNING WAS SOUNDING, PLUS I WAS TALKING TO ATC AND INSTRUCTING HIM TO FOLLOW THE TCASII INDICATIONS. WHILE RETURNING TO ASSIGNED ALT, I WAS AGAIN INSTRUCTING HIM AND ATC WAS TALKING TO US.
SYNOPSIS : AN LGT ACR CLBED IN RESPONSE TO A TCASII COMMAND. THE ACFT WAS ON THE ILS INBOUND AT EWR.
REFERENCE FACILITY ID : EWR
FACILITY STATE : NJ
DISTANCE & BEARING FROM REF. : 10,,SW
MSL ALTITUDE : 2650,3300

ACCESSION NUMBER : 227833
DATE OF OCCURRENCE : 9212
REPORTED BY : FLC; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : SFO
FACILITY STATE : CA
FACILITY TYPE : TRACON; ARPT;
FACILITY IDENTIFIER : OAK; SFO;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/CRITICAL; OTHER;
ANOMALY DETECTOR : COCKPIT/FLC; COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : FLC OVERCAME EQUIP PROBLEM;
ANOMALY CONSEQUENCES : EMOTIONAL TRAUMA;
NARRATIVE : FALSE TCASII AT LOW ALT. DANGEROUS RA COMMAND. WE DEPARTED SFO RWY 10R AT XA30 LCL. WE USED FULL PWR WITH A LIGHT WT (MLG ACFT). AT 1500 FT TCASII SHOWED A POP-UP TARGET AT 1 O'CLOCK AND 1/2 MI, 700 FT ABOVE US. AFTER THE TA THE TCASII GAVE US A DSND RA. AT THIS TIME WE STILL HAD TKOF FLAPS WITH A CLB RATE OF 4000 FPM AND A PITCH ATTITUDE OF PLUS 20 DEGS. OUR FIRST REACTION WAS TO LOOK FOR THE TARGET AND BEFORE WE COULD REACT THE TCASII DECLARED US CLR OF THE TARGET. OUR ALT WAS NOW ABOUT 2300 FT. TCASII STILL SHOWED A TARGET AT 2-3 O'CLOCK AND 1/2 MI. TCASII THEN DECLARED 'TFC' A SECOND TIME WITH A CLB RA OF PLUS 4000 FPM. THIS ENTIRE EVENT OCCURRED IN LESS THAN 60 SECONDS. THE PROBLEM HERE WAS THE TCASII VOLUME. TCASII VOLUME WAS SO LOUD I WAS UNABLE TO COMMUNICATE WITH DEP CTL TO VERIFY THE VALIDITY OF THE TCASII TARGET. THIS WAS A DANGEROUS SITUATION. IMMEDIATELY AFTER TKOF, VERY HIGH RATE OF CLB (PLUS 4000 FPM), CLBING TO A TARGET ONLY 700 FT ABOVE US (IT WOULD HAVE TAKEN MORE THAN 1000 FT OF ALT TO STOP THE CLB AND START A DSCNT PUTTING US IN THE PATH OF THE INTRUDER A SECOND TIME) FINALLY OUR COM WITH DEP CTL WAS CUT BECAUSE OF THE LOUD VOLUME OF THE TCASII ALERTS. THE CONFUSION FACTOR WAS VERY HIGH. AS A CREW WE WERE VERY BUSY WITH THE TKOF PROFILE (WE STILL HAD THE FLAPS OUT). THE TCASII DECLARED TARGET, DSND, MONITOR VERT SPD, CLR OF TFC, TARGET, CLB AND CLR OF TFC ALL IN ABOUT 65 SECONDS. THE INITIAL COMMAND TO DSND COULD HAVE BEEN A VERY DANGEROUS DECISION. IF THIS SITUATION HAD OCCURRED AT NIGHT, THERE IS A HIGH PROBABILITY AN AIRPLANE WOULD DSND INTO THE WATERS OF SFO BAY. I WANT TO EMPHASIZE THE VOLUME OF THE TCASII ALERT WAS THE MOST DISTRACTING PART OF THIS ENCOUNTER. TCASII VOLUME WAS PART OF THE CERTIFICATION OF THE SYS. WHOEVER ESTABLISHED THIS DECIBEL LEVEL MADE A HUGH MISTAKE. IT IS CREATING A DANGEROUS SITUATION AND NEEDS TO BE FIXED NOW!
SYNOPSIS : CAPT OF ACR MLG ACFT EXPERIENCED A FALSE TCASII ALERT AND WARNING IN A SHORT TIME RESULTING IN BRIEF EMOTIONAL TRAUMA TO THE PLT.
REFERENCE FACILITY ID : SFO
FACILITY STATE : CA
DISTANCE & BEARING FROM REF. : 5,95
MSL ALTITUDE : 1500,1500

ACCESSION NUMBER : 238848
DATE OF OCCURRENCE : 9304
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; TWR,LC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : IND
FACILITY STATE : IN
FACILITY TYPE : ARPT; TWR;
FACILITY IDENTIFIER : IND; IND;
AIRCRAFT TYPE : MDT;
ANOMALY DESCRIPTIONS : RWY OR TXWY EXCURSION; LOSS OF ACFT CONTROL; ACFT EQUIPMENT PROBLEM/CRITICAL; TRACK OR HDG DEVIATION; NON ADHERENCE LEGAL RQMT/PUBLISHED PROC;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : NOT RESOLVED/UNABLE;
ANOMALY CONSEQUENCES : OTHER; NONE;
SITUATION REPORT SUBJECTS : AN ACFT TYPE; ACFT EQUIPMENT;
NARRATIVE : UPON ENTERING THE TERMINAL AREA, THE CAPT AND I PREPARED THE MDT FOR A VISUAL TO 5R AT INDY. IT WAS MY LEG SO IT WAS TO BE MY LNDG. UPON TURNING BASE TO FINAL I CALLED FOR THE GEAR DOWN (IT WAS SELECTED) AND 1 OF THE 2 NOSE GEAR DOWN LIGHTS FAILED TO OPERATE. CAPT SAID TO DISREGARD SINCE THE CONDITION HAD HAPPENED PREVIOUSLY AND ALL OTHER FACTORS CONCURRED THE GEAR WAS DOWN. I THEN ASKED FOR FLAPS 16, 26 AND 40 DEGS AS PER THE SOP. WHEN THE FLAPS WERE DOWN, THE GEAR WARNING HORN CAME ON (IT'S TIED IN TO THE SAME SWITCH AS THE LIGHTS). IT WAS VERY HARD TO HEAR ANYTHING. CAPT THEN REACHED DOWN AND PULLED THE FLAPS FROM 40 BACK TO 16 DEGS, CAUSING A PITCH AND AIRSPD CHANGE. I WOULD HAVE RATHER HAVE NOT DEALT WITH BEING SO CLOSE TO LNDG. AT ANY RATE, I ADJUSTED FOR THE CHANGE AND INCREASED VREF AND VTHR SPDS -- NO PROB. DURING THE LNDG THE HORN WAS STILL BLARING. DURING THE LNDG ROLLOUT I SELECTED GND FINE PITCH AS PER SOP AND AS WE PASSED THROUGH 60 KTS CAPT SAID -- YOU GOT TILLER STEERING (COMPANY PROC IS TO GIVE STEERING CTL TO CAPT AFTER 60 KTS) -- BUT HE WAS BUSY USING THE L-HAND PUSH- TO-TALK SWITCH (TALKING TO TWR, AND THUS COULD NOT USE TILLER TO STEER). I STARTED STEERING WHEN THE ACFT WAS AT 60 KTS AND THEN THE ACFT VEERED TO THE R. TRIED TO CORRECT BUT THE NOSEWHEEL STEERING WAS INEFFECTIVE (ACCORDING TO MANY CAPTS THE MDT NOSEWHEEL SYS SOMETIMES 'CUTS OUT' AND FAILS DURING THE LNDG SEQUENCE). CAPT SAW THE PLANE GOING TO THE R AND GRABBED FOR THE CTLS. HE THEN ATTEMPTED TO CORRECT THE CONDITIONS WITH NOSEWHEEL AND RUDDER/BRAKE CTL BUT THEY SEEMED INEFFECTIVE. HE HAD THE TILLER AND RUDDER AT FULL L BUT THE BIRD KEPT ON GOING FOR R. THE PLANE CAME TO A REST WITH THE R MAIN IN THE SOFT GRASS BUT NO DAMAGE TO THE PLANE OR RWY LIGHTS. WE CALLED FOR A TUG AND STARTED TO GO THROUGH THE SHUTDOWN CHKLIST.
SYNOPSIS : RWY EXCURSION AFTER ACFT EQUIP PROB MALFUNCTION AND DESTABILIZED APCH LNDG PROC ROLLOUT.
REFERENCE FACILITY ID : IND
FACILITY STATE : IN
AGL ALTITUDE : 0,0

LACK OF ALERTS

ACCESSION NUMBER : 77914
DATE OF OCCURRENCE : 8711
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; ARTCC,RDR;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : TUS
FACILITY STATE : AZ
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZAB;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : ATC/CTLR;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : WE HAD RECEIVED A CLRNC TO CLB TO 16000', DIR TO THE SRP VORTAC ON THE 23 MIN FLT FROM TUS TO PHX. SOMEWHERE BTWN 11000' AND 15000' (SLIGHTLY LESS THAN 1 MIN'S TIME) WE WERE CLRD TO CROSS 35 SE OF SRP AT OR BELOW 14000', 250 KTS, MAINTAIN 10000'. AS IS STANDARD PRACTICE AT OUR COMPANY, I SET THE NEW CLRNC LIMIT ALT (10000') IN THE ALT SELECTOR OF THE AUTOPLT/FLT DIRECTOR SYSTEM MODE CTL PANEL, MENTALLY ASSURING MYSELF THAT THE AUTOPLT WOULD LEVEL THE ACFT AT 16000' SINCE THAT WAS THE CRS ALT PROGRAMMED IN THE FLT MANAGEMENT COMPUTER (FMC). I REACHED INTO MY FLT BAG TO PULL OUT A BINDER TO STOW MY TUCSON PLATES, AND WAS JUST OPENING IT WHEN THE ABQ CENTER CTLR CALLED, "PHX ALTIMETER 29.84." I RESET THE ALTIMETER AND NOTED THAT THE INDICATED ALT WAS NOW 16400' AND CLBING RAPIDLY. I DISCONNECTED THE AUTOPLT AND MANUALLY LEVELED AT 16000'. THE MAX INDICATED ALT WAS 16700'. COMMON PRACTICES CAN LEAD TO CRITICAL ERRORS UNDER SITUATIONS ONLY SLIGHTLY DIFFERENT FROM THE NORM. NORMALLY, WE DON'T RECEIVE DES CLRNCS BEFORE REACHING THE ASSIGNED CRS ALT. NORMALLY, WE SET THE ALT SELECTOR OR ALERTER TO THE NEW CLRNC LIMIT ALT AS SOON AS WE RECEIVE IT. I DID THIS AUTOMATICALLY W/O CONSIDERING THAT IT MIGHT BE AN INVALID RESPONSE. WE'RE PSYCHOLOGICALLY PROGRAMMED TO EXPECT THINGS TO HAPPEN WITH A MACHINE BASED ON OUR EXPERIENCE WITH WHAT USUALLY HAPPENS. WITH THIS AIRPLANE'S EFIS DURING A CLB OR DES IN THE VNAV MODE, THE AIRPLANE WILL LEVEL OFF AT THE CRS ALT PROGRAMMED IN THE FMC EVEN IF THE ALT SELECTOR IS SET AT A HIGHER (DURING CLB) OR LOWER (DURING DES) ALT. EX: FMC CRS ALT FL330, CLRD TO FL370, ALT SELECTOR SET TO 370, AUTOPLT LEVELS THE AIRPLANE AT FL330. HAPPENS ALL THE TIME, SO I KNEW THE AUTOPLT WOULD LEVEL THE ACFT AT 16000'. WRONG! WHAT I DID, IN FACT, WAS TELL IT TO STOP AT AN ALT I WASN'T ON THE WAY TO. THE AUTOPLT THEN REVERTED TO THE CWS PITCH MODE, IN WHICH THE AIRPLANE KEEPS ON GOING IN THE LAST DIRECTION IT WAS POINTED, UNTIL THE PLT POINTS IT SOMEWHERE ELSE WITH THE YOKE. THERE IS NO AURAL WARNING WHEN THIS HAPPENS, THE AUTOPLT HASN'T DISCONNECTED, IT'S JUST HLDG A PITCH ATTITUDE. THERE'S A SMALL YELLOW CWS PITCH WARNING ON THE EADI, BUT IT HAS TO BE LOOKED AT TO BE SEEN (MUCH LIKE TFC AND ALTIMETERS). I ALSO KNEW I'D HAVE TIME TO STOW MY DEP PLATES BEFORE APCHING 16000', AS THE AUTOPLT STARTS A SMOOTH LEVEL OFF AS A FUNCTION OF RATE OF CLB AND WOULD BE REDUCING IT'S RATE OUT OF ABOUT 13000'. WRONG AGAIN! SINCE IT DEFAULTED TO CWS PITCH AND I DIDN'T NOTICE IT, WE WERE STILL CLBING AT 4 TO 6000 FPM. NO TIME FOR ANY INATTN OR DISTR. SO WHERE WAS THE NFP WHO WOULD NORMALLY BE CROSSCHECKING ALT AND MAKING APPROPRIATE CALLOUTS? THE SAME PLACE HE ALWAYS IS DURING MOST OF THE TIME SPENT ABV 10000' ON THIS RUN: DEEP IN THE MIDDLE OF COPYING ATIS AND MAKING REQUIRED FLT-FOLLOWING RADIO CALLS TO THE COMPANY. IT'S COMMON KNOWLEDGE THAT THE PF HAS LITTLE BACKUP ON A SHORT FLT LIKE THIS, BECAUSE THERE IS SO MUCH RADIO WORK TO DO. ALL THE MORE REASON FOR THE PF TO DO

NOTHING BUT FLY (OR, THESE DAYS, MONITOR). SOMEWHERE IN ABQ CTR THERE WAS AN ALERT CTLR WHO TACTFULLY BROUGHT MY ATTN BACK WHERE IT SHOULD HAVE BEEN IN THE FIRST PLACE. MY HAT IS OFF TO HER! THE NEW TECHNOLOGY MACHINERY (FMC, EFIS, ETC) IS MARVELOUS, BUT IT SUCKERS US INTO COMPLACENCY. IN THE OLDER SERIES AUTOPLT, THE CWS MODE WAS THE NORM, RATHER THAN THE EXCEPTION. THIS WAS FINE, AS YOU KNEW YOU WERE IN IT. IN MY EXPERIENCE, THERE'S A MUCH HIGHER INCIDENCE OF ALT/SPD/ROUTE BUSTS IN THE FMC-EQUIPPED ACFT, LARGELY (I THINK) BECAUSE THE SYSTEM IS SO COMPLEX THAT THERE ARE MANY OPPORTUNITIES FOR FAULTY PROGRAMMING. SUGGESTIONS: ALT AWARENESS! ALT ALERTERS ARE WONDERFUL, BUT WE'VE BECOME TOO DEPENDENT ON THEM. LET'S ALL TAKE A HARD LOOK AT OUR PROCS FOR THEIR USE AND BE SURE THEY'RE VALID FOR THE INTENDED RESULT.
CONTINUALLY EMPHASIZE THE IMPORTANCE OF DEVOTING YOUR FULL ATTN TO MONITORING THE FLT WHENEVER THE OTHER CREWMEMBERS ARE INVOLVED WITH OTHER DUTIES. TRY TO MINIMIZE
DISTRS DURING CLBS/DES, NOT JUST BELOW 10000'. ALWAYS FOLLOW UP ANY CHGES IN AUTOPLT/FLT DIRECTOR MODE WITH A CHK OF THE MODE ANNUNCIATOR. IN NEW TECHNOLOGY ACFT, THIS MEANS EVERY TIME YOU PUSH A BUTTON. FOR R & D: IF WE MUST HAVE AN AURAL WARNING FOR AN AUTOPLT DISCONNECT, IS IT ANY LESS DANGEROUS TO HAVE IT REVERT TO A CWS MODE W/O THE PLT BEING AWARE? THIS IS A VERY COMMON OCCURRENCE. A CANCELLABLE AURAL WARNING AFTER, SAY, 3 SECS OF CWS WOULD DO THE TRICK. PERHAPS IF THE MACHINE CAN LEAD US ASTRAY, IT SHOULD WARN US. IS IT ACCEPTED PRACTICE FOR ATC TO GIVE DES CLRNCS PRIOR TO REACHING THE ASSIGNED CRS ALT? THIS COULD LEAD TO VARIOUS ERRORS AND CONFUSION.
SYNOPSIS : ALT OVERSHOT ON CLIMBOUT WHEN DESCENT CLRNC WITH ALT RESTRICTION GIVEN BEFORE REACHING ASSIGNED ALT AND FMC REPROGRAMMED.
REFERENCE FACILITY ID : TUS
FACILITY STATE : AZ
DISTANCE & BEARING FROM REF. : 30,315,NW
MSL ALTITUDE : 16000,16700

ACCESSION NUMBER : 85005
DATE OF OCCURRENCE : 8804
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; TRACON,AC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : TPA
FACILITY STATE : FL
FACILITY TYPE : TRACON; ARPT;
FACILITY IDENTIFIER : TPA; TPA;
AIRCRAFT TYPE : WDB;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/LESS SEVERE;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : FLC EXECUTED GAR OR MAP; FLC OVERCAME EQUIP PROBLEM;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : ALL PROCEEDED AS EXPECTED UNTIL THE CAPT COMMANDED FLAPS PAST 5. AS SOON AS THE FLAP POS INDICATOR SHOWED JUST PAST 1, THE FLAPS SEEMED TO LOCK OUT AND THE EICAS STATUS MESSAGE CAME ON. IT INFORMED US THAT THE TRAILING EDGE FLAPS ASYMMETRY HAD OCCURRED. THE CAPT THEN MADE A GO AROUND. I INFORMED THE TWR THAT WE WERE DISCONTINUING THE APCH. I RAN THROUGH THE AFTER TKOF CHKLIST, AND THEN CONTACTED DEP (APCH) CTL. WE WERE ASSIGNED AN ALT OF 3000' AND VECTORS WITHIN THE LCL AREA. UPON THE CAPT'S COMMAND I RAN THE TRAILING EDGE FLAP ASYMMETRY CHKLIST. WE THEN LOWERED THE FLAPS THROUGH THE ALTERNATE MEANS, FOLLOWING THE CHKLIST TO THE LETTER. SUBSEQUENTLY, WE ASKED AND WERE ASSIGNED ANOTHER APCH TO THE ARPT. THE CAPT ASKED ME TO REQUEST RESCUE EQUIP TO BE STANDING BY FOR OUR LNDG. I DID AND THE CTLR ASKED US FOR THE FUEL QUANTITY AND NUMBER OF PAX. I PROVIDED BOTH. OUR LNDG WAS W/O INCIDENT. THE CAPT FLEW THE ACFT AND T/D WAS MADE WITH FLAPS 20 AND THE APPROPRIATE VREF FOR FLAPS 20, AS PER THE APPLICABLE CHKLIST. WE CANCELLED THE REQUEST FOR EQUIP AFTER ROLL OUT, AND WE TAXIED TO THE GATE UNDER OUR OWN PWR AFTER EXITING THE RWY. THE SIGNIFICANCE OF THIS OCCURRENCE WAS NOT, I FEEL, ATTRIBUTABLE TO THE OCCURRENCE ITSELF OR HOW WE HANDLED IT. WE WERE WELL TRAINED BY ACFT MFR TO DEAL WITH THIS TYPE OF SITUATION. THE SIGNIFICANCE COMES FROM WHAT MIGHT HAVE CAUSED THIS PROB TO BEGIN WITH. THE FOLLOWING MORNING WHEN WE RETURNED TO THE ACFT TO CONTINUE OUR TRIP SERIES, THE MAINT FOREMAN INFORMED US THAT THE MAINT DEPT HAD NOT FOUND ANY PROBS WITH THE SYS RELATED TO THE FLAP OPERATION. FURTHERMORE, HE INDICATED THAT HE HAD ONLY BEEN ABLE TO DUPLICATE OUR PROB BY SWITCHING THE ALTERNATE FLAP SWITCH TO THE UP POS FROM THE NORM POS WHERE IT IS USUALLY KEPT, AND THEN BY ATTEMPTING TO OPERATE THE FLAPS USING THE NORMAL MEANS, (IE, WITH THE HANDLE AND NOT BY THE ALTERNATE SWITCH). HE SAID THAT DOING THIS CAUSED THE TRAILING EDGE FLAPS TO LOCK OUT AT JUST PAST ONE WHEN IN THE LNDG CONFIGN (SIMILAR TO WHAT HAD HAPPENED TO US). HE ADDED THAT, WHILE ON THE GND IN THE TKOF MODE, IT WOULD STILL BE POSSIBLE TO GET FLAPS TO 5. (WE HAD USED FLAPS 5 FOR TKOF AT OUR ORIGIN THE PRECEDING EVENING. I AM ABSOLUTELY CERTAIN THAT THE FLAP POS INDICATOR WAS SHOWING 5 AT TKOF.) I AM ALMOST AS CERTAIN THAT THE ALTERNATE FLAP SWITCH WAS IN NORM AND NOT IN UP AS WE TAXIED FOR TKOF THE PRECEDING EVENING. STILL, I CAN ONLY CONFIRM THAT THIS IS PART OF THE NORMAL CABIN SET UP I AM ACCUSTOMED TO USING. I CANNOT VISUALIZE THE POS OF THAT DIAL AS I CAN THE FLAP POS INDICATOR. THIS SWITCH SHOULD ALWAYS BE IN NORM AND NOT IN UP UNLESS THE ALTERNATE FLAPS ARE IN USE. THE ONLY WAY THAT THIS SWITCH COULD HAVE BEEN IN UP IS IF THE PRECEDING FLT CREW OR THE MAINT PEOPLE WHO HAD WORKED ON THE ACFT AFTER THE (PRECEDING) CREW HAD DEPARTED SWITCHED THE ALTERNATE FLAPS ON AND THEN NEGLECTED TO SWITCH IT OFF. IF THIS HAD OCCURRED, AND IF WE HAD FAILED TO CATCH THE INCORRECT POS ON OUR BEFORE START SWITCH POS SET UP, WE MAY HAVE HELPED TO CREATE OUR OWN PROB. KEEP IN MIND THAT ALL OF THIS IS CONJECTURE. TO THE BEST OF MY KNOWLEDGE THAT SWITCH WAS IN THE NORMAL POS UNTIL I MOVED IT OUT OF SAME DURING THE ABNORMAL PROC. THE TRAILING EDGE FLAP ASYMMETRY PROC IS A RELATIVELY SHORT BUT INTRICATE PROC. STILL, IF WE HAD NOT FOLLOWED IT CORRECTLY, OR IF THE ALTERNATE FLAP MECHANISM HAD FAILED TO

OPERATE, WE MIGHT NOT HAVE BEEN ABLE TO LOWER THE FLAPS FOR LNDG. THAT WOULD HAVE PRESENTED ENORMOUS PROBS. IT IS MY STRONG BELIEF THAT BOEING NEEDS TO INSTALL AN ON LIGHT TO INDICATE WHENEVER THE ALTERNATE FLAP SWITCH IS ON OR THE SYS IS ENERGIZED. ABSENT THIS, THERE SHOULD AT LEAST BE A LEAD IN NOTE WITHIN THE TRAILING EDGE FLAP ASYMMETRY CHKLIST TO ALERT THE CREW THAT THEIR PROB MIGHT COME FROM THE ROTARY DIAL BEING IN THE UP RATHER THAN THE NORMAL POS. IF EITHER OF THESE CONDITIONS HAD EXISTED AND IF THE SWITCH WAS IN THE UP POS--I DO NOT BELIEVE IT WAS--I MIGHT HAVE BEEN SPARED THESE OBSERVATIONS NOW. ACFT MFR MIGHT SAY THAT THIS WAS A SIMPLE MISTAKE FOR A FLT CREW TO MAKE. KEEP IN MIND, HOWEVER, THAT THERE ARE HUNDREDS OF LIGHTS AND SWITCHES FOR US TO KEEP TRACK (REPORT CONTINUED)

OF. I HUMBLY SUGGEST THAT YOU GIVE THIS MATTER SOME ATTN. THERE ARE 2 OTHER ITEMS I WILL TOUCH ON BRIEFLY. THE FIRST IS THE MATTER OF THE SPD-BREAK/GND SPOILER ARMED LIGHT ON THE WDB. UNLIKE THE MLG, THERE ISN'T ONE. ON THE WDB LNDG CHKLIST, MORE THAN ONCE THE CAPT HAS CALLED THE SPD-BREAK ARMED, ONLY TO SEE IT FAIL TO DEPLOY AUTOMATICALLY UPON LNDG. (THE GND SPOILERS WILL DEPLOY AUTOMATICALLY UPON LNDG ONLY IF THE HANDLE IS IN THE ARMED POS. IF THE HANDLE IS NOT IN THE ARMED POS, THE SPOILERS WILL DEPLOY AUTOMATICALLY ONLY WHEN REVERSE THRUST IS ACTUATED. IN THIS LATTER SITUATION, VALUABLE STOPPING TIME AND DISTANCE MAY BE WASTED.) A SPD-BREAK/GND SPOILER ARMED LIGHT ON THE WDB WOULD NOT GUARANTEE THAT THE SPOILERS WOULD DEPLOY ON LNDG, BUT IT MIGHT AT LEAST ASSURE THE CREW THAT THE MECHANISM WAS EITHER DEFINITELY ARMED OR DEFINITELY MALFUNCTIONING. FINALLY, ON THE WDB, THERE IS NO ALT ALERT BELL 900' BEFORE REACHING THE ALT WHICH HAS BEEN SET ON THE MCP. OSTENSIBLY, THIS IS FOR MAINT OF THE QUIET COCKPIT CONCEPT. I CAN DEFINITELY NOT SPEAK AS AN AUTHORITY ON HUMAN FACTORS, BUT I WOULD FEEL A LOG MORE SECURE IF, LIKE THE MLG, THE WDB HAD A SINGLE AURAL TONE TO ACCOMPANY THE LIGHT WHICH NOW APPEARS BTWN 900 AND 300' ABOVE/BELOW THE MCP ALT. CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING: NARRATIVE SHOULD BE CORRECTED TO STATE EICAS MSG WAS THAT A TRAILING EDGE FLAPS DISAGREE OCCURRED, NOT A TRAILING EDGE FLAPS ASYMMETRY. RPTR POINTED OUT THAT THEIR MANUAL DOESN'T PROVIDE FLT CREW PREROGATIVE OF RETURNING SWITCHES AND HANDLES TO ORIGINAL POS AND RECYCLING ALTERNATE SWITCHES TO NORMAL AND THEN STARTING PROC OVER TO SEE IF LOCKOUT HAS BEEN REMOVED. FEELS THAT MIGHT NOT BE IN THERE SO MFR WOULD NOT HAVE TO ACKNOWLEDGE POSSIBLE PROB TO FAA. RPTR ALSO STATED THAT OTHER ITEMS ARE PERSONAL OPINIONS AND ONCE HE IS USED TO NEW ACFT PROBABLY WILL NOT BE A PROB.
SYNOPSIS : ACR WDB INCURRED TRAILING EDGE FLAP DISAGREE MSG AND LOCKOUT, EXECUTED MISSED APCH, EXTENDED FLAPS PER ABNORMAL PROC AND LNDG. REPORTER ALSO COMPLAINS ABOUT WARNING ALERTING SYSTEM ON ALT ALERT AND SPOILER SYSTEM INDICATION.
REFERENCE FACILITY ID : TPA
FACILITY STATE : FL
DISTANCE & BEARING FROM REF. : 5,,N
MSL ALTITUDE : 2000,3000

ACCESSION NUMBER : 110082
DATE OF OCCURRENCE : 8904
REPORTED BY : FLC; FLC;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : MCO
FACILITY STATE : FL
FACILITY TYPE : TWR; ARPT;
FACILITY IDENTIFIER : MCO; MCO;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : LOSS OF ACFT CONTROL; ACFT EQUIPMENT PROBLEM/CRITICAL; NON ADHERENCE LEGAL RQMT/PUBLISHED PROC; OTHER;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : FLC REGAINED ACFT CONTROL; FLC OVERCAME EQUIP PROBLEM; CTLR ISSUED NEW CLNC;
ANOMALY CONSEQUENCES : OTHER;
SITUATION REPORT SUBJECTS : AN ACFT TYPE; ACFT EQUIPMENT;
NARRATIVE : SHORTLY AFTER SIGNING MY FLT DISPATCH RELEASE, I PROCEEDED TO THE ACFT TO BEGIN MY PREFLT.I MET THE F/O IN THE JETWAY. HE WAS HEADED FOR THE CREW ROOM TO GET HIS FLT BAG. I REVIEWED THE ACFT LOG BOOKS, NOTED THAT THE ACFT HAD JUST COMPLETED A MAINT "A" CHK. I SET THE PARKING BRAKE AND TURNED ON THE WHEEL WELL LIGHTS IN PREPARATION FOR THE EXTERNAL PREFLT. I THEN DEPARTED THE COCKPIT AND PERFORMED THE EXTERIOR PREFLT. NO DISCREPANCIES WERE FOUND. WHILE I WAS OUTSIDE, THE F/O RETURNED AND BEGAN HIS COCKPIT PREFLT. OUR OPERATION CALLS FOR EITHER A COMPLETE ORIGINATION CHKLIST (IF THE ACFT HAS BEEN SHUT DOWN FOR THE NIGHT OR IF MAINT HAS BEEN PERFORMED AWAY FROM THE GATE), OR AN INTERMEDIATE CHKLIST (IF THE ACFT HAS BEEN FLYING AND IS NOT SHUT DOWN). NORMALLY, WHEN AN ACFT IS BROUGHT IN BY ANOTHER CREW, THE RADIOS ARE LEFT ON AND TUNED, THE XPONDER IS LEFT IN STANDBY, AND NUMEROUS OTHER SYSTEMS ARE PWRED UP. NORMALLY, WHEN AN ACFT IS DELIVERED FROM HANGAR MAINT, ALL THESE SYSTEMS ARE SHUT OFF. AS THE F/O BEGAN HIS PREFLT, HE NOTED THAT THE ACFT WAS PWRED UP, AND APPEARED TO HAVE RECENTLY BEEN FLOWN IN BY ANOTHER CREW. ASSUMING THIS WAS THE CASE, IT ONLY REQUIRED AN INTERMEDIATE CHKLIST, WHICH HE PERFORMED. I COMPLETED THE EXTERNAL PREFLT AND THEN WENT INSIDE TO CALL SCHEDULING TO SET UP A HOTEL DAY ROOM FOR OUR ARR IN MIAMI. WHEN I RETURNED TO THE COCKPIT, I ASKED THE F/O IF THE CHKLIST WAS COMPLETE. HE INDICATED THAT IT WAS AND THERE WERE NO PROBS. WE BOARDED OUR PAX AND DEPARTED THE GATE. AFTER PUSHBACK AND ENG START, WE COMPLETED THE AFTER START AND BEFORE TKOF CHKLISTS. WE NOTED NO DISCREPANCIES PRIOR TO TKOF. HOW IT WAS DISCOVERED: AS OUR SPD INCREASED AFTER TKOF, THE NOSE ATTEMPTED TO PITCH UP. I MANUALLY HELD THE YOKE FORWARD AND TRIED TO TRIM THE NOSE DOWN. THE TRIM WHEEL MOVED DOWN TO ONE UNIT NOSE UP AND WOULD MOVE NO FURTHER DOWN. AT THIS POINT I STOPPED MY ACCELERATION, AND CLB (APPROX 1500-200' AGL) AND TOLD DEP CTL WE NEEDED TO RETURN FOR LNDG. I INTERPRETED THE ABNORMAL FORWARD PRESSURE ON THE YOKE AND THE INOP CTL WHEEL AS POSSIBLE CTL BINDING IN PITCH MODE. DEP HANDED US RIGHT BACK TO TWR WHO CLRED US FOR AN IMMEDIATE LNDG. I TURNED ON DOWNWIND AND REMAINED IN THE PATTERN TO COMPLETE AN UNEVENTFUL LNDG. MAINT IN TROUBLESHOOTING THE PROB FOUND BOTH TAIL PLANE TRIM ACTUATOR (TPI) SWITCHES IN THE OFF POS. THESE MUST HAVE BEEN SWITCHED OFF DURING THE MAINT "A" CHK, AND NOT TURNED BACK ON. CONTRIBUTING FACTORS: 1) THE ONLY TIME A POSITIVE CHK IS MADE THAT THE TPI SWITCHES ARE ON IS DURING THE ORIGINATING CHKLIST WHICH WAS NOT COMPLETED. THE F/O DIDN'T DO THE ORIGINATING CHK BECAUSE THE ACFT WAS PWRED UP. I KNEW THAT AN ORIGINATING CHK WAS REQUIRED, BUT WHEN I QUERIED THE F/O ABOUT IT I ONLY ASKED IF "THE CHKLIST" WAS COMPLETE, NOT SPECIFYING INTERMEDIATE OR ORIGINATING. 2) MY COMPANY FLIES 5 VERSIONS OF THIS TYPE ACFT. ONLY 2 OUT OF 18 AIRPLANES HAVE HAD THE MODIFICATION TO INSTALL TPI SWITCHES. THERE IS NO TIME DURING NORMAL OPS WHEN THESE SWITCHES WOULD BE TURNED OFF, SO IT IS NOT NORMALLY A CONFIGN THAT NEEDS TO BE DOUBLE-CHKED. 3) CONSIDERING THE SIGNIFICANCE OF AN UNPWRED STABILIZER (TAIL PLANE), THERE IS NO CAUTION LIGHT OR HORN TO INDICATE A SWITCH POSITIONED TO "OFF." THE TPI SWITCHES HAD BEEN

SWITCHED OFF WITH THE TAIL TRIM IN THE NORMAL TKOF RANGE, SO THE POS INDICATOR AND TRIM WHEEL INDICATION WERE NORMAL. THIS ALSO SATISFIED THE TKOF WARNING HORN WHICH WE DID NOT GET. 4) MY COMPANY HAS MADE LITTLE EFFORT TO STANDARDIZE THE COCKPIT CONFIGN AMONG OUR ACFT, AND DIFFERENCES TRNING RECEIVED VERY LITTLE EMPHASIS. 5) THIS WAS THE LAST TRIP OF THE MONTH FOR MY CREW. THE F/O IS CAPT QUALIFIED ON THIS TYPE ACFT AND HIS PERFORMANCE WAS EXCELLENT THROUGHOUT THE MONTH. I DID NOT QUESTION HIS ABILITY TO PERFORM THE APPROPRIATE CHKLIST. CORRECTIVE ACTION: 1) REQUIRE AN ORIGINATING CHKLIST BE COMPLETED AT EACH CREW CHANGE (MY COMPANY IMMEDIATELY CHANGED TO THIS). 2) I FEEL THAT IT SHOULD BE PART OF THE REQUIREMENTS FOR AN ACR CERTIFICATE HOLDER THAT ITS ACFT BE STANDARDIZED AMONG SIMILAR MAKE/MODEL AIRFRAMES. I AM REQUIRED TO FLY ALL THESE SAME TYPE ACFT WE (REPORT CONTINUED)

HAVE; THEY SHOULD BE REQUIRED TO ENSURE THEY ALL FLY THE SAME. 3) MORE SPECIFIC QUESTIONING ON MY PART WOULD HAVE CAUGHT THE INTERMEDIATE VERSUS ORIGINATING CHKLIST PROB.
SYNOPSIS : AFTER TKOF FLT CREW WAS UNABLE TO TRIM THE ACFT. HEAVY FORWARD PRESSURE ON YOKE AND REDUCED AIRSPEED KEPT THE ACFT UNDER CONTROL. FLT RETURNED AND LANDED WITHOUT INCIDENT.
REFERENCE FACILITY ID : MCO
FACILITY STATE : FL
AGL ALTITUDE : 0,0

ACCESSION NUMBER : 118803
DATE OF OCCURRENCE : 8907
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; TWR,LC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : CLT
FACILITY STATE : NC
FACILITY TYPE : ARPT; TWR;
FACILITY IDENTIFIER : CLT; CLT;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : OTHER; NON ADHERENCE LEGAL RQMT/PUBLISHED PROC; NON ADHERENCE LEGAL RQMT/FAR;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : FLC OVERCAME EQUIP PROBLEM;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : I WAS CAPT ON ACR XX FLT A FROM CLT TO LAX ON JUL/MON/89. THE TKOF DATA WAS RECEIVED BY ACARS AND FROM AN AGENT. DUE TO HIGH WEIGHT AND TEMPERATURE A FLAPS 5 "IMPROVED CLIMB" TKOF WAS TO BE UTILIZED. ALL BUG SPEEDS WERE SET CORRECTLY FOR THE FLAPS 5 "IMPROVED CLIMB" TKOF. THE SPEEDS ARE OBTAINED FROM DATA RECEIVED VIA ACARS, RATHER THAN THE V-SPEED CHART (WHICH IS USED FOR NORMAL TKOFS). DURING THE BEFORE TKOF CHECKLIST, I CONFIRMED THE FLAPS WERE SET AT 1 DEG. I WAS HALFWAY DOWN THE RWY WHEN I REALIZED WE SHOULD HAVE USED FLAPS 5 DEG. I REACHED OVER AND SET THE FLAPS FROM 1 DEG TO 5 DEG, AND WE CONTINUED WITH A NORMAL TKOF. I BELIEVE I ALLOWED THE WRONG FLAP SETTING TO BE UTILIZED BECAUSE I AM USED TO USING FLAPS 1 DEG DURING CLIMB LIMITED TKOFS. IN FACT IT WAS ONLY SEVERAL MONTHS EARLIER THAT FLAPS 1 "IMPROVED CLIMB" DATA WAS REMOVED FROM OUR PERFORMANCE MANUALS AS PART OF THE "MIRROR IMAGE" POLICY OF THE XX-XY MERGER. THE F/O TOLD ME HE THOUGHT ALL "IMPROVED CLIMB" TKOFS WERE FLAPS 1 DEG. HE SAID HE WAS SURE HE MADE THE SAME MISTAKE AT LEAST ONCE BEFORE. I ALSO BELIEVE THE LACK OF A TKOF WARNING SHOULD BE EXAMINED. SINCE THE FLAPS WERE IN THE TKOF RANGE, THE CONFIGURATION WARNING SYSTEM WAS SATISFIED. I BELIEVE THE FMCS SHOULD BE UTILIZED TO GENERATE ALL TKOF V-SPEEDS AND A WARNING IF THE PROPER FLAP SETTING IS NOT SET. ACR XX'S MLG FLEET IS EQUIPPED WITH A PERFORMANCE MANAGEMENT SYSTEM WHICH CAN GIVE SUCH WARNINGS TO THE FLT CREW.
SYNOPSIS : ACR MLG FLT CREW MAKES TKOF WITH FLAPS SET AT ALTERNATE POSITION AND ADJUSTS SETTING ON THE ROLL.
REFERENCE FACILITY ID : CLT
FACILITY STATE : NC
AGL ALTITUDE : 0,0

ACCESSION NUMBER : 146812
DATE OF OCCURRENCE : 9005
REPORTED BY : FLC; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT;
FLIGHT CONDITIONS : IMC
REFERENCE FACILITY ID : OAK
FACILITY STATE : CA
FACILITY TYPE : ARPT;
FACILITY IDENTIFIER : OAK;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : OTHER; ACFT EQUIPMENT PROBLEM/CRITICAL;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : OTHER;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : AN ACFT TYPE; ACFT EQUIPMENT;
NARRATIVE : WE PICKED UP ACT XXXX IN OAKLAND. ACFT WAS UNPWRED AND WE PWRED UP WITH GND PWR 90 MINS BEFORE DEP. PERFORMED ORIGINATING CHKS 30 MINS PRIOR TO DEP AND FOUND RUDDER TRIM TO BE CENTERED. 5 MINS BEFORE DEP AS I ADJUSTED MY SEAT I NOTICED THE RUDDER PEDALS WERE DISPLACED. WE FOUND THE RUDDER TRIM TO BE FULLY DEFLECTED TO THE R. WE BELIEVE THE RUDDER TRIM ACTUATED BY ITSELF AS THE RUDDER TRIM SWITCH WAS NOT TOUCHED THE ENTIRE TIME. THE PWR SOURCE WAS NOT CHANGED, THIS SOUNDS VERY SIMILAR TO LGA AS IT WAS ALSO RAINING IN OAK. I BELIEVE NOW THAT THE RUDDER TRIM CAN RUNAWAY AT ANY TIME AND THAT A TRIM-IN-MOTION HORN AND A TKOF TRIM POS WARNING ARE MANDATORY. A SWITCH GUARD WILL NOT SOLVE THE PROBLEM. THANKS FOR THE FIL EXPLAINING HOW TO DETECT TRIM DISPLACEMENT. CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING INFO. RPTR IS CERTAIN THAT RUDDER TRIM INPUT WAS NOT COCKPIT ACTION INDUCED. HE OFFERS THE THEORY THAT THE PREVAILING WX CONDITIONS PRIMARILY RAIN MAY HAVE AFFECTED THE TRIM SWITCHES ALTHOUGH HE ADMITS THAT IT SEEMS UNLIKELY. THE CAPT IS CERTAIN THAT THE TRIM AND RUDDER POS WAS CENTERED WHEN CHKED DURING COCKPIT SETUP AND THAT THE MOVEMENT TOOK PLACE THEREAFTER. RPTR STATES THAT HE RECENTLY FLEW A BRAND NEW EXAMPLE OF THIS ACFT AND NOTED THAT IT HAD A MODIFIED TRIM ACTIVATION SYS SO THE PROB HAS BEEN ACTED ON TO SOME EXTENT BY THE ACFT MFR.
SYNOPSIS : FLC DISCOVERS FULL RUDDER TRIM INPUT ON ADVTECH MLG DURING PREFLT.
REFERENCE FACILITY ID : OAK
FACILITY STATE : CA
AGL ALTITUDE : 0,0

ACCESSION NUMBER : 182888
DATE OF OCCURRENCE : 9107
REPORTED BY : FLC; FLC; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; ARTCC,RDR;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : BWZ
FACILITY STATE : NJ
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZNY;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ALT DEV/UNDERSHOOT ON CLB OR DES; ALT DEV/XING RESTRICTION NOT MET; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : NOT RESOLVED/ANOMALY ACCEPTED;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : WHILE CRUISING AT FL370 IN VMC CONDITIONS, ZNY ISSUED US A XING RESTRICTION (30 W OF SWEET INTXN AT FL180). AT THIS TIME WE WERE ABOUT 800 DME FROM THE FIX. THE XING RESTRICTION AND ALT WERE CORRECTLY PROGRAMMED INTO THE FMC. THE NEW ALT WAS SELECTED INTO THE ALT ALERT WINDOW OF THE MCP, AND VNAV WAS SELECTED AND VERIFIED OPERATIONAL (VNAV LIGHT ON). THE CAPT'S FMC WAS IN THE "LEGS" PAGE (FLT PLAN) AND MY FMC WAS DISPLAYING THE "DSNT" PAGE (FLT PATH ANGLE, RATE OF DSNT REQUIRED ARE DISPLAYED ON THIS PAGE). MY PARTICULAR FMC DISPLAY ON THIS ACFT WAS VERY DIM AND THE LIGHT INTENSITY COULD NOT BE INCREASED AND FURTHER. BOTH PLTS WERE FLYING INTO THE SUN AND WEARING SUNGLASSES, WHICH MADE MONITORING MY PARTICULAR FMC EVEN HARDER. SOMETIME BTWN 80 DME AND 60 DME FROM THE FIX, WITH FMC AND MCP ACCURATELY PROGRAMMED AND WITH THE APPROPRIATE DISPLAYS IN VIEW, THE VNAV PORTION OF THE FMC/MCP INTERFAC MALFUNCTIONED AND DID NOT COMMAND THE REQUIRED DSNT AT THE TOP OF DSNT POINT (NO MESSAGE WAS EVER DISPLAYED ON THE FMC'S TO ALERT US OF THE MALFUNCTION). AT 60 DME FROM THE FIX I BECAME AWARE THAT THE FMC WAS NOT INITIATING THE EXPECTED DSNT, AND ADVISED THE CAPT (WHO WAS FLYING) OF THE NEED TO GET DOWN. THIS DAY WE HAD IN EXCESS OF 80 KTS OF WIND ON THE TAIL. THE CAPT INITIATED A HIGH RATE OF DSNT, AND I ADVISED ZNY IMMEDIATELY THAT WE WERE UNABLE TO COMPLY WITH THE RESTRICTION. ZNY DID NOT RESPOND, EVEN AFTER A SECOND RADIO CALL. EVENTUALLY WE WERE VECTORED (CENTER DID NOT SEEM ALARMED). THE FAILURE OF THE VNAV MODE W/O A STATUS (MALFUNCTION) DISPLAY EITHER IN THE FMC OR MCP, IN CONJUNCTION WITH THE "DIM" FMC DISPLAY ON THE COPLT'S SIDE CONTRIBUTED TO THE "TOP OF DSNT" POINT BEING OVERFLOWN W/O THE REQUIRED DSNT BEING INITIATED.
SYNOPSIS : ACR MLG ALT DEVIATION UNDERSHOT ALT CROSSING RESTRICTION.
REFERENCE FACILITY ID : BWZ
FACILITY STATE : NJ
DISTANCE & BEARING FROM REF. : 65,302
MSL ALTITUDE : 20000,37000

ACCESSION NUMBER : 209711
DATE OF OCCURRENCE : 9204
REPORTED BY : FLC; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; ARTCC,RDR;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : CHS
FACILITY STATE : SC
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZJX;
AIRCRAFT TYPE : WDB;
ANOMALY DESCRIPTIONS : OTHER; ACFT EQUIPMENT PROBLEM/CRITICAL;
ANOMALY DETECTOR : ATC/CTLR;
ANOMALY RESOLUTION : CTLR ISSUED NEW CLNC; FLC BECAME REORIENTED; FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : THIS NARRATIVE IS TO DESCRIBE AN INCIDENT THAT WE, AS PLTS, ARE TOLD WILL NOT HAPPEN: THE COMPLETE FAILURE OF THE FMC SYS AND THE LACK OF ANY INDICATION ON THE HSI THAT ANYTHING WAS AMISS! OUR FIRST INDICATION THAT WE WERE NOT ON COURSE WAS A QUESTION FROM ZJX ASKING US WHEN WE PLANNED ON TURNING OVER A CERTAIN INTXN ON OUR RTE. WE CHKED OUR HSI AND INFORMED HIM THAT WE STILL HAD '5.3 MI TO GO.' HIS REPLY WAS THAT WE HAD 'PASSED' THE CHKPOINT 15 MI AGO.' WE CHKED OUR PAPER MAPS AND MANUAL VOR MODE ON THE HSI AND CTR WAS INDEED CORRECT. WE CONTINUED TO MCO WITH THE NAV SYS IN MANUAL WITHOUT FURTHER INCIDENT. WHEN WE ARRIVED AT THE GATE, SET THE BRAKES, AND SHUT OFF THE ENGS, OUR FMC WAS INDICATING THAT WE WERE APPROX 30 MI W OF ARPT!! WE CHKED OUR POS PAGE 2 IN THE FMS AND FOUND THAT BOTH R AND L FMC'S SHOWED A 28 KT DRIFT WHILE THE 3 IRS'S HAD NORMAL DRIFT (1-2 KTS). IF THE READER IS NOT FAMILIAR WITH THE FMS SYS ON OUR WDB, THE ABOVE INFO WILL SEEM IMPORTANT. TO THOSE LIKE MYSELF WHO ARE EVERYDAY USERS OF THIS SYS, THE ABOVE INFO IS, TO SAY THE LEAST, SHOCKING! IN THE 5 PLUS YRS I'VE OPERATED THIS SYS, NOTHING REMOTELY RESEMBLING THE DESCRIBED EVENT HAS TAKEN PLACE. IT IS JUST NOT SUPPOSED TO HAPPEN! IN MY MIND, IT RANKS RIGHT UP THERE WITH AN ENG FALLING OFF THE WING. IF WE WERE NOT IN A RADAR ENVIRONMENT UNDER IFR CONDITIONS, IT COULD HAVE BEEN A CATASTROPHE! CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING INFO: THE RPTR STATED THAT THE 3 IRS'S ALL SAID THAT THE ACFT WAS AT THE GATE AT ORLANDO WHILE BOTH FMC'S SHOWED THE ACFT TO BE 28 MI AWAY. THE TRIP WAS FROM NY TO ORLANDO. A VOR SATURATED RTE, BUT THERE WAS NO UPDATING GOING ON THE ENTIRE WAY. COMPANY MAINT CHANGED THE CTR IRS AND SENT THE ACFT ON ITS WAY AFTER BEING UNABLE TO UPDATE THE FMC'S ON THE GND. THE RPTR SAID THAT HE HAS WRITTEN AN ARTICLE FOR HIS COMPANY SAFETY MAGAZINE AND THAT HE WILL SEND ASRS A COPY. THE MANUFACTURER OF THE FMC/IRS SYS CLAIMS THAT THIS CANNOT HAPPEN AND THAT ALL HANDS ARE SCRATCHING THEIR HEADS.
SYNOPSIS : AN ACFT WITH ALMOST 'ALL OF THE GOODIES' HAD A NAV PROBLEM THAT THE MANUALS SAY 'CANNOT HAPPEN.' THE IRS SHOWED RIGHT ON COURSE, BUT THE FMC SHOWED 28 MI OFF WITH NO WARNINGS TO THE CREW AND NO UPDATING FROM ANY OF THE VORS ENRTE.
REFERENCE FACILITY ID : CHS
FACILITY STATE : SC

ACCESSION NUMBER : 211433
DATE OF OCCURRENCE : 9205
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; ARTCC,RDR;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : ARD
FACILITY STATE : NJ
FACILITY TYPE : ARTCC; ARPT;
FACILITY IDENTIFIER : ZNY; LGA;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ALT DEV/UNDERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : NOT RESOLVED/ANOMALY ACCEPTED;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : ENRTE TO NEW YORK'S LGA ARPT WE WERE GIVING A XING RESTRICTION TO CROSS SOMTO INTXN AT FL260. I WAS THE PF AND THE CAPT HAD GONE TO THE FORWARD LAV WHEN CLRNC WAS ISSUED. I PROGRAMMED THE FMC WITH THE XING RESTRICTION BUT FAILED TO ENTER THE FL260 ALT IN THE MODE CTL PANEL, CAUSING THE ACFT NOT TO START DOWN ON TIME MISSING THE ALT BY APPROX 1000 FT OR 4 MI. THIS PROBLEM COULD HAVE BEEN AVOIDED IF, ON THE CAPT'S RETURN TO THE COCKPIT, A BRIEFING WOULD HAVE BEEN CONDUCTED OF EVENTS THAT HAD OCCURRED WHILE A PLT WAS OFF THE FLT DECK. DURING THE REST OF OUR 4 DAY TRIP WE PRACTICED THIS CHK OF BRIEFING EACH OTHER IF ONE PLT LEFT THE FLT DECK, INCLUDING ANY CHANGES IN RTE, ALT, REQUEST OR GENERAL INFO RELAYED BY ATC, WITH EMPHASIS ON SET UP OF THE FMC AND MODE CTL PANEL WITH THE AUTOPLT CONNECTED. POSSIBLY ANOTHER SOLUTION TO THIS WOULD BE THAT CERTAIN FMC COMMANDS THAT APPEAR IN THE MESSAGE PAD BE FOLLOWED BY AN AURAL WARNING OR CHIME, ESPECIALLY THE COMMAND OF RESET MCP, FMC FAIL, VERIFY POS, OR OTHER CRITICAL FMC MESSAGES. IN THE CASE OF BRIGHT SUNLIGHT, THE FMC PROMPS ARE NOT REALLY EYE CATCHING.
SYNOPSIS : AN ACR MLG MISSED AN ALT ON DSCNT ON A STAR.
REFERENCE FACILITY ID : ARD
FACILITY STATE : NJ
DISTANCE & BEARING FROM REF. : 10,233
MSL ALTITUDE : 26000,33000

ACCESSION NUMBER : 234729
DATE OF OCCURRENCE : 9302
REPORTED BY : FLC; ; ; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; MISC,CAB; MISC, PAX; TWR,GC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
FACILITY TYPE : ARPT; TWR;
FACILITY IDENTIFIER : ORD; ORD;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : OTHER; ACFT EQUIPMENT PROBLEM/CRITICAL;
ANOMALY DETECTOR : OTHER;
ANOMALY RESOLUTION : OTHER;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : PROC OR POLICY/COMPANY;
NARRATIVE : DURING ENG START ON PUSHBACK A FLT ATTENDANT CALLED ON THE INTERPHONE TO RPT A FIRE. AT THAT TIME THE FORWARD CABIN FLT ATTENDANT KNOCKED AND ENTERED THE COCKPIT AND ANNOUNCED THERE WAS A FIRE ON #1 ENG. I NOTICED THAT THE FIRST CLASS PAX ON THE L SIDE WERE UP AND I ALSO HEARD 2 DIFFERENT VOICES YELLING FIRE. THE CAPT SET THE BRAKES AND ORDERED AN EVAC OF THE ACFT. DURING THE ENG START ITSELF, ALL INDICATIONS WERE NORMAL. AS THE CAPT MADE HIS ANNOUNCEMENT TO EVAC THE ACFT, I SHUT DOWN THE #1 ENG AND POSITIONED THE FLAP HANDLE TO FLAPS 40. THE CHKLIST WAS ACCOMPLISHED AND AS I LEFT THE COCKPIT TO ASSIST THE CABIN CREW THE AIRPLANE WAS EMPTY OF ANY PAX. CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING INFO: FO RPTED THAT THE PAX ON THE STARBOARD SIDE ACTUALLY GOT OUT ONTO THE R WING BEFORE ANY ACTION INITIATED BY THE CABIN ATTENDANTS. THE PAX WERE NERVOUS OVER THE 'TORCHING' EFFECT AND OBVIOUSLY THE SIT GOT OUT OF HAND ABOUT THE TIME THE PIC ANNOUNCED FOR THE PAX TO RELEASE THEIR SEAT BELTS AND EVAC. THE CREW FELT THAT AN EVAC HAD TO TAKE PLACE AS THEY DID NOT KNOW WHAT WAS GOING ON BACK THERE, EXCEPT THAT THE CABIN ATTENDANTS HAD RPTED 'A FIRE' RELATED TO THE ENG. FO BELIEVES THAT THE FIRE WENT OUT AS ENG SPOOLED UP BUT THEN IT WAS TOO LATE TO CHANGE DIRECTIONS. THERE IS NO DOOR WARNING LIGHT ON THE OVERWING EXITS -- IS THIS AN OVERSIGHT IN ACFT DESIGN OR CERTIFICATION PROCS? FO FURTHER STATED THAT THE GND CREW MADE A REMARK REF THE START BY SAYING THAT IT WAS A BRIGHT ONE, INDICATING THAT IT HAD TORCHED. NO OTHER REMARK WAS MADE TO INDICATE ANY MAJOR PROBS WITH ENG.
SYNOPSIS : ACFT EVACED AFTER ENG FIRE WAS NOTED BY PAX AND CABIN ATTENDANTS DURING THE ENG START PROC IN RAMP OP PUSHBACK.
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
AGL ALTITUDE : 0,0

ACCESSION NUMBER : 54213
DATE OF OCCURRENCE : 8606
REPORTED BY : FLC;
PERSONS FUNCTIONS : FLC,PIC.CAPT;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : DEN
FACILITY STATE : CO
FACILITY TYPE : ARPT; ARTCC;
FACILITY IDENTIFIER : DEN; ZDV;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY CONSEQUENCES : NONE;
SYNOPSIS : ACR MLG OVERSHOT CLRNC ALT DURING DESCENT INTO DEN. FLT CREW WAS DISTR BY ACARS DISCUSSION. ALT ALERT NOT HEARD. FLEET INCONSISTENCY NOTED. THIS ACFT HAD SOFTER AURAL WARNING. APCH CTLR QUESTIONED ALT AS ACFT CLIMBED THROUGH 14800'.
REFERENCE FACILITY ID : DEN
FACILITY STATE : CO
DISTANCE & BEARING FROM REF. : 45,,W
MSL ALTITUDE : 14500,15000

ACCESSION NUMBER : 57692
DATE OF OCCURRENCE : 8609
REPORTED BY : FLC;
PERSONS FUNCTIONS : FLC,PIC.CAPT;
FLIGHT CONDITIONS : MXD
REFERENCE FACILITY ID : MEM
FACILITY STATE : TN
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZME;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY CONSEQUENCES : NONE;
SYNOPSIS : ALT CALLOUT WAS MADE BY THE FO, PNF, AND ACKNOWLEDGED BY THE CAPT. CAPT DISTR BY WX RADAR AND THE FO BECAME OCCUPIED WITH AIRWAY CHARTS. ALT ALERT HORN NOT LOUD ENOUGH TO BE HEARD AND THE ALT WAS OVERSHOT BY 500'. REPORTER STRONGLY RECOMMENDS ALT SEPARATION NOT BE REDUCED.
REFERENCE FACILITY ID : MEM
FACILITY STATE : TN
DISTANCE & BEARING FROM REF. : 50,,E
MSL ALTITUDE : 16000,16500

ACCESSION NUMBER : 61130
DATE OF OCCURRENCE : 8612
REPORTED BY : FLC; FLC;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : MSP
FACILITY STATE : MN
FACILITY TYPE : TRACON; ARPT;
FACILITY IDENTIFIER : MSP; MSP;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY CONSEQUENCES : NONE;
SYNOPSIS : FO WAS DESCENDING TO 9000' AND DEPENDING ON THE ALT ALERT TO BEGIN HIS LEVEL OFF. LIGHT WAS SET TO DIM AND HE DID NOT SEE IT AND OVERSHOT ALT TO 8600' BEFORE CAPT NOTICED AND TOLD HIM TO REGAIN ASSIGNED ALT. KEYWORDS: FLT CREW DISTR TASK.
REFERENCE FACILITY ID : MSP
FACILITY STATE : MN
MSL ALTITUDE : 8600,9000

ACCESSION NUMBER : 61829
DATE OF OCCURRENCE : 8612
REPORTED BY : FLC; FLC;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : HOU
FACILITY STATE : TX
FACILITY TYPE : ARPT; TRACON;
FACILITY IDENTIFIER : HOU; IAH;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/LESS SEVERE; NON ADHERENCE LEGAL RQMT/FAR;
ANOMALY CONSEQUENCES : ACFT DAMAGED;
SYNOPSIS : ACR MLG MADE A TKOF WITH GEAR DOOR BYPASS HANDLE IN THE OPEN POSITION. FO SAYS HE MUST HAVE MISSED IT ON THE WALK AROUND. PIC SAYS THEY DID NOT SEE ANY WARNING LIGHT BECAUSE THE LIGHTS WERE IN THE DIM POSITION. KEYWORDS: TECHNIQUE PREFLT PROC. GEAR DOORS WERE DAMAGED ON LNDG. ACFT DAMAGED.
REFERENCE FACILITY ID : HOU
FACILITY STATE : TX
AGL ALTITUDE : 0,0

ACCESSION NUMBER : 63574
DATE OF OCCURRENCE : 8702
REPORTED BY : FLC
PERSONS FUNCTIONS : FLC,FO;FLC,PIC.CAPT;TRACON,DC
FLIGHT CONDITIONS : VMC
AIRCRAFT TYPE : MLG
ANOMALY DESCRIPTIONS : ALT DEV/OVERSHOOT ON CLB OR DES;ACFT EQUIPMENT PROBLEM/LESS SEVERE;NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
SITUATION REPORT SUBJECTS : ACFT EQUIPMENT;
NARRATIVE : DURING CLIMBOUT FROM BUR AND AFTER TURNING N TO INTERCEPT THE PMD 218 DEG R A LEVELOFF ALT OF 8000' MSL WAS OVERSHOT BY 500' MSL. I WAS HAND FLYING AN MLG WITH AUTO THROTTLES ENGAGED AND FLT DIRECTOR COMMANDS. VISIBILITY WAS UNRESTRICTED AND BOTH THE CAPT AND MYSELF WERE TRYING TO MAINTAIN A GOOD TFC WATCH. THE ALT WARNING CHIMED AT WHICH TIME I REALIZED WE WRE CLBING THROUGH 8250' MSL. I PUSHED THE NOSE OVER AND DISENGAGED THE AUTO THROTTLES BUT WAS AT 8500' MSL BEFORE I ARRESTED THE ASCENT. AT THE SAME TIME THE ALT OVERSHOOT WAS REALIZED WE ALSO NOTICED THAT THE ALT CAPTURE MODE OF THE FLT GUIDANCE SYSTEM HAD NOT CAPTURED THE ALT WHICH HAD BEEN SET AND ARMED. I STILL DON'T KNOW WHY THIS OCCURRED. THE ALT HAD BEEN SET AND ARMED PRIOR TO TKOF AND NOT TOUCHED BEFORE THE INCIDENT. I BELIEVE ADDITIONAL CONTRIBUTING FACTORS TO THIS INCIDENT INCLUDED: ALLOWING THE ACFT TO CLIMB AT FULL CLIMB POWER TO A RELATIVELY LOW ALT WHICH RESULTED IN AN EXCESSIVE CLIMB RATE. BOTH PLTS TRYING TO WATCH FOR TFC WHICH CAUSED THE 1000' PRIOR TO LEVEL OFF CALL TO BE MISSED. HAND FLYING THE AIRPLANE IN A HIGH DENSITY AREA WHICH INCREASED THE WORKLOAD ON ME TO A POINT I DID NOT MONITOR THE FLT MANAGEMENT SYSTEM. IF I WAS GOING TO HAND FLY THE ACFT, DO NOT ALLOW MY BASIC INSTRUMENT SCAN TO BE BROKEN DOWN BY A RELIANCE OF THE FLT DIRECTOR COMMAND BARS. INCLUDE THE FLT MANAGEMENT ANNUNCIATOR PANEL INTO MY BASIC SCAN. OUR NEW TECHNOLOGY ACFT DO NOT HAVE THE 1000' PRIOR TO LEVEL OFF CHIME INSTALLED AS DID OUR OLDER ACFT. WHY? I AM STILL FAIRLY NEW TO THE ACFT AND AS A RESERVE PLT I AM ONLY FLYING AN AVERAGE OF 15 HRS PER MONTH.
SYNOPSIS : MLG OVERSHOT ASSIGNED ALT DURING DPTR FROM BUR.
CALLBACK/COMMENTS : NONE
LOC ID (LOCATION IDENTIFIER) : ;PMD

ACCESSION NUMBER : 77914
DATE OF OCCURRENCE : 8711
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; ARTCC,RDR;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : TUS
FACILITY STATE : AZ
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZAB;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : ATC/CTLR;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : WE HAD RECEIVED A CLRNC TO CLB TO 16000', DIR TO THE SRP VORTAC ON THE 23 MIN FLT FROM TUS TO PHX. SOMEWHERE BTWN 11000' AND 15000' (SLIGHTLY LESS THAN 1 MIN'S TIME) WE WERE CLRD TO CROSS 35 SE OF SRP AT OR BELOW 14000', 250 KTS, MAINTAIN 10000'. AS IS STANDARD PRACTICE AT OUR COMPANY, I SET THE NEW CLRNC LIMIT ALT (10000') IN THE ALT SELECTOR OF THE AUTOPLT/FLT DIRECTOR SYSTEM MODE CTL PANEL, MENTALLY ASSURING MYSELF THAT THE AUTOPLT WOULD LEVEL THE ACFT AT 16000' SINCE THAT WAS THE CRS ALT PROGRAMMED IN THE FLT MANAGEMENT COMPUTER (FMC). I REACHED INTO MY FLT BAG TO PULL OUT A BINDER TO STOW MY TUCSON PLATES, AND WAS JUST OPENING IT WHEN THE ABQ CENTER CTLR CALLED, "PHX ALTIMETER 29.84." I RESET THE ALTIMETER AND NOTED THAT THE INDICATED ALT WAS NOW 16400' AND CLBING RAPIDLY. I DISCONNECTED THE AUTOPLT AND MANUALLY LEVELED AT 16000'. THE MAX INDICATED ALT WAS 16700'. COMMON PRACTICES CAN LEAD TO CRITICAL ERRORS UNDER SITUATIONS ONLY SLIGHTLY DIFFERENT FROM THE NORM. NORMALLY, WE DON'T RECEIVE DES CLRNCS BEFORE REACHING THE ASSIGNED CRS ALT. NORMALLY, WE SET THE ALT SELECTOR OR ALERTER TO THE NEW CLRNC LIMIT ALT AS SOON AS WE RECEIVE IT. I DID THIS AUTOMATICALLY W/O CONSIDERING THAT IT MIGHT BE AN INVALID RESPONSE. WE'RE PSYCHOLOGICALLY PROGRAMMED TO EXPECT THINGS TO HAPPEN WITH A MACHINE BASED ON OUR EXPERIENCE WITH WHAT USUALLY HAPPENS. WITH THIS AIRPLANE'S EFIS DURING A CLB OR DES IN THE VNAV MODE, THE AIRPLANE WILL LEVEL OFF AT THE CRS ALT PROGRAMMED IN THE FMC EVEN IF THE ALT SELECTOR IS SET AT A HIGHER (DURING CLB) OR LOWER (DURING DES) ALT. EX: FMC CRS ALT FL330, CLRD TO FL370, ALT SELECTOR SET TO 370, AUTOPLT LEVELS THE AIRPLANE AT FL330. HAPPENS ALL THE TIME, SO I KNEW THE AUTOPLT WOULD LEVEL THE ACFT AT 16000'. WRONG! WHAT I DID, IN FACT, WAS TELL IT TO STOP AT AN ALT I WASN'T ON THE WAY TO. THE AUTOPLT THEN REVERTED TO THE CWS PITCH MODE, IN WHICH THE AIRPLANE KEEPS ON GOING IN THE LAST DIRECTION IT WAS POINTED, UNTIL THE PLT POINTS IT SOMEWHERE ELSE WITH THE YOKE. THERE IS NO AURAL WARNING WHEN THIS HAPPENS, THE AUTOPLT HASN'T DISCONNECTED, IT'S JUST HLDG A PITCH ATTITUDE. THERE'S A SMALL YELLOW CWS PITCH WARNING ON THE EADI, BUT IT HAS TO BE LOOKED AT TO BE SEEN (MUCH LIKE TFC AND ALTIMETERS). I ALSO KNEW I'D HAVE TIME TO STOW MY DEP PLATES BEFORE APCHING 16000', AS THE AUTOPLT STARTS A SMOOTH LEVEL OFF AS A FUNCTION OF RATE OF CLB AND WOULD BE REDUCING IT'S RATE OUT OF ABOUT 13000'. WRONG AGAIN! SINCE IT DEFAULTED TO CWS PITCH AND I DIDN'T NOTICE IT, WE WERE STILL CLBING AT 4 TO 6000 FPM. NO TIME FOR ANY INATTN OR DISTR. SO WHERE WAS THE NFP WHO WOULD NORMALLY BE CROSSCHECKING ALT AND MAKING APPROPRIATE CALLOUTS? THE SAME PLACE HE ALWAYS IS DURING MOST OF THE TIME SPENT ABV 10000' ON THIS RUN: DEEP IN THE MIDDLE OF COPYING ATIS AND MAKING REQUIRED FLT-FOLLOWING RADIO CALLS TO THE COMPANY. IT'S COMMON KNOWLEDGE THAT THE PF HAS LITTLE BACKUP ON A SHORT FLT LIKE THIS, BECAUSE THERE IS SO MUCH RADIO WORK TO DO. ALL THE MORE REASON FOR THE PF TO DO NOTHING BUT FLY (OR, THESE DAYS, MONITOR). SOMEWHERE IN ABQ CTR THERE WAS AN ALERT CTLR WHO TACTFULLY BROUGHT MY ATTN BACK WHERE IT SHOULD HAVE BEEN IN THE FIRST PLACE. MY HAT IS OFF TO HER! THE NEW TECHNOLOGY MACHINERY (FMC, EFIS, ETC) IS MARVELOUS, BUT IT SUCKERS US INTO COMPLACENCY. IN THE OLDER SERIES

AUTOPLT, THE CWS MODE WAS THE NORM, RATHER THAT THE EXCEPTION. THIS WAS FINE, AS YOU KNEW YOU WERE IN IT. IN MY EXPERIENCE, THERE'S A MUCH HIGHER INCIDENCE OF ALT/SPD/ROUTE BUSTS IN THE FMC-EQUIPPED ACFT, LARGELY (I THINK) BECAUSE THE SYSTEM IS SO COMPLEX THAT THERE ARE MANY OPPORTUNITIES FOR FAULTY PROGRAMMING. SUGGESTIONS: ALT AWARENESS! ALT ALERTERS ARE WONDERFUL, BUT WE'VE BECOME TOO DEPENDENT ON THEM. LET'S ALL TAKE A HARD LOOK AT OUR PROCS FOR THEIR USE AND BE SURE THEY'RE VALID FOR THE INTENDED RESULT. CONTINUALLY EMPHASIZE THE IMPORTANCE OF DEVOTING YOUR FULL ATTN TO MONITORING THE FLT WHENEVER THE OTHER CREWMEMBERS ARE INVOLVED WITH OTHER DUTIES. TRY TO MINIMIZE
DISTRS DURING CLBS/DES, NOT JUST BELOW 10000'. ALWAYS FOLLOW UP ANY CHGES IN AUTOPLT/FLT DIRECTOR MODE WITH A CHK OF THE MODE ANNUNCIATOR. IN NEW TECHNOLOGY ACFT, THIS MEANS EVERY TIME YOU PUSH A BUTTON. FOR R & D: IF WE MUST HAVE AN AURAL WARNING FOR AN AUTOPLT DISCONNECT, IS IT ANY LESS DANGEROUS TO HAVE IT REVERT TO A CWS MODE W/O THE PLT BEING AWARE? THIS IS A VERY COMMON OCCURRENCE. A CANCELLABLE AURAL WARNING AFTER, SAY, 3 SECS OF CWS WOULD DO THE TRICK. PERHAPS IF THE MACHINE CAN LEAD US ASTRAY, IT SHOULD WARN US. IS IT ACCEPTED PRACTICE FOR ATC TO GIVE DES CLRNCS PRIOR TO REACHING THE ASSIGNED CRS ALT? THIS COULD LEAD TO VARIOUS ERRORS AND CONFUSION.
SYNOPSIS : ALT OVERSHOT ON CLIMBOUT WHEN DESCENT CLRNC WITH ALT RESTRICTION GIVEN BEFORE REACHING ASSIGNED ALT AND FMC REPROGRAMMED.
REFERENCE FACILITY ID : TUS
FACILITY STATE : AZ
DISTANCE & BEARING FROM REF. : 30,315,NW
MSL ALTITUDE : 16000,16700

ACCESSION NUMBER : 80202
DATE OF OCCURRENCE : 8801
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; TRACON,DC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : IAH
FACILITY STATE : TX
FACILITY TYPE : TRACON; ARPT;
FACILITY IDENTIFIER : IAH; IAH;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : ON DEPARTURE, CLIMBING THRU 4000 IS LEFT TURN (JUST THROUGH OVERCAST) WENT THROUGH ALT BY 350'. RECOGNIZED EXCURSION 4100 BUT RATE OF CLIMB PRECOVERED READJUSTMENT TO 4000 WITHOUT PUTTING PAX IN THE STRAPS. FOLLOWING V-BARS WHILE PERFORMANCE MONITOR SYSTEM INPUTS, RATE OF CLIMB EXCEEDED ABILITY TO SMOOTHLY CONTROL ALTITUDE. ALTITUDE ALERT IS VISIBLE. NO AURAL ON THIS ACFT. PROBLEM AROSE: HIGH RATE OF CLIMB. ALT ALERT VISUAL. NO AURAL TILL THRU ALT (I.E. NO AURAL WARN PRIOR TO DESIRED SET) OTHER A/C IN FLEET HAVE SIMILAR SIGNAL (MIXED FLEET). VISUAL ALERT MISSED. VMC TURNING CLIMBS. MISSED LIGHT BLINK WHILE OUTSIDE COCKPIT. WHEN 4100', CLIMB RATE EXCESSIVE, RATHER THAN ABRUPT MOVEMENT, SMOOTHLY BUSTED AND RETURNED TO ALT. FACTORS: RELIANCE ON AURAL/SCAN PERFORMANCE CLIMB SYSTEM PARAMETER.
SYNOPSIS : WHILE DEPARTING IAH, MLG OVERSHOT ASSIGNED ALT.
REFERENCE FACILITY ID : IAH
FACILITY STATE : TX
DISTANCE & BEARING FROM REF. : ,,NE
MSL ALTITUDE : 4000,4350

ACCESSION NUMBER : 91653
DATE OF OCCURRENCE : 8807
REPORTED BY : FLC; FLC;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO;
FLIGHT CONDITIONS : IMC
REFERENCE FACILITY ID : MHT
FACILITY STATE : NH
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZBW;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : CLBING OUT OF BOS ENRTE TO ORD. ASKED BOS ARTCC FOR SOUTHERLY DEVIATION ON INITIAL CONTACT IN ORDER TO AVOID STORMS TO THE WNW AND N OF OUR ROUTE. REQUEST DENIED ACCOUNT TFC. CENTER SAID A HDG OF 330 DEGS SHOULD AVOID THE WX AND SAID THAT PREVIOUS FLTS HAD NO PROB. WE PROCEEDED TO CLB ON OR CLOSE TO A HDG OF 330 DEGS. THE ALT CLRNC LIMIT WAS FL230. WE ENTERED IMC ABOUT 16000' IN THE CLB AND TURNED ENG ANTI-ICE ON. BOTH OF US BECAME VERY BUSY NAVIGATING VIA THE ON BOARD WX RADAR. I WAS HAND FLYING RATHER THAN USING ALL OF THE AUTOMATIC FLT SYSTEMS. I DON'T RECALL HEARING THE ALT ALERT AS WE PASSED THROUGH FL221 AND DON'T RECALL SEEING THE ALT ALERT LIGHT EITHER. FOR SOME REASON, I RECALL THINKING THAT WE WERE CLRED TO FL240. LEAVING FL233 THE ALT ALERT SOUNDED AND THE LIGHT BEGAN FLASHING. I INTERPRETED THIS AS THE WARNING APCHING FL240 AND HAD JUST BEGUN A SLIGHT THROTTLE REDUCTION PRIOR TO THE ALERT. AT FL234 I MADE A SLIGHTLY GREATER THROTTLE REDUCTION AS THE F/O SAID, "HEY! 230, WE'RE ONLY CLRED TO 230!" I RECOGNIZED THE ERROR AT THAT POINT AND MADE A POSITIVE CORRECTION TOWARD FL230. THE ACFT REACHED FL236 BEFORE THE CORRECTION WAS EFFECTIVE. SEVERAL FACTORS PROBABLY CONTRIBUTED TO THE BUST. (1) BOTH OF US WERE SOMEWHAT FATIGUED. IT WAS THE LAST LEG OF A DAY THAT BEGAN WITH A WAKE-UP. (2) I WAS HAND FLYING. THE BUST WOULDN'T HAVE OCCURRED IF I'D HAD THE AUTOMATICS ENGAGED. (3) BOTH OF US WERE CONSTANTLY REFERRING TO THE RADAR. (4) SAME OLD STORY ABOUT THE ALT ALERT BEING USED AS AN EVERYDAY COMMONPLACE WARNING AND THEN BEING OVERLOOKED WHEN IT REALLY MEANS SOMETHING. IF YOU KNEW IN FRONT THAT FATIGUE MIGHT AFFECT YOUR PERFORMANCE, YOU MIGHT BE ABLE TO CHANGE SOMETHING. I WILL CERTAINLY CONSIDER USING THE AUTO FLT SYSTEM DURING PERIODS OF FATIGUE OR OTHER ANOMALIES IN THE FUTURE. I WASN'T TRYING TO TORTURE MYSELF OR PROVE A POINT BY HAND FLYING. I NORMALLY HAND FLY AT LEAST TO CRUISE BECAUSE I REFUSE TO FORGET HOW TO FLY JUST BECAUSE THERE'S A MACHINE THAT CAN DO IT AS WELL OR BETTER THAN I. IN FACT, I FELT QUITE COMFORTABLE RIGHT UNTIL THE F/O MADE HIS WARNING. THE ALT ALERT SITUATION SHOULD REALLY BE CORRECTED. HOW ABOUT JUST A LIGHT FOR THE ALERT APCHING THE ASSIGNED ALT AND RESERVE THE AURAL WARNING FOR POTENTIAL BUSTS? ANYBODY SUGGESTED THIS BEFORE?? I ALREADY KNOW THE ANSWER...JUST WONDER HOW LONG IT WILL TAKE. SUPPLEMENTAL INFO FROM ACN 91717. I DON'T REMEMBER MAKING THE 1000 REMAINING CALL. I BELIEVE THE PRIMARY CAUSE OF THE BUST WAS OVER ATTENTION TO THE RADAR. THE ACFT RADAR IS FANTASTIC AND WHEN SUPERIMPOSED OVER THE MAP MODE GIVES AN AMAZING AMOUNT OF INFO.
SYNOPSIS : ACR MLG ALT DEVIATION OVERSHOT DURING CLIMB AS FLT CREW STUDIED THE ACFT RADAR RETURN FOR A SOFT ROUTE THROUGH THE ENROUTE TSTM WX ACTIVITY.
REFERENCE FACILITY ID : MHT
FACILITY STATE : NH
DISTANCE & BEARING FROM REF. : 40,,NW
MSL ALTITUDE : 23000,23600

ACCESSION NUMBER : 130973
DATE OF OCCURRENCE : 8912
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; TRACON,AC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
FACILITY TYPE : TRACON;
FACILITY IDENTIFIER : ORD;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/LESS SEVERE; NON ADHERENCE LEGAL RQMT/CLNC; ALT DEV/OVERSHOOT ON CLB OR DES;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : NOT RESOLVED/DETECTED AFTER-THE-FACT; FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : AN ACFT TYPE; ACFT EQUIPMENT;
NARRATIVE : OUR CLRNC HAD BEEN "DSND TO 9000', SPD 210 KTS." ORD APCH CTL WAS VERY BUSY. WHILE DSNDING AT 210 KTS THROUGH APPROX 10000', WE WERE ASKED TO SLOW TO 170 KTS. PLEASE NOTE THAT THE ACFT IN QUESTION HAS A LOUD DISTRACTING VOICE WARNING SYS, WHICH AT 210 KTS AND IDLE PWR WARNS YOU "LNDG GEAR." WITH THE LNDG GEAR WARNING GOING OFF AND THE CTLR ISSUING A NEW SPD AT THE SAME TIME, THE 1000' CALL WAS TO BE MADE ("10000 FOR 9000"). BOTH THE CAPT AND I FAILED TO NOTICE THAT THE ALT ARMING AMBER "ALT" LIGHT WAS NOT ON. WHETHER THE CAPT FAILED TO ARM IT OR THE ALT MODE WAS DISARMED BY MY USE OF THE VERT SPD MODE OF THE FGS, IS UNKNOWN. AT 8700' THE CAPT NOTICED OUR ALT DEVIATION, AT WHICH TIME I TURNED OFF THE AUTOPLT AND CLBED BACK TO THE ASSIGNED ALT OF 9000'. IN MY OPINION, THE ALT DEVIATION WAS CAUSED BY A VARIETY OF DISTRS: 1) VERY BUSY ATC ENVIRONMENT, 2) DISTRACTING WARNING HORN FOR LNDG GEAR AT 210 KTS, 3) NO WARNING ON ACFT OF 1000' TO LEVEL-OFF (IT WARNS YOU ONLY AFTER ALT DEVIATION, NOT BEFORE AS ON OTHER ACFT IN FLEET), AND 4) RADIO CALL FROM ATC TO FURTHER SLOW ACFT TO 170 KTS AT CRITICAL TIME (DSNDING FROM 10000 TO 9000'). MY RECOMMENDATIONS: 1) REQUIRE WARNING OTHER THAN LIGHT (AURAL) OF IMPENDING LEVEL-OFF, 2) REMOVE "LNDG GEAR" WARNING UNTIL FLAPS ARE AT LEAST DOWN TO 15 DEGS AND THROTTLES IDLE, AND 3) MODIFY AUTOPLTS SO THAT MOVEMENT OF VERT SPD WHEEL WHILE AUTOPLT IS IN CAPTURE MODE DOES NOT DISENGAGE CAPTURE MODE. (PLEASE NOTE THAT OUR AIRLINES IS CURRENTLY MAKING THIS MODIFICATION, BUT THE ACFT WE WERE ON WAS NOT MODIFIED.)
SYNOPSIS : REPORTER CITES A VARIETY OF REASONS FOR OVERSHOOTING ALT IN DESCENT. BOTTOM LINE IS THAT THE ALT CALLOUT WAS OMITTED. THE DISTRS OF GEAR WARNING, BUSY COCKPIT, COM PROCS AND NO ALT WARNING LIGHT MAY HAVE BEEN CONTRIBUTORY. PLT TECHNIQUE IN USE OF AUTOPLT WAS QUESTIONED BY REPORTER.
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
DISTANCE & BEARING FROM REF. : 40,,E
MSL ALTITUDE : 8700,9000

ACCESSION NUMBER : 153103
DATE OF OCCURRENCE : 9008
REPORTED BY : FLC; FLC; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; TRACON,DC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : DFW
FACILITY STATE : TX
FACILITY TYPE : ARPT; TRACON;
FACILITY IDENTIFIER : DFW; DFW;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/LESS SEVERE; ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC; OTHER;
ANOMALY RESOLUTION : FLC OVERCAME EQUIP PROBLEM; FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : JUST AFTER ROTATION, MY EFIS DISPLAYS WENT BLANK FOR APPROX 2 SECS THEN CAME BACK. (THE F/O WAS FLYING). ABOUT 10 SECS LATER A CHIME WENT OFF JUST ABOUT CONTINUALLY. I LOOKED DOWN AT THE PEDESTAL AND SAW THE ACARS PRINTER LIGHT WAS FLASHING. I HAVE PREVIOUSLY SEEN PRINTERS MALFUNCTION IN A MANNER LIKE WE WERE EXPERIENCING SO I EXTINGUISHED THE LIGHT BY DEPRESSING IT AND DISABLED THE ACARS PRINTER (WITH THE INTENTION OF SORTING OUT ITS PROB AT A MORE CONVENIENT TIME). THE CHIME STOPPED FOR A FEW SECS THEN RESUMED. THIS TIME I FINALLY REALIZED THAT I WAS HEARING 4 CHIMES, THE EMER SIGNAL FROM THE CABIN. I PICKED UP THE INTERPHONE ONLY TO BE INFORMED, BY THE F/AS IN THE REAR OF THE ACFT, THAT THE #3 OVEN IN THE AFT GALLEY HAD SHORTED OUT AND HAD BEEN SMOKING. THEY SAID THE SMOKE APPEARED TO BE DISSIPATING. WE CONTINUED THE CLB TO 10000'. AT ABOUT 8000' I CALLED BACK TO THE CABIN TO SEE WHAT THE STATUS WAS WITH THE OVEN. ALL WAS WELL; HOWEVER, BY THE TIME I GOT OFF THE INTERPHONE WE WERE AT APPROX 9600' AND CLBING AT A GOOD RATE. I HAD MISSED OUR STANDARD CALLOUT 1000' PRIOR TO LEVEL OFF. I REMINDED THE F/O THAT WE WERE TO LEVEL OFF AT 10000'. (THE CLR HAD CALLED OUT TFC AT 1 TO 2 O'CLOCK AT 11000'). I TOLD THE F/O TO LEVEL OFF BUT HE WASN'T DOING IT FAST ENOUGH SO I STARTED PUSHING ON THE YOKE. THE CLB HAD BEEN ARRESTED BY 10250' BUT WHEN I RELEASED PRESSURE ON THE YOKE WE STARTED TO CLB SLIGHTLY AND REACHED 10280'. THE F/O FINALLY INITIATED A DSNT AND WE GOT BACK TO 10000'. SUPPLEMENTAL INFO FROM ACN 152909. AFTER LEVELING OFF AT 10000' AGL, THE F/A NOTIFIED THE CAPT THAT HE HAD EXTINGUISHED THE FIRE BY PULLING THE OVEN CB AND THAT THERE WAS NO DAMAGE TO THE ACFT.
SYNOPSIS : ALT BUST OCCURS AS FLT CREW GETS REPORT FROM CABIN ATTENDANT IN REAR THAT THEY ARE DEALING WITH AN OVEN ELECTRICAL FIRE.
REFERENCE FACILITY ID : DFW
FACILITY STATE : TX
DISTANCE & BEARING FROM REF. : 10,,SE
MSL ALTITUDE : 10000,10280

ACCESSION NUMBER : 156162
DATE OF OCCURRENCE : 9008
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; ARTCC,RDR;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : AML
FACILITY STATE : VA
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZDC;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ALT DEV/OVERSHOOT ON CLB OR DES;
ANOMALY DETECTOR : COCKPIT/FLC; ATC/CTLR;
ANOMALY RESOLUTION : NOT RESOLVED/ANOMALY ACCEPTED;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : ALT BUST OCCURRED DURING DSNT TO MEET XING RESTRICTION AT DOCCS INTXN AT 11000' AND 250 KTS. ACFT DSNDED TO 10500' BEFORE RETURNING TO 11000'. I THINK THIS WAS CAUSED BY 4 FACTORS: 1) THE DOCCS 4 ARR PROC IS POORLY DESIGNED AND ALWAYS REQUIRES HIGH RATES OF DSNT TO MEET THE RESTRICTION AT DOCCS INTXN. THE XING RESTRICTION AT PUTTZ INTXN ONLY ALLOWS 51 NM TO DSNT 13000' AND SLOW TO 250 KTS. THE PUTTZ EXPECT TO CROSS ALT IS NEVER ISSUED BY ATC USUALLY BECAUSE OF TFC CONFLICTS, AND WAS NOT ISSUED IN THIS CASE. WE CROSSED PUTTZ DSNDING AT ABOUT 27000'. WE DID START OUR DSNT AS SOON AS WE WERE ISSUED A CLRNC. WITH TAILWINDS ALMOST ALWAYS PRESENT, THE RESTRICTION IS HARD TO MEET IF YOU CROSS PUTTZ AT 24000'. YOU ARE EVEN FARTHER BEHIND IF ATC DELAYS YOUR DSNT CLRNC FOR TFC. THESE PROBS ALSO PUT THE ACFT IN A HIGH SPD HIGH VERT SPD CONDITION APCHING DOCCS. 2) DOCCS USES A NON STANDARD LEVEL OFF ALT OF 11000'. I'M SURE THERE IS AN ATC REASON FOR THIS, SUCH AS RADAR COVERAGE OR LETTERS OF AGREEMENT, BUT STANDARDIZATION IS AN IMPORTANT FACTOR IN KEEPING THE SYS SAFE. MOST APCH FAC GATES FOR THE JET DUMP AREAS USE 10000' AS THE STANDARD LEVEL-OFF ALT. I KNEW I WAS DSNDING TO 11000' WHEN I STARTED THE DSNT. THE F/O CALLED 12000 FOR 11000' AND THE ALT ALERT WENT OFF AT 12000', BUT AS I WAS CONCENTRATING ON THE DME READING MY MIND WENT TO 10000' AS A LEVEL-OFF ALT. YRS OF DSNDING TO 10000', I WOULD GUESS, BUT THAT'S WHY IT'S IMPORTANT TO KEEP THESE ALTS STANDARD. IF I HAD NOT BEEN FORCED INTO A HIGH SPD, HIGH RATE DSNT BY THE DESIGN OF THE DOCCS PROC, I WOULD NOT HAVE HAD TO CONCENTRATE ON THE DME SO MUCH THAT THE TARGET ALT SLIPPED FROM MY MIND AND REVERTED BACK TO 10000'. ALSO I COULD HAVE RECOGNIZED MY MISTAKE AT 11000' WHICH I DID AND RECOVERED WITH ONLY 200' OVERSHOOT INSTEAD OF 500'. 3) ALT ALERT WINDOW IN OUR ACFT IS NOT VISIBLE FROM LEFT SEAT AT NIGHT. IT'S HARD TO DOUBLE-CHK THE ALT SET W/O LEAVING FORWARD AND TURNING UP THE LIGHTS. 4) ALT ALERT BOX IN OUR ACFT HAVE TROUBLE WITH VOL SETTING OF ALERT TONE. ALWAYS TOO LOUD OR TOO SOFT, NEVER QUITE RIGHT. ALSO WARNING LIGHT IS DIFFICULT TO ADJUST FOR PROPER ILLUMINATION AT NIGHT, EITHER TOO BRIGHT OR TOO DIM.
SYNOPSIS : PLT OF MLG OVERSHOT LEVEL OFF AT DOCCS INTXN AT 11000'. REPORTER COMPLAINS ARR IS POORLY DESIGNED.
REFERENCE FACILITY ID : AML
FACILITY STATE : VA
DISTANCE & BEARING FROM REF. : 40,259
MSL ALTITUDE : 10500,11000

ACCESSION NUMBER : 183018
DATE OF OCCURRENCE : 9107
REPORTED BY : FLC; ; ; ; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; FLC,SO; FLC, PIC.CAPT; FLC,PIC.CAPT; ARTCC,RDR;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : CZYZ
FACILITY STATE : ON
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : CZYZ;
AIRCRAFT TYPE : WDB; MLG; WDB;
ANOMALY DESCRIPTIONS : OTHER; ALT DEV/EXCURSION FROM ASSIGNED; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : FLC AVOIDANCE-EVASIVE ACTION; FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : FAA INVESTIGATORY FOLLOW-UP;
SITUATION REPORT SUBJECTS : ACFT EQUIPMENT; PROC OR POLICY/FAA; PROC OR POLICY/COMPANY;
NARRATIVE : WHILE CRUISING AT FL290 AND WORKING WITH TORONTO CTR, WE WERE APCHING YXU WHEN TORONTO ATC ADVISED US THAT WE HAD TFC AT 12 O'CLOCK AT FL280 (OPP DIRECTION MLG +/- 5 MI). WE SAW THE TFC ON TCAS AS STATED. NO VIS SIGHTINGS. WE WERE CHKING WAYPOINT COORDS FOR NEXT WP AND TCAS TFC. TCAS TFC REMAINED 1000' BELOW US, THE TCAS VOICE SAID SOMETHING TOO SOFT TO BE UNDERSTOOD. I LOOKED AT THE VERT SPD AND SAW LIGHTS ON FROM 0-4000' DSNT. AS BEST I RECALL THE TCAS VOICE SAID "DSND, DSND, DSND." I IMMEDIATELY MOVED THE V/S WHEEL TO START A DSNT. WE NO MORE THAN STARTED OUR DSNT (300-500 FPM) WHEN THE TCAS SAID "MONITOR VERT SPD." VERT SPD REMAINED 300-500 FPM. A GLANCE AT THE TCAS SHOWED OUR TFC AT 600' BELOW US. IT THEN DISAPPEARED. I CALLED ATC TO ADVISE THEM THAT I HAD DSNDED DUE TO A TCAS ADVISORY AND ASKED IF A CONFLICT STILL EXISTED. ALSO STATED THAT WE WERE AT FL286 AND LEVELING AT FL284. THEY SAID THEY HAD NO CONFLICT AT THAT TIME AND I WAS CLRED BACK TO FL290. WE RETURNED TO FL290. THE CTLR LATER CAME BACK AND SAID THAT THE DSNT WOULD BE RPTED TO TRANSPORT CANADA. (I ASKED HIM PREVIOUSLY TO LET ME KNOW THAT) THE CTLR ALSO STATED AT THAT TIME, THAT WHAT MIGHT HAVE TRIGGERED MY TCAS WAS THE FACT THAT AT THE TIME I BEGAN MY DSNT HE HAD A HVY WDB AT 12 MI, OPP DIRECTION, CLBING TO FL280. IN HIS WORDS THE WDB WAS "CLBING RATHER WELL." HE SAID THAT WAS INFO I MIGHT NEED WHEN CHKING THE TCAS (OR INFERRED SUCH). REMAINDER OF TRIP UNEVENTFUL. I DON'T KNOW WHY THIS OCCURRED. POSSIBLY FAULTY ATC XPONDER ON MY ACFT OR MLG BELOW ME OR WDB AHEAD CLBING. VOICE ON THIS TCAS SET TOO LOW. (VOLUME).
SYNOPSIS : ALT DEVIATION ALT EXCURSION FROM ASSIGNED BY PIC OF WDB AS HE RECEIVES A TCASII RA TO DESCEND AFTER HAVING RECEIVED A TRAFFIC ADVISORY WITH TRAFFIC SIGHTED.
REFERENCE FACILITY ID : CZYZ
FACILITY STATE : ON
MSL ALTITUDE : 28400,29000

ACCESSION NUMBER : 189853
DATE OF OCCURRENCE : 9109
REPORTED BY : FLC; FLC; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; TWR,LC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : LAN
FACILITY STATE : MI
FACILITY TYPE : ARPT; TWR;
FACILITY IDENTIFIER : LAN; LAN;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/LESS SEVERE; NON ADHERENCE LEGAL RQMT/PUBLISHED PROC; NON ADHERENCE LEGAL RQMT/FAR;
ANOMALY DETECTOR : OTHER; COCKPIT/FLC;
ANOMALY RESOLUTION : FLC ABORTED TKOF; OTHER;
ANOMALY CONSEQUENCES : OTHER;
SITUATION REPORT SUBJECTS : PROC OR POLICY/ATC FACILITY; PROC OR POLICY/COMPANY;
NARRATIVE : WE WERE WORKING FLT IN MLG FROM LANSING TO DAYTON. THE L ENG WAS STARTED AT THE GATE AND WHILE I STARTED THE R ENG THE CAPT BEGAN TAXIING TO RWY 28. AFTER SECOND ENG WAS STARTED I READ THE AFTER START CHKLIST VERY QUICKLY AND NOTICED COCKPIT DOOR WAS UNLOCKED. I SLID MY SEAT BACK AND LOCKED DOOR. I MISSED THE CARGO DOOR OPEN LIGHTS ON OVERHEAD AND WAS JUST LISTENING FOR PROPER RESPONSE. I FINISHED BEFORE TKOF CHK AND MADE TKOF ANNOUNCEMENT THEN IMMEDIATELY CALLED TWR. WE WERE CLRED FOR TKOF. THE CAPT ADVANCED THROTTLES AND SAID 'YOUR TKOF'. I ADVANCED THROTTLES TO THE PWR AS WE LINED UP ON RWY HDG. CAPT REACHED UP TO TURN ANTI SKID ON AND CAUGHT CARGO DOOR LIGHTS ON AND ADVISED ME TO 'STOP'. WE STOPPED ON RWY AND COULDN'T EXIT ABEAM TWR DUE TO TAXIWAY CONSTRUCTION. WE DID TAXI BACK DOWN RWY AND NOTICED 7 BAGS ON RWY. CAPT NOTIFIED TWR WE HAD TO STOP AND RETURN TO GATE BECAUSE OF DOOR OPEN LIGHTS. TWR REPLIED, 'WE KNOW. WE HAVE BEEN WATCHING YOU THE WHOLE TIME AND HAVE YOU ON VIDEO TAPE'. WE RETURNED TO GATE, LOADED BAGS AND CONTINUED TO DAY. I SHOULD HAVE SEEN LIGHTS ON BUT I WAS OCCUPIED BY COCKPIT DOOR AND ANNOUNCEMENTS. ALSO, ACFT HAS UNUSUALLY DIM ANNUNCIATOR PANEL AND SUNLIGHT WAS SHINING DIRECTLY ON PANEL. EVEN AFTER BEING TOLD LIGHTS WERE ON, THEY WERE DIFFICULT TO SEE. I WILL NOT LET ANYONE RUSH ME FROM NOW ON! SUPPLEMENTAL INFO FROM ACN 189653: I FEEL THAT I RUSHED THE OP IN ORDER TO BE FIRST IN THE BANK OF ARRS AT DEST ARPT IN ORDER TO AVOID THE USUAL DELAY BECAUSE OF HVY TFC DEMANDS AT BANK TIMES.
SYNOPSIS : TKOF ABORTED WHEN PIC NOTES OPEN CARGO DOOR LIGHT ON TKOF PROC EXPEDITED TKOF TKOF RUN.
REFERENCE FACILITY ID : LAN
FACILITY STATE : MI
AGL ALTITUDE : 0,0

ACCESSION NUMBER : 196873
DATE OF OCCURRENCE : 9112
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; ARTCC,RDR;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : STL
FACILITY STATE : MO
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZKC;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC; COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : CLRED TO 28000 FT WITH XING TFC AT 29000. LIGHT ACFT, HIGH OF CLB. COCKPIT DOOR JAMMED OPEN CAUSING DISTR. ALT ALERT CHIME TOO SOFT, HARD TO HEAR. THIRD LEG WITH NO DINNER. FLEW THROUGH ASSIGNED ALT 28000 FT BY ABOUT 500 FT. CENTER ADVISED RETURN TO ASSIGNED IMMEDIATELY. TCASII GAVE TA (300 FT ABOVE 5 MI AHEAD R TO L). PUSHED OVER AND RETURNED TO ASSIGNED ALT.
SYNOPSIS : MLG OVERSHOOTS ASSIGNED ALT WHEN FLC DISTR BY TCASII.
REFERENCE FACILITY ID : STL
FACILITY STATE : MO
DISTANCE & BEARING FROM REF. : 60,180
MSL ALTITUDE : 28000,28500

ACCESSION NUMBER : 197052
DATE OF OCCURRENCE : 9112
REPORTED BY : FLC; ; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; MISC,GNDCREW; TWR, GC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : GSP
FACILITY STATE : SC
FACILITY TYPE : ARPT; TWR;
FACILITY IDENTIFIER : GSP; GSP;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : OTHER; ACFT EQUIPMENT PROBLEM/LESS SEVERE; NON ADHERENCE LEGAL RQMT/OTHER;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : OTHER;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : PREFLT AND ENG STARTS NORMAL. ACCOMPLISHED ALL CHKLISTS. CLRED FOR ENG START BY GND CREW. STARTED L ENG ONLY TO SAVE FUEL. PERFORMED AFTER START CHKLIST. TAXIED TO RWY 21. SEVERAL MINS LATER STARTED R ENG, PERFORMING DELAYED ENG START AND AFTER START CHKLISTS. THEN ACCOMPLISHED BEFORE TKOF CHKLIST, DURING WHICH WE WERE CLRED FOR TKOF. WHILE TAXIING ONTO THE RWY, WE WERE JUST COMPLETING BEFORE TKOF CHKLIST, SECOND TO LAST ITEM BEING 'ANNUNCIATOR PANEL' GLANCING UP, I WAS STARTLED TO SEE A 'FORWARD CARGO DOOR' LIGHT ILLUMINATED. TAXIED OFF RWY, CALLED COMPANY ON RADIO, REQUESTED THEY SEND SOMEONE OUT TO LOOK AT THE AIRPLANE. AFTER SEVERAL MINS A TRUCK PULLED UP. THEY FOUND THE FORWARD CARGO DOOR AJAR. CLOSED DOOR, LIGHT WENT OUT, FLT CONTINUED NORMALLY. I OBSERVE THE FOLLOWING: THE TENDENCY TO REPEAT CHKLIST RESPONSES BY ROTE WITHOUT THOROUGHLY CHKING EACH ITEM. SETTING SUN AT

OUR BACK ON TAXI OUT BLANKETED THE ANNUNCIATOR PANEL WITH LIGHT, MAKING IT DIFFICULT TO SEE INDIVIDUAL LIGHTS ON THE PANEL. DOUBLECHKING AND CLOSELY FOLLOWING CHKLISTS DID, IN THE END, SAVE THE DAY. IN THE FUTURE, I'LL VOW TO BE 100 PERCENT SURE ALL DOOR LIGHTS ARE OUT BEFORE MOVING THE ACFT FROM THE GATE. AND DOUBLECHK IT!
SYNOPSIS : FLC OF MLG MISSED CARGO DOOR LIGHT ON PRE TAXI CHKLIST.
REFERENCE FACILITY ID : GSP
FACILITY STATE : SC
AGL ALTITUDE : 0,0

ACCESSION NUMBER : 211433
DATE OF OCCURRENCE : 9205
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; ARTCC,RDR;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : ARD
FACILITY STATE : NJ
FACILITY TYPE : ARTCC; ARPT;
FACILITY IDENTIFIER : ZNY; LGA;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ALT DEV/UNDERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : NOT RESOLVED/ANOMALY ACCEPTED;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : ENRTE TO NEW YORK'S LGA ARPT WE WERE GIVING A XING RESTRICTION TO CROSS SOMTO INTXN AT FL260. I WAS THE PF AND THE CAPT HAD GONE TO THE FORWARD LAV WHEN CLRNC WAS ISSUED. I PROGRAMMED THE FMC WITH THE XING RESTRICTION BUT FAILED TO ENTER THE FL260 ALT IN THE MODE CTL PANEL, CAUSING THE ACFT NOT TO START DOWN ON TIME MISSING THE ALT BY APPROX 1000 FT OR 4 MI. THIS PROBLEM COULD HAVE BEEN AVOIDED IF, ON THE CAPT'S RETURN TO THE COCKPIT, A BRIEFING WOULD HAVE BEEN CONDUCTED OF EVENTS THAT HAD OCCURRED WHILE A PLT WAS OFF THE FLT DECK. DURING THE REST OF OUR 4 DAY TRIP WE PRACTICED THIS CHK OF BRIEFING EACH OTHER IF ONE PLT LEFT THE FLT DECK, INCLUDING ANY CHANGES IN RTE, ALT, REQUEST OR GENERAL INFO RELAYED BY ATC, WITH EMPHASIS ON SET UP OF THE FMC AND MODE CTL PANEL WITH THE AUTOPLT CONNECTED. POSSIBLY ANOTHER SOLUTION TO THIS WOULD BE THAT CERTAIN FMC COMMANDS THAT APPEAR IN THE MESSAGE PAD BE FOLLOWED BY AN AURAL WARNING OR CHIME, ESPECIALLY THE COMMAND OF RESET MCP, FMC FAIL, VERIFY POS, OR OTHER CRITICAL FMC MESSAGES. IN THE CASE OF BRIGHT SUNLIGHT, THE FMC PROMPS ARE NOT REALLY EYE CATCHING.
SYNOPSIS : AN ACR MLG MISSED AN ALT ON DSCNT ON A STAR.
REFERENCE FACILITY ID : ARD
FACILITY STATE : NJ
DISTANCE & BEARING FROM REF. : 10,233
MSL ALTITUDE : 26000,33000

ACCESSION NUMBER : 223811
DATE OF OCCURRENCE : 9210
REPORTED BY : FLC; FLC; FLC; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; FLC,SO; FLC, PIC.CAPT; ARTCC,RDR;
FLIGHT CONDITIONS : MXD
REFERENCE FACILITY ID : GEG
FACILITY STATE : WA
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZSE;
AIRCRAFT TYPE : LRG; ;
ANOMALY DESCRIPTIONS : CONFLICT/AIRBORNE LESS SEVERE; ACFT EQUIPMENT PROBLEM/LESS SEVERE; LESS THAN LEGAL SEPARATION; ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC; ATC/CTLR;
ANOMALY RESOLUTION : FLC OVERCAME EQUIP PROBLEM; CTLR INTERVENED; FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : WE HAD BEEN CLRED TO DSND TO 16000 FT THE AUTOPLT WAS BEING USED WITH IAS HOLD, HDG SELECT, AND ALT SELECT. APCHING 19000 FT, I CALLED FOR THE IN RANGE CHKLIST. AS THAT WAS BEING RUN, THE CAPT SUGGESTED CHANGING THE AUTOPLT ELEVATOR SERVO SO WE COULD RUN A CHK OF THE CAT II ILS APCH SYS. I DISCONNECTED THE AUTOPLT. HE TRANSFERRED THE SERVO AND I REENGAGED THE AUTOPLT. AS I PUNCHED THE ALT SELECT BUTTON, I NOTICED IT DIDN'T ARM BUT WENT TO SELECTED (GREEN LIGHT). I CHKED THE ALT. WE WERE AT A LARGE RATE OF DSCNT, APCHING 16000 FT. ALSO AT THIS TIME, THE CAPT AND ALSO THE CTLR CALLED THE ALT. I ASSISTED THE AUTOPLT IN THE LEVEL OFF. THE ACFT SETTLED THROUGH 16000 FT BY ABOUT 300 FT. ADDITIONALLY, CTR HAD CALLED TFC BELOW US ON A PARALLEL COURSE WHICH WAS IN SIGHT. WE WERE CLOSE ENOUGH APPARENTLY TO GIVE THE OTHER ACFT A TCASII ALERT (OUR ACFT IS NOT TCASII EQUIPPED). THIS WAS A CASE OF A LOT OF THINGS OCCURRING AT ONCE. NORMALLY, ANYONE WOULD NOT HAVE BEEN ANY PROBLEM. FACTORS: ACFT HAD A MORE COMPLEX AUTOPLT THAN I HAD BEEN USING NORMALLY BUT WITH A FEATURE (ALT SELECT) THAT I EXPECT TO WORK. ALSO HEADS DOWN SET-UP. A DELAY IN DSCNT SO DSCNT RATE WAS HIGH. ATC CALL OF TFC COINCIDING WITH TIME FOR PREPARATION FOR LEVEL OFF RUNNING CHKLIST WHICH ENTAILED A NEED FOR A CHANGE IN THE AUTOPLT SETUP. WITH THE ADDITIONAL WORKLOAD I MISSED THE AURAL ALT ALERT AND CALL. I DIDN'T TAKE INTO ACCOUNT THE HIGH RATE OF DSCNT EXISTING AS I RECONNECTED THE AUTOPLT. THIS WAS A SITUATION WHICH WENT FROM THE MOST ORDINARY TO COMPLEX WITHOUT SEEMING TO BE BECAUSE EACH EVENT WAS SO EVERY DAY -- THAT THEY ALL COMBINED IN A PERIOD F FA FEW MINS IS PROBABLY THE STUFF OF MOST INCIDENTS/ACCIDENTS. MORE SITUATIONAL AWARENESS AND A CONSCIOUS EFFORT TO NOT ALLOW EVENTS TO OVERLAP BUT EITHER SLOWING DOWN THE SEQUENCE AND/OR PRIORITIZING AND ACCOMPLISHING THE TASKS WOULD HELP AVOID THIS. SUPPLEMENTAL INFO FROM ACN 223958: WE REEMPHASIZED COCKPIT RESOURCE MGMNT WITH RESPECT TO DIVISION OF DUTIES. ALL OF US WERE 'OUTSIDE' LOOKING FOR TFC. ONE OF US SHOULD HAVE HAWKED ALT AND REMAINED SCANNING GAUGES. ALSO, OUR FAITH IN THE AUTOPLT TO LEVEL OFF LULLED US INTO COMPLACENCY.
SYNOPSIS : ALT BUST.
REFERENCE FACILITY ID : GEG
FACILITY STATE : WA
DISTANCE & BEARING FROM REF. : 45,73
MSL ALTITUDE : 15700,16000

ACCESSION NUMBER : 226546
DATE OF OCCURRENCE : 9211
REPORTED BY : FLC; ; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; FLC,PIC.CAPT; ARTCC,RDR;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : PUB
FACILITY STATE : CO
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZDV;
AIRCRAFT TYPE : SMT; MLG;
ANOMALY DESCRIPTIONS : CONFLICT/AIRBORNE LESS SEVERE; OTHER; LESS THAN LEGAL SEPARATION; ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC; COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : FLC/ATC REVIEW;
NARRATIVE : FLYING AN LTT FROM PUEBLO, CO, TO DAVENPORT, IA, THE CTLR HAD LEVELED US OFF AT FL270 UNTIL XING TFC CLRED. THE XING TFC WAS AN ACR MLG WITH TCASII. THE AUTOPLT ON THE LTT DISENGAGED FOR AN UNKNOWN REASON AND THE ACFT BEGAN A SLOW CLB. ANY AUTOPLT DISENGAGEMENT IS ACCOMPANIED BY A TONE TO ALERT THE FLC OF THE ABNORMALITY. BOTH PLTS EITHER MISSED THE TONE OR THE TONE DID NOT SOUND. THE ACFT CLBED 300 FT AND THE ALT SELECT TONE WARNED OF THE DEV. CORRECTION WAS MADE AND THE ACFT STOPPED THE CLB AT APPROX 400 FT ABOVE ASSIGNED ALT -- FL274. THE MLG CREW RECEIVED A TCASII ALERT AND QUESTIONED THE CTLR AS TO THE LTT ALT. THE CTLR STILL HAD THE LTT ALT AT FL270. MLG TCASII SHOWED THE MLG AT FL274 AND STILL CLBING. THE AUTOPLT WAS MONITORED FOR THE REMAINDER OF THE TRIP FOR ANY SIMILAR DISENGAGEMENTS, NONE OCCURRED. AN AUTOPLT CHK WAS PERFORMED PRIOR TO THE NEXT LEG AND ALL CHKS WERE NORMAL.
SYNOPSIS : LTT HAS AUTOPLT DISENGAGE, CLBS ABOVE ASSIGNED. CAUSES TCASII RA FOR MLG.
REFERENCE FACILITY ID : PUB
FACILITY STATE : CO
DISTANCE & BEARING FROM REF. : 80
MSL ALTITUDE : 27000,27400

ALERT INHIBIT LOGIC

ACCESSION NUMBER : 65129
DATE OF OCCURRENCE : 8703
REPORTED BY : FLC; FLC; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; TRACON,AC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
FACILITY TYPE : TRACON; ARPT;
FACILITY IDENTIFIER : ORD; ORD;
AIRCRAFT TYPE : WDB;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/LESS SEVERE; ALT DEV/EXCURSION FROM ASSIGNED; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC; ATC/CTLR;
ANOMALY RESOLUTION : FLC OVERCAME EQUIP PROBLEM; FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : ON APCH INTO ORD, BOTH CENTER AND RIGHT HYDRAULIC SYSTEMS WERE INDICATING LOW QUANTITIES. JUST PRIOR TO SPEED REDUCTION AND FLAP EXTENSION, CENTER HYDRAULIC SYSTEM PRESSURE WAS LOST. DELAYED VECTORS WERE REQUIRED FOR ADDITIONAL TIME. THE CAPT ASSUMED THE FLYING AND RADIO DUTIES WHILE I, THE COPLT, COMPLETED PROCEDURES TO LOWER THE GEAR AND FLAPS USING ALTERNATE SYSTEMS. DURING FLAP EXTENSION, THERE WERE SEVERAL UNEXPECTED TRANSIENT CAUTION MESSAGES: FLAP ASYMMETRY, LE AND TE FLAP DISAGREE. THE CAPT'S ATTENTION WAS DIVERTED FROM MONITORING HIS ALT, AND THE ACFT DEVIATED 3-400' OFF THE ASSIGNED ALT OF 4000' MSL. AT THAT POINT ATC REQUESTED CONFIRMATION OF OUR ALT AND AN IMMEDIATE CORRECTION WAS MADE. THE FLT WAS COMPLETED WITHOUT FURTHER COMPLICATION OR INCIDENT.
SYNOPSIS : ACR WDB HAD PARTIAL HYDRAULIC LOSS AND DISTR RESULTED IN ALT EXCURSION.
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
DISTANCE & BEARING FROM REF. : 5,100
MSL ALTITUDE : 4000,4000

ACCESSION NUMBER : 92828
DATE OF OCCURRENCE : 8808
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; TWR,LC;
FLIGHT CONDITIONS : IMC
REFERENCE FACILITY ID : SJC
FACILITY STATE : CA
FACILITY TYPE : TWR; ARPT;
FACILITY IDENTIFIER : SJC; SJC;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : OTHER; ACFT EQUIPMENT PROBLEM/CRITICAL;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : NOT RESOLVED/ANOMALY ACCEPTED; OTHER;
ANOMALY CONSEQUENCES : OTHER;
SITUATION REPORT SUBJECTS : AN ACFT TYPE; ACFT EQUIPMENT;
NARRATIVE : DURING TKOF ROLL WITH A HVY AIRPLANE, AT ABOUT 90 KTS, A COCKPIT CHIME BEGAN SOUNDING REPEATEDLY. TKOF WAS ABORTED AT APPROX 110 KTS AND THE RWY CLRED. THE BRAKE OVERHEAT LIGHT SUBSEQUENTLY CAME ON REQUIRING A RETURN TO THE GATE FOR INSPECTION AND COOLING. THE CHIME PROVED TO BE A RWY SELCAL/ACARS PRINTER CHIME RATHER THAN THE F/A'S CALLING WITH AN EMER. SHOULDN'T WARNINGS OF A LESSER IMPORTANCE BE INHIBITED FROM PWR APPLICATION TO PERHAPS 3000' AGL? CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING: CONVERSATION REVEALED THIS IS ACTUALLY THE SAME CHIME USED BOTH FOR SELCAL AND CABIN TO COCKPIT. NORMALLY JUST DINGS TWICE FOR SELCAL, BUT IN THIS CASE DINGED SO MANY TIMES CREW THOUGHT IT WAS THE CABIN ATTENDANT EMER CALL SIGNAL. INCIDENT HAS BEEN GIVEN TO THE COMPANY MANAGEMENT WITH SUGGESTION IT BE DEACTIVATED DURING CRITICAL FLT REGIME SUCH AS ON ADVANCED TECH ACFT WHICH HAVE NON EMER WARNINGS DEACTIVATED BTWN 80 KTS AND 400' RADIO ALT OR 20 SECS AFTER NOSE GEAR LIFT OFF, WHICHEVER OCCURS FIRST. RPTR'S MANAGEMENT ARE IN AGREEMENT WITH THE SUGGESTION AND ARE LOOKING INTO THE TECHNICAL AND ECONOMICS OF RETROFITTING THE MLG FLEET.
SYNOPSIS : ACR MLG RUNAWAY SEL CAL CHIME CAUSED TKOF ABORT AT HIGH SPEED.
REFERENCE FACILITY ID : SJC
FACILITY STATE : CA
AGL ALTITUDE : 0,0

ACCESSION NUMBER : 130973
DATE OF OCCURRENCE : 8912
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; TRACON,AC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
FACILITY TYPE : TRACON;
FACILITY IDENTIFIER : ORD;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/LESS SEVERE; NON ADHERENCE LEGAL RQMT/CLNC; ALT DEV/OVERSHOOT ON CLB OR DES;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : NOT RESOLVED/DETECTED AFTER-THE-FACT; FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : AN ACFT TYPE; ACFT EQUIPMENT;
NARRATIVE : OUR CLRNC HAD BEEN "DSND TO 9000', SPD 210 KTS." ORD APCH CTL WAS VERY BUSY. WHILE DSNDING AT 210 KTS THROUGH APPROX 10000', WE WERE ASKED TO SLOW TO 170 KTS. PLEASE NOTE THAT THE ACFT IN QUESTION HAS A LOUD DISTRACTING VOICE WARNING SYS, WHICH AT 210 KTS AND IDLE PWR WARNS YOU "LNDG GEAR." WITH THE LNDG GEAR WARNING GOING OFF AND THE CTLR ISSUING A NEW SPD AT THE SAME TIME, THE 1000' CALL WAS TO BE MADE ("10000 FOR 9000"). BOTH THE CAPT AND I FAILED TO NOTICE THAT THE ALT ARMING AMBER "ALT" LIGHT WAS NOT ON. WHETHER THE CAPT FAILED TO ARM IT OR THE ALT MODE WAS DISARMED BY MY USE OF THE VERT SPD MODE OF THE FGS, IS UNKNOWN. AT 8700' THE CAPT NOTICED OUR ALT DEVIATION, AT WHICH TIME I TURNED OFF THE AUTOPLT AND CLBED BACK TO THE ASSIGNED ALT OF 9000'. IN MY OPINION, THE ALT DEVIATION WAS CAUSED BY A VARIETY OF DISTRS: 1) VERY BUSY ATC ENVIRONMENT, 2) DISTRACTING WARNING HORN FOR LNDG GEAR AT 210 KTS, 3) NO WARNING ON ACFT OF 1000' TO LEVEL-OFF (IT WARNS YOU ONLY AFTER ALT DEVIATION, NOT BEFORE AS ON OTHER ACFT IN FLEET), AND 4) RADIO CALL FROM ATC TO FURTHER SLOW ACFT TO 170 KTS AT CRITICAL TIME (DSNDING FROM 10000 TO 9000'). MY RECOMMENDATIONS: 1) REQUIRE WARNING OTHER THAN LIGHT (AURAL) OF IMPENDING LEVEL-OFF, 2) REMOVE "LNDG GEAR" WARNING UNTIL FLAPS ARE AT LEAST DOWN TO 15 DEGS AND THROTTLES IDLE, AND 3) MODIFY AUTOPLTS SO THAT MOVEMENT OF VERT SPD WHEEL WHILE AUTOPLT IS IN CAPTURE MODE DOES NOT DISENGAGE CAPTURE MODE. (PLEASE NOTE THAT OUR AIRLINES IS CURRENTLY MAKING THIS MODIFICATION, BUT THE ACFT WE WERE ON WAS NOT MODIFIED.)
SYNOPSIS : REPORTER CITES A VARIETY OF REASONS FOR OVERSHOOTING ALT IN DESCENT. BOTTOM LINE IS THAT THE ALT CALLOUT WAS OMITTED. THE DISTRS OF GEAR WARNING, BUSY COCKPIT, COM PROCS AND NO ALT WARNING LIGHT MAY HAVE BEEN CONTRIBUTORY. PLT TECHNIQUE IN USE OF AUTOPLT WAS QUESTIONED BY REPORTER.
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
DISTANCE & BEARING FROM REF. : 40,,E
MSL ALTITUDE : 8700,9000

ACCESSION NUMBER : 179621
DATE OF OCCURRENCE : 9105
REPORTED BY : FLC; ; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; FLC,SO; TWR,LC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
FACILITY TYPE : ARPT; TWR;
FACILITY IDENTIFIER : ORD; ORD;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : OTHER;
ANOMALY DETECTOR : COCKPIT/FLC; COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : NOT RESOLVED/ANOMALY ACCEPTED;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : ON AN APCH INTO ORD, WE PASSED OVER THE OM AND GOT THE NEEDLE SWING, BUT NO AURAL TONE. I FORGOT TO DESELCT THE MARKER BUTTON, AND PASSING OVER THE MM, I WAS STARTLED AT AROUND 300-400' WHEN THE AURAL TONE CAME ON EXCEPTIONALLY LOUD, AS USUAL. I FUMBLED AROUND, TRYING TO DESELECT THE MARKER BUTTON AT A TIME WHEN I SHOULD HAVE HAD MY FULL ATTN ON THE LNDG. I DESELECTED IT AND MADE AN UNEVETNFUL LNDG. THIS HAS HAPPENED TO ME SO MANY TIMES, I HAVE LOST COUNT. IF I WERE THE PERFECT PLT, I WOULD REMEMBER TO DESELECT THE MARKER WHEN I DO NOT GET THE AURAL ON EVERY APCH, BUT IT IS EASY TO FORGET, AND WE ALL FORGET TO DO IT FROM TIME TO TIME, ESPECIALLY WHEN THE WX IS VFR AND WE ARE ONLY USING THE ILS AS A BACKUP. THE PROB WITH THIS SITUATION IS THAT IT IS DISTRACTING AT ONE OF THE MOST DEMANDING POINTS IN THE APCH, AND IT IS TRULY DISTRACTING! THERE IS NO REASON WHY THE MM SHOULD BE SO LOUD. I DON'T MIND AN AURAL WARNING AT THAT ALT, BUT WHY CAN'T THE VOL BE TURNED DOWN AT THE XMITTER? I HAVE ENCOUNTERED THIS AT EITHER BNA OR RDU IN THE TKOF REGIME, ALSO. TKOF INSTRUCTIONS ARE TO TURN TO A HDG AT THE MM. I DO NOT SELECT THE MARKER BUTTON BECAUSE ONCE AGAIN, THE MM IS TOO LOUD.
SYNOPSIS : ACR CAPT COMPLAINS ABOUT LOUD MIDDLE MARKER AT ORD.
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
AGL ALTITUDE : 200,400

ACCESSION NUMBER : 189654
DATE OF OCCURRENCE : 9109
REPORTED BY : FLC; FLC; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,OTH; FLC,PIC.CAPT; TRACON, AC;
FLIGHT CONDITIONS : IMC
REFERENCE FACILITY ID : NRT
FACILITY STATE : FO
FACILITY TYPE : ARPT; TRACON; TRACON;
FACILITY IDENTIFIER : NRT; NRT; NRT;
AIRCRAFT TYPE : WDB;
ANOMALY DESCRIPTIONS : IN-FLT ENCOUNTER/WX; OTHER; ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : ATC/CTLR;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE; CTLR INTERVENED; CTLR ISSUED NEW CLNC;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : PROC OR POLICY/ATC FACILITY; DESIGN/AIRSPACE; AN ACFT TYPE;
NARRATIVE : I WAS THE FO AND WAS RESPONSIBLE FOR COMPUTER ENTRIES AND RADIO COM. WE WERE CLRED OUT OF FL230 TO 10000 FT BY TOKYO CENTER. WE WERE GIVEN A XING RESTRICTION OF AT OR BELOW 15000 FT AT MELON INTXN. IN SHORT ORDER, WE WERE GIVEN REVISED CLRNC TO 11000 FT THEN HANDED OFF TO TOKYO NARITA APCH WHO THEN GAVE A CLRNC TO HOLD AT ARIES INTXN. WE WERE PERHAPS 20 DME FROM THE FIX. AN ALREADY BUSY ARR WAS MADE MORE SO BY THE FOLLOWING FACTORS: 1) WX - TSTMS, TURB. CAPT WAS CLOSELY MONITORING RADAR. 2) WX AT DEST - RPTED AT MINS. CREW DURING DSCNT WAS DISCUSSING POSSIBLE DIVERT TO OSHKA. INTL OFFICER FELL OUT OF LOOP WHILE GETTING OSHKA WX AND MONITORING ATIS. NEW ATIS INDICATED RWY CHANGE. 3) I WAS OVERLY OCCUPIED WITH COMPUTER DUTIES - HOLDING, NEW ARR, NEW APCH. I DID NOT MONITOR DSCNT CLOSELY ENOUGH. 4) LANGUAGE - THE CTLR WAS DIFFICULT TO UNDERSTAND. I REQUIRED REPEATS OF SEVERAL OF THE TRANSMISSIONS. I ALSO HAD TO ASK FOR EFC. 5) WE WERE DSNDED LATE - CAPT ELECTED TO HAND FLY THE ACFT TO MAKE THE XING RESTRICTION. THE AUTO PLT OFF ALARM DISTRACTED ME FOR A FEW MOMENTS AT A CRITICAL TIME ABOUT 17000 FT (TA 14000 FT). I HAD COMPLETED THE DSCNT CHKLIST TO 18000 FT (OR TRANS ALT). AFTER THE AUTOPLT OFF ALARM I WENT BACK TO THE COMPUTER AND WAS SO ENGAGED WHEN NARITA APCH TOLD US WE WERE BELOW ALT AND TO CLB AND TURN. THE CAPT REACTED IMMEDIATELY. WE HAD FAILED TO RESET ALTIMETERS FROM 29.92 TO 29.19 AT TRANSITION ALT. NOBODY WAS THINKING DSCNT CHKLIST. IT IS EXTREMELY DIFFICULT TO MAINTAIN COCKPIT AWARENESS AND SCAN IN FMC ACFT WHEN RAPID CHANGE IS REQUIRED. PARTICULARLY WITH THE HEAD DOWN KEYPAD. CONTRIBUTING FACTORS: 1) HIGH WORKLOAD ACFT WITH RELATIVELY LOW TIME CREW DSNDING INTO AREA OF HVY WX. 2) LAST MIN HOLDING INSTRUCTIONS TOOK THE FO OUT OF THE LOOP WHILE REPROGRAMMING THE COMPUTER. 3) I NOW BACKING FO UP ON GETTING THE TRANSITION ALT CHKLIST COMPLETED. 4) CAPT NOT DOUBLECHKING TO SEE THAT ALL THE CHKLIST ITEMS HAD BEEN COMPLETED. LESSONS TO BE LEARNED: 1) ALL CREW MEMBERS NEED TO INSURE CHKLIST IS COMPLETE (INCLUDING THE ONE WHO IS FLYING). 2) ALL CREW MEMBERS NEED TO BE IN THE LOOP DURING APCH, PARTICULARLY WHEN WX, LANGUAGE DIFFERENCES, AND LAST MIN CLRNCS COULD COMPLICATE THE APCH.
SYNOPSIS : ACR FLC IN NEW MODEL WDB HAS ALT DEV ALT OVERSHOT ALT EXCURSION DUE TO WRONG ALTIMETER SETTING.
REFERENCE FACILITY ID : NRT
FACILITY STATE : FO
MSL ALTITUDE : 7500,14000

ACCESSION NUMBER : 196984
DATE OF OCCURRENCE : 9112
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; TRACON,AC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : SNA
FACILITY STATE : CA
FACILITY TYPE : TRACON; ARPT;
FACILITY IDENTIFIER : SNA; SNA;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : OTHER; TRACK OR HDG DEVIATION; ALT DEV/EXCURSION FROM ASSIGNED; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC; COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : NOT RESOLVED/ANOMALY ACCEPTED;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : ACFT EQUIPMENT; OTHER; PROC OR POLICY/COMPANY;
NARRATIVE : INBOUND TO SNA ON KAYOH 2 ARR, COAST APCH ADVISED US WE WOULD BE VECTORED ACROSS 19R LOC FOR SPACING, FOR A VISUAL APCH. THIS BEING A SUNDAY WITH LARGE NUMBERS OF LIGHT ACFT, THIS WAS LATER TO EXPOSE US TO A NUMBER OF CONFLICTING TFC. WE ENDED UP BEING TURNED N JUST E OF ANAHEIM AS LOWER ALTS TO DSND TO (FROM 7000 MSL TO 3000 MSL). APCH ALSO POINTED OUT SEVERAL ACFT AS TFC. TCASII GAVE US SEVERAL TFC ALERT MESSAGES (TA) AS WELL AS 3 RESOLUTIONS ADVISORIES (RA). 2 RAS COMMANDED DSCNTS, WHICH WE WERE ABLE TO FOLLOW, MERELY BY INCREASING RATE TO RESOLVE CONFLICT, AND STILL BE ABOVE ALT DSNDING TO. THE THIRD COMMANDED A CLB (STILL DSNDING), WHICH WAS INITIATED, AND AFTER GAINING A COUPLE OF HUNDRED FT AT MOST, WE WERE CLR OF CONFLICT. IN EACH CASE WE SAW TFC AFTER GAINING A COUPLE OF HUNDRED FT AT MOST. WE WERE CLR OF CONFLICT. IN EACH CASE WE SAW TFC AFTER GETTING RA MESSAGE. EACH MESSAGE GAVE CORRECT RA. THIS APCH WAS MADE EXTREMELY BUSY AND DIFFICULT, TO WHERE OUR ABILITY TO RECEIVE AND FOLLOW ATC INSTRUCTIONS WERE COMPROMISED. THE CTLR WAS ADVISED OF THIS, AFTER WE MISSED WHAT HE SAID WHILE THE CTLR AND TCASII COMPUTER (AUDIO) WERE TALKING AT THE SAME TIME. THIS HAPPENED MORE THAN ONCE, SIGNIFICANTLY INCREASING THE WORKLOAD FOR ALL OF US. ACCORDING TO CTLR, WE MISSED A HDG CHANGE, AND WERE NOT AWARE OF THIS UNTIL HE QUESTIONED OUR LACK OF RESPONSE. THE ONLY REASON WE WERE ABLE TO FOLLOW RA COMMANDS, WAS BY VISUAL PICTURE ON IVSI, AS CONSTANT CHATTER GARBLED AUDIO MESSAGE. TCASII DOES NOT PRESENTLY FIT INTO ATC SYS, BUT ADDS AN ELEMENT OF INTERRUPTION AND CONFUSION TO AN ALREADY OVERLOADED SYS. NOR DOES IT FIT INTO OUR PRESENT COCKPIT MGMNT, PREVENTING PLTS FROM MAKING TIMELY VERBAL COMMANDS AND ALSO THEIR ABILITY TO UNDERSTAND SAME.
SYNOPSIS : ATTEMPTING TO FOLLOW APCH CTLRS INSTRUCTIONS, FLC OF MLG WAS DISTR BY OVER LOUD TCASII ALERTS AND UNABLE TO HEAR CTLR INSTRUCTIONS. MISSING A HDG CHANGE.
REFERENCE FACILITY ID : SNA
FACILITY STATE : CA
DISTANCE & BEARING FROM REF. : 7,,N
MSL ALTITUDE : 3000,7000

ACCESSION NUMBER : 198608
DATE OF OCCURRENCE : 9201
REPORTED BY : FLC; ; ; ; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; TWR,LC; TRACON,AC; FLC,PLT; FLC,PLT;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : SNA
FACILITY STATE : CA
FACILITY TYPE : TWR; TRACON; ARPT;
FACILITY IDENTIFIER : SNA; SNA; SNA;
AIRCRAFT TYPE : LRG; SMA; SMT;
ANOMALY DESCRIPTIONS : CONFLICT/NMAC; OTHER;
ANOMALY DETECTOR : COCKPIT/FLC; ATC/CTLR;
ANOMALY RESOLUTION : FLC AVOIDANCE-EVASIVE ACTION; FLC EXECUTED GAR OR MAP;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : WE WERE CLRED FOR A VISUAL APCH BY APCH CTL TO RWY 19R. OUR TFC WAS AN SMA ON A 2 MI FINAL. WE PROCEEDED TO FLY A VISUAL PATTERN TO 19R, TURNING FINAL APPROX 4 MI FROM THE RWY. UNKNOWN TO US, THE TWR HAS CLRED THE SMA TO LAND ON 19L AND HAS SEQUENCED AN SMT TO LAND ON 19R AHEAD OF US. WE CONTACTED TWR AND THEY CLR US TO LAND ON 19R. TWR THEN INSTRUCTS THE SMT TO GAR AND MAKE R TFC. SHORTLY AFTER THIS WE SEE THE SMT IN A CLBING R HAND TURN, IN BTWN THE NOSE AND L WING OF OUR AIRPLANE. WE TAKE EVASIVE ACTION AND GAR. I BELIEVE THE TWR SATURATED WITH LIGHT AIRPLANE TFC AND TRIED TO RELIEVE THIS BY USING BOTH RWYS FOR GENERAL AVIATION. I DON'T BELIEVE THAT THIS IS SAFE IN AN AREA WITH THIS MUCH TFC. COMS WERE DIFFICULT TO MAKE AND HEAR WITH SO MANY ACFT ON THE FREQ. TWR HAD NO TIME TO ALERT US ABOUT SMT TFC, OR EVEN COORD OUR PROGRESS WITH THE SLOWER TFC. TCASII WAS NO HELP WITH THERE BEING AT LEAST 6 TARGETS, YOU HAVE TO BE OUTSIDE THE COCKPIT. THE WARNINGS ONLY ADD TO THE CONFUSION DURING THIS PHASE OF THE FLT.
SYNOPSIS : ACR ON APCH MUST TAKE EVASIVE ACTION TO AVOID SMT SEQUENCED AHEAD WITH NO ADVISORY.
REFERENCE FACILITY ID : SNA
FACILITY STATE : CA
DISTANCE & BEARING FROM REF. : 2,,N
MSL ALTITUDE : 700,700

MULTIPLE ALERTS

ACCESSION NUMBER : 65129
DATE OF OCCURRENCE : 8703
REPORTED BY : FLC; FLC; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; TRACON,AC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
FACILITY TYPE : TRACON; ARPT;
FACILITY IDENTIFIER : ORD; ORD;
AIRCRAFT TYPE : WDB;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/LESS SEVERE; ALT DEV/EXCURSION FROM ASSIGNED; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC; ATC/CTLR;
ANOMALY RESOLUTION : FLC OVERCAME EQUIP PROBLEM; FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : ON APCH INTO ORD, BOTH CENTER AND RIGHT HYDRAULIC SYSTEMS WERE INDICATING LOW QUANTITIES. JUST PRIOR TO SPEED REDUCTION AND FLAP EXTENSION, CENTER HYDRAULIC SYSTEM PRESSURE WAS LOST. DELAYED VECTORS WERE REQUIRED FOR ADDITIONAL TIME. THE CAPT ASSUMED THE FLYING AND RADIO DUTIES WHILE I, THE COPLT, COMPLETED PROCEDURES TO LOWER THE GEAR AND FLAPS USING ALTERNATE SYSTEMS. DURING FLAP EXTENSION, THERE WERE SEVERAL UNEXPECTED TRANSIENT CAUTION MESSAGES: FLAP ASYMMETRY, LE AND TE FLAP DISAGREE. THE CAPT'S ATTENTION WAS DIVERTED FROM MONITORING HIS ALT, AND THE ACFT DEVIATED 3-400' OFF THE ASSIGNED ALT OF 4000' MSL. AT THAT POINT ATC REQUESTED CONFIRMATION OF OUR ALT AND AN IMMEDIATE CORRECTION WAS MADE. THE FLT WAS COMPLETED WITHOUT FURTHER COMPLICATION OR INCIDENT.
SYNOPSIS : ACR WDB HAD PARTIAL HYDRAULIC LOSS AND DISTR RESULTED IN ALT EXCURSION.
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
DISTANCE & BEARING FROM REF. : 5,100
MSL ALTITUDE : 4000,4000

ACCESSION NUMBER : 66046
DATE OF OCCURRENCE : 8703
REPORTED BY : FLC; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : FLM
FACILITY STATE : KY
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZID;
AIRCRAFT TYPE : WDB;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/LESS SEVERE; ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE; ACFT EQUIP PROBLEM RESOLVED ITSELF;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : ACFT EQUIPMENT;
NARRATIVE : F/O FLYING THIS SEGMENT ON AFDS (AUTOPLT F/D SYSTEM). ENROUTE ATL-CVG. ON DESCENT INTO CVG, ATC HAD CLEARED OUR FLT DIRECT FLM, DIRECT CVG, WITH AN INTERIM CLRNC TO DESCEND TO FL240. DESCENDING THROUGH FL245+, AN UNACCOUNTED FOR ELEVATOR SERVO INPUT DISCONNECTED THE AUTOPLT WHILE SIMULTANEOUSLY NUMEROUS HYDRAULIC AND ELECTRICAL ABNORMAL INDICATIONS OCCURRED. EICAS (ENGINE INDICATING AND CREW ALERT SYSTEM) CRT MESSAGES FILLED UPPER SCREEN AND 3 MAINTENANCE MESSAGES APPEARED ON LOWER CRT -- "FUEL QUANTITY CHANNEL", "AUTO 2 CABIN ALT", AND "AIR/GND DISAGREE". CENTER HYDRAULIC PRESS LOW LIGHTS AND UTILITY ELECTRICAL BUS INOP LIGHTS CAME ON ON OVERHEAD PANEL. ALERT MESSAGES APPEARED SO RAPIDLY THEY COULD NOT ALL BE UNDERSTOOD ESPECIALLY IN VIEW OF THE FACT THAT NEITHER THE F/O NOR MYSELF HAD BEEN FLYING ACFT TYPE FOR MORE THAN 150 HRS TOTAL. THE F/O RESUMED MANUAL CONTROL OF THE ACFT AS I TURNED ON THE APU PRECAUTIONARY TO AN AC BUS OR GENERATOR LOSS. IT WAS AT THIS TIME THAT I REALIZED THE ACFT HAD DESCENDED THROUGH FL240. I ALERTED THE F/O AND TOOK CONTROL, STOPPING THE DESCENT AT FL235. F/O RESUMED CONTROL AND CLIMBED BACK TO FL240. WHEN THE APU CAME ON LINE ALL SYSTEMS RETURNED TO NORMAL. ONLY THE 3 EICAS MESSAGES ON THE LOWER CRT REMAINED. REMAINDER OF THE FLT WAS ROUTINE. ON GND IN CVG, MECHANICS SUSPECTED CAUSE OF OCCURRENCE WAS INDICATIVE OF AN ENGINE GENERATOR ATTEMPTING TO DISCONNECT ITSELF FROM THE AC SYSTEM. THIS PARTICULAR WDB HAD HAD A HISTORY OF SPURIOUS ELECTRICAL QUIRKS THAT ALWAYS SEEMED TO CORRECT THEMSELVES. THIS TYPE OF OCCURRENCE IS NOT OVERLY TROUBLESOME IN A 3 PLT COCKPIT. IN A 2 PLT ENVIRONMENT IN WHICH WHAT WAS FORMERLY THE SECOND OFFICER/FLT ENGINEERS FUNCTIONS ARE NOW TOTALLY AUTOMATED, AN APPARENT FAILURE OF THE AUTOMATION IS PARTICULARLY DISTRACTING TO THE CAPT AND F/O. THE CREW MEMBER FLYING BECOMES IMMEDIATELY ABSORBED IN DETERMINING WHICH FLT INSTRUMENTS ARE RELIABLE WHILE THE REMAINING CREW MEMBER SEEKS THE SOURCE OF THE PROBLEM. THIS RESULTS IN A BRIEF INTERVAL WHEN HDG AND ALT ARE OF SECONDARY CONCERN. STABILIZED FLT IS FIRST. EMPHASIS ON HDG AND ALT RETURNS ALMOST IMMEDIATELY BUT ONLY AFTER THE PRIMARY CONCERN IS CONFIRMED. ALT EXCURSIONS OCCUR DURING THESE BRIEF PERIODS, UNLESS SUCH AN ABNORMALITY OCCURS IN STABILIZED STRAIGHT AND LEVEL FLT. A 2 PLT CREW CONCEPT WORKS GREAT, BUT ONLY AS LONG AS THE AUTOMATIC BLACK BOX ITEMS WHICH HAVE REPLACED THE S/O ARE FEEDING THE CAPT AND F/O ACCURATE INFO.
SYNOPSIS : ACR WDB ALT DEVIATION OVERSHOT DURING DESCENT.
REFERENCE FACILITY ID : FLM
FACILITY STATE : KY
DISTANCE & BEARING FROM REF. : 90,,SO
MSL ALTITUDE : 23500,24000

ACCESSION NUMBER : 205876
DATE OF OCCURRENCE : 9203
REPORTED BY : FLC; ; ; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; TWR,LC; TRACON,DC; MISC,GNDCREW;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : PIT
FACILITY STATE : PA
FACILITY TYPE : ARPT; TWR; TRACON;
FACILITY IDENTIFIER : PIT; PIT; PIT;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/CRITICAL; OTHER;
ANOMALY DETECTOR : COCKPIT/FLC; COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : FLC OVERCAME EQUIP PROBLEM;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : ACFT EQUIPMENT;
NARRATIVE : FLT DEPARTING PIT AT APPROX PM30 AT CLOSE TO MAX WT -- 104000 POUNDS. WE HAD TO PULL NON-REVENUE AND REVENUE STAND BY PAX DUE TO WT. CREW WAS CLOSE TO LEGAL LIMITS (15 HRS BY THE TIME WE WERE TO LAND AT BTV). CLRED FOR TKOF 28R WITH CLRNC TO 5000 WITH A TURN TO 360 DEGS. THE CAPT WAS FLYING. JUST PAST V1 -- VR -- BOTH STALL RECOGNITION SYS SOUNDED WITH STICK SHAKERS, STALL LIGHTS, AND BOTH HORNS. THE CAPT ROTATED VERY SLOWLY -- I COULD NOT HEAR HIS COMMANDS OVER THE NOISE. WE BOTH DETERMINED THE ACFT WAS SAFELY FLYING. I RAISED THE GEAR AS SOON AS POSITIVE RATE WAS ESTABLISHED. I XMITTED IN THE BLIND TO DEP THAT WE WERE CLBING STRAIGHT OUT (CAPT MAINTAINED FULL PWR FOR 2-3 MINS TO MAINTAIN THE ACFT SAFETY). THE NOISE WAS SO LOUD WE COULD NOT THINK. WE FOLLOWED THE CHKLIST PROC IN THE PLT'S HANDBOOK AND BY TURNING UP THE VOLUME AND BARELY MUTING THE NOISE WE TOLD DEP OUR SITUATION AND WANTED AN ALT AND VECTORS TO WORK ON THE SITUATION. WE WERE ABLE TO SILENCE THE SOUNDS AND ALL SYS WENT BACK TO NORMAL. AS PER ACR OPS AND MAINT SUPVRS WE CONTINUED ON AND LANDED NORMALLY AT BTV. ACR TRAINING WAS EXCELLENT. THE CAPT AND I HANDLED THE PROBLEM AS TRAINED. NO ONE EVER PREPARED US FOR THE NOISE LEVEL THOUGH. ONCE WE REALIZED IT WAS JUST A SYS MALFUNCTION, IT TOOK US A FEW MINS TO PULL CIRCUIT BREAKERS TO SILENCE HORNS. RECOMMENDATION -- 14-15 HR DAYS ARE TO LONG. WE WERE LUCKY -- THE WX WAS GOOD -- NOT MUCH TFC.
SYNOPSIS : STALL WARNING AND STICK SHAKER HORN ACTIVATED DURING TKOF PROC. FALSE WARNING. NIGHT OP.
REFERENCE FACILITY ID : PIT
FACILITY STATE : PA
DISTANCE & BEARING FROM REF. : ,,W
AGL ALTITUDE : 0,5000

ACCESSION NUMBER : 224375
DATE OF OCCURRENCE : 9210
REPORTED BY : FLC; FLC; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; FLC,PLT; TRACON, AC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : EWR
FACILITY STATE : NJ
FACILITY TYPE : ARPT; TRACON;
FACILITY IDENTIFIER : EWR; N90;
AIRCRAFT TYPE : LRG;
ANOMALY DESCRIPTIONS : OTHER; ALT DEV/OVERSHOOT ON CLB OR DES; ALT DEV/EXCURSION FROM ASSIGNED; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC; COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : FLC AVOIDANCE-EVASIVE ACTION; FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : ACFT EQUIPMENT; OTHER; PROC OR POLICY/COMPANY;
NARRATIVE : WHILE APCHING EWR AT 3000 FT, ON THE ILS TO RWY 4R, ATC CALLED OUT TFC AHEAD AT 2500 FT. THIS TFC WAS DISPLAYED ON TCASII AND ALSO SEEN VISUALLY BY THE PNF. AS WE APCHED THE TFC, THE TCASII DISPLAYED AN RA OF 'MONITOR VERT SPD' AND THE 'CLB.' WE CLBED APPROX 300 FT TO AVOID THE TFC UNTIL THE 'CLR OF CONFLICT' ADVISORY CAME. OUR CLB IN RESPONSE TO TCASII WAS IMMEDIATELY RPTED TO APCH CTL. UPON DSNDING AGAIN, WE INADVERTENTLY DSNDED APPROX 250 FT BELOW 3000 FT. OUR CLRNC HAD BEEN TO 'MAINTAIN 3000 UNTIL ESTABLISHED -- CLRED ILS 4R.' DURING THIS ENTIRE EPISODE WE WERE ON THE LOC BUT STILL BELOW THE GLIDE PATH. AMONG THE DISTRACTIONS CONTRIBUTING TO THIS PROBLEM WERE THE CONFLICTING AND LOUD VOICE WARNINGS OF 'ALT' AND THE TCASII COMMANDS MAKING COM WITH APCH DIFFICULT. SUPPLEMENTAL INFO FROM ACN 223997: I THINK THE FO INADVERTENTLY DSNDED BELOW OUR ASSIGNED ALT FOR SEVERAL REASONS: HE BECAME DISTRACTED BY THE MULTITUDE OF AURAL WARNINGS AND VISUAL INDICATIONS. FOR EXAMPLE, TCASII AURAL WARNINGS INCLUDED 2 DIFFERENT VOICE WARNINGS, WITH THE VISUAL VSI LIGHT INDICATIONS. AT THE SAME TIME, THE ACFT ALTDEV AURAL WARNING WAS SOUNDING, PLUS I WAS TALKING TO ATC AND INSTRUCTING HIM TO FOLLOW THE TCASII INDICATIONS. WHILE RETURNING TO ASSIGNED ALT, I WAS AGAIN INSTRUCTING HIM AND ATC WAS TALKING TO US.
SYNOPSIS : AN LGT ACR CLBED IN RESPONSE TO A TCASII COMMAND. THE ACFT WAS ON THE ILS INBOUND AT EWR.
REFERENCE FACILITY ID : EWR
FACILITY STATE : NJ
DISTANCE & BEARING FROM REF. : 10,,SW
MSL ALTITUDE : 2650,3300

ACCESSION NUMBER : 237910
DATE OF OCCURRENCE : 9303
REPORTED BY : FLC; FLC; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; TRACON,DC;
FLIGHT CONDITIONS : MXD
REFERENCE FACILITY ID : CLT
FACILITY STATE : NC
FACILITY TYPE : ARPT; TRACON;
FACILITY IDENTIFIER : CLT; CLT;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/LESS SEVERE; OTHER;
ANOMALY DETECTOR : COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : NOT RESOLVED/UNABLE; OTHER;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : AN ACFT TYPE; ACFT EQUIPMENT; A PUBLICATION(S);
NARRATIVE : AT GEAR RETRACTION WE RECEIVED MULTIPLE AURAL AND VISUAL ALERTS. #1 ON MFDU SCREEN WAS 'L LNDG GEAR DOOR LOCK SWITCH.' 'SPD LIMIT' WAS ON PFD SPD SCALE. ALSO ON MFDU SCREEN: 'AFCAS MODE, NO ALAND, AFCAS MAINT REQ.' I ASKED FO TO GET PLTS HANDBOOK OUT FOR ABNORMAL PROCS (LNDG GEAR). NEITHER OF US COULD FIND ANY PROC FOR 'L LNDG GEAR DOOR LOCK SWITCH.' I CYCLED THE GEAR TO DOWN AND HAD SAME DOOR LOCK SWITCH WARNING WITH 3 GREEN (DOWN AND LOCKED). CYCLED GEAR BACK UP AND SAME WARNINGS APPEARED, SO I ELECTED TO RETURN TO THE ARPT. ADVISED FLT ATTENDANTS AND PAX OF GEAR DOOR PROB, CALLED COMPANY FOR A GATE AND MAINT. ASKED DEP TO SEQUENCE US FOR RETURN LNDG, NO EQUIP NECESSARY. PRIOR TO LNDG ASKED TWR AND AN ACFT ON GND FOR VISUAL ON DOOR AND THEY SAID IT APPEARED UP. NORMAL LNDG FOLLOWED AND AFTER TURNOFF AT HIGH SPD AND STOPPING, ACFT AGAIN ASKED TAXIING ACFT FOR A VISUAL ON THE DOOR, IF CLOSED. AFTER RECEIVING AFFIRMATIVE ANSWER, TAXIED TO GATE WHERE MAINT FOUND AND REPAIRED BROKEN DOOR LOCK SPRING. MY PROB WITH THIS SIT IS THAT IF YOU CAN GET AN ALERT ON THE SCREEN THERE SHOULD BE A PROC IN THE BOOK TO COVER IT.
SYNOPSIS : ACR MLG RETURN LNDG AFTER GEAR DOOR NOT LOCKED IN UP POS. RPTR COMPLAINT REF NO CHKLIST USE ITEM EVEN THOUGH EICAS ALERT ON DOOR.
REFERENCE FACILITY ID : CLT
FACILITY STATE : NC
AGL ALTITUDE : 300,5000

NON-DISTINGUISHABLE ALERTS

ACCESSION NUMBER : 92828
DATE OF OCCURRENCE : 8808
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; TWR,LC;
FLIGHT CONDITIONS : IMC
REFERENCE FACILITY ID : SJC
FACILITY STATE : CA
FACILITY TYPE : TWR; ARPT;
FACILITY IDENTIFIER : SJC; SJC;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : OTHER; ACFT EQUIPMENT PROBLEM/CRITICAL;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : NOT RESOLVED/ANOMALY ACCEPTED; OTHER;
ANOMALY CONSEQUENCES : OTHER;
SITUATION REPORT SUBJECTS : AN ACFT TYPE; ACFT EQUIPMENT;
NARRATIVE : DURING TKOF ROLL WITH A HVY AIRPLANE, AT ABOUT 90 KTS, A COCKPIT CHIME BEGAN SOUNDING REPEATEDLY. TKOF WAS ABORTED AT APPROX 110 KTS AND THE RWY CLRED. THE BRAKE OVERHEAT LIGHT SUBSEQUENTLY CAME ON REQUIRING A RETURN TO THE GATE FOR INSPECTION AND COOLING. THE CHIME PROVED TO BE A RWY SELCAL/ACARS PRINTER CHIME RATHER THAN THE F/A'S CALLING WITH AN EMER. SHOULDN'T WARNINGS OF A LESSER IMPORTANCE BE INHIBITED FROM PWR APPLICATION TO PERHAPS 3000' AGL? CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING: CONVERSATION REVEALED THIS IS ACTUALLY THE SAME CHIME USED BOTH FOR SELCAL AND CABIN TO COCKPIT. NORMALLY JUST DINGS TWICE FOR SELCAL, BUT IN THIS CASE DINGED SO MANY TIMES CREW THOUGHT IT WAS THE CABIN ATTENDANT EMER CALL SIGNAL. INCIDENT HAS BEEN GIVEN TO THE COMPANY MANAGEMENT WITH SUGGESTION IT BE DEACTIVATED DURING CRITICAL FLT REGIME SUCH AS ON ADVANCED TECH ACFT WHICH HAVE NON EMER WARNINGS DEACTIVATED BTWN 80 KTS AND 400' RADIO ALT OR 20 SECS AFTER NOSE GEAR LIFT OFF, WHICHEVER OCCURS FIRST. RPTR'S MANAGEMENT ARE IN AGREEMENT WITH THE SUGGESTION AND ARE LOOKING INTO THE TECHNICAL AND ECONOMICS OF RETROFITTING THE MLG FLEET.
SYNOPSIS : ACR MLG RUNAWAY SEL CAL CHIME CAUSED TKOF ABORT AT HIGH SPEED.
REFERENCE FACILITY ID : SJC
FACILITY STATE : CA
AGL ALTITUDE : 0,0

ACCESSION NUMBER : 117785
DATE OF OCCURRENCE : 8907
REPORTED BY : FLC; ; ; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; FLC,FO; ARTCC,RDR; MISC,CAB;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : CYN
FACILITY STATE : NJ
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZNY;
AIRCRAFT TYPE : LRG;
ANOMALY DESCRIPTIONS : OTHER; ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : CTLR ISSUED NEW CLNC; NOT RESOLVED/DETECTED AFTER-THE-ACT;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : FLT LGA-MIA, WAS MY LEG. OUR ORIGINAL CLRNC WAS THE LGA 3 DEP CONEY CLB, 5000'. ON OUR INITIAL CONTACT WITH NY DEP CLIPPER 231 WAS CLRED TO 12000' AND THEN SUBSEQUENTLY CLRED TO 17000'. DURING OUR CLBOUT OUR SPACING WITH THE ACFT IN FRONT OF US BECAME TIGHT. WE WERE RESTRICTED TO 250 KIAS UNTIL FURTHER ADVISED. WE WERE THEN PASSED TO ZNY. CENTER DIRECTED US TO TURN 040 DEGS RIGHT OF COURSE TO A HDG OF 275 DEGS DUE TO ACFT SPACING. AT THAT TIME, ANOTHER ACFT RPTED HEARING AN ELT ON 121.5. ZNY ASKED US IF WE WOULD MIND TUNING IN 121.5 AND LISTENING FOR THE ELT. THE CAPT WAS HANDLING THE RADIOS THIS LEG AND RESPONDED TO ZNY THAT HE WOULD OBLIGE. AT THIS POINT, THE F/A CAME IN TO TAKE BREAKFAST ORDERS, THE CAPT WAS LISTENING TO THE ELT, ATC ISSUED ANOTHER CLRNC TO TURN LEFT TO A HDG OF 190 DEGS AND THE F/E WAS PERFORMING COMPANY PAPERWORK. I RESPONDED TO ATC. ATC CAME BACK AND CLRED US DIRECT TO COYLE VOR. IN THE BACKGROUND OF ALL THE COCKPIT COMMOTION I HEARD WHAT SOUNDED LIKE A SELCAL. IN ACTUALITY, IT WAS THE ALT ALERT; WE WERE APCHING 17000', OUR LEVEL OFF ALT. UNFORTUNATELY, I NOR ANYONE ELSE ON THE FLT DECK RECOGNIZED THIS CHIME AS ALT ALERT, AS IT IS NOT ONLY DIFFERENT IN SOUND THAT THOSE OF OUR OTHER 17 DIFFERENT LGT MODELS, BUT ALSO DIFFERENT IN COCKPIT PLACEMENT AND THE ALT IN WHICH IT ALERTS PRIOR TO YOUR ASSIGNED ALT. (MOST ALT ALERTS CHIME AT 1000' PRIOR, 300' PRIOR AND 300' PAST THE ALT SELECTED. THIS PARTICULAR MODEL CHIMED AT 500' PRIOR AND AFTER.) ATC THEN CLRED US TO FL240. BY THAT TIME, I WAS AT FL180. I HAD CLBED 1000' PAST MY ALT. THE FACTORS AND DISTRS THAT CONTRIBUTED TO THIS INCIDENT WERE: 1) A NUMBER OF REQUESTS FROM ATC, 2) THE CAPT LISTENING TO THE ELT, 3) THE F/A IN THE COCKPIT DURING CLBOUT, 4) THE F/E NOT BEING IN THE LOOP, AND 5) THE DIFFERENT TONE FOR THE ALT ALERT.
SYNOPSIS : ACR FLT CREW BUSTS ALT IN CLIMB CLAIMING TOO MANY DISTRS AND NON STANDARD TYPE ALT ALERT.
REFERENCE FACILITY ID : CYN
FACILITY STATE : NJ
DISTANCE & BEARING FROM REF. : 20,45
MSL ALTITUDE : 17000,18000

ACCESSION NUMBER : 143339
DATE OF OCCURRENCE : 9004
REPORTED BY : FLC; FLC; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; MISC,GNDCREW;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : CLT
FACILITY STATE : NC
FACILITY TYPE : ARPT; TWR; ARPT;
FACILITY IDENTIFIER : CLT; CLT; CLT;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/CRITICAL; NON ADHERENCE LEGAL RQMT/PUBLISHED PROC;
ANOMALY DETECTOR : COCKPIT/FLC; COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : NOT RESOLVED/UNABLE; OTHER;
SITUATION REPORT SUBJECTS : ACFT EQUIPMENT; PROC OR POLICY/COMPANY;
NARRATIVE : ACFT BROUGHT FROM HANGAR FOLLOWING MAINT WORK ON AVIONICS. ON PUSHBACK IT WAS OBSERVED THAT THE FOLLOWING ANNUNCIATOR LIGHT WAS ILLUMINATED. THE CAPT HAD THE PUSHBACK PERSONNEL CHK THE TIRE BURST SCREENS IN MAIN WHEEL WELL AREA. GND PERSONNEL RPTED THAT THE TIRE SCREENS WERE NOT INSTALLED. CAPT DECIDED TO CONTINUE. FLT DEPARTED GATE 15 MINS LATE DUE TO PREVIOUSLY MENTIONED MAINT ACTION. THE ANNUNCIATOR LIGHT WAS STILL ON. ON TKOF A VERY LOUD AIR NOISE ENSUED AND WE COULD NOT PRESSURIZE. ALL PRESSURIZATION CONTROLS WORKED NORMALLY; THE OUTFLOW VALVE WAS FULLY CLOSED. LEVELED OFF AT 5000'. NOISE WAS REDUCED. BURNED OFF FUEL FOR 1 HR, PUT GEAR DOWN AND THE LOUD AIR NOISE RETURNED. DECIDED THAT THERE MUST BE AN AIR LEAK IN NOSE WELL. THOUGHT THAT A NOSE TIRE MAY HAVE BURST CAUSING A HOLD, THEREFORE WAS MADE A LOW APCH AND THE TWR RPTED NOTHING UNUSUAL NOTED. HAD EMER EQUIP STAND BY, LANDED AND TAXIED AS NORMAL. IT TURNED OUT THAT THE E & E COMPARTMENT DOOR WAS OPEN. A MECH HAD FAILED TO SECURE THE DOOR FOLLOWING MAINT ACTION. I DID NOT SEE AN OPEN DOOR ON EXTERIOR PREFLT. CONCLUSIONS: MULTIPLE CHAIN OF EVENTS CAUSED INCIDENT. I BELIEVE THE ANNUNCIATOR LIGHT ON THIS ACFT IS A NON STANDARD CONFIGN. ACFT MANUAL AND MODEL DIFFERENCES MATERIAL DO NOT SHOW THIS PARTICULAR LIGHT. INSTEAD THERE ARE 2 DIFFERENT LIGHTS: ONE FOR THE TIRE SCREEN AND THE OTHER FOR EQUIP (WHICH INDICATES AN OPEN
E & E DOOR). IF AN ACFT DOES NOT HAVE TIRE BURST SCREENS, THEN THAT LIGHT SHOULD BE REMOVED. IT NEVER OCCURRED TO US THAT THE LIGHT ON THIS ACFT HAD A DUAL SOURCE. EXTERIOR PREFLTS OF DOORS IS NOT THE FINAL CHK FOR A SECURE STATUS. SINCE DOORS ARE ROUTINELY OPENED AFTER PREFLTS, LIGHTS ARE THE COCKPITS FINAL CHK. WE SHOULD NOT HAVE LEFT THE RAMP WITH THE ANNUNCIATOR LIGHT ILLUMINATED W/O A LOG BOOK ENTRY AND MEL STATUS. IF WE HAD REQUESTED THIS, THEN A MECH MAY HAVE THOUGHT TO CHK THE E & E DOOR. SUPPLEMENTAL INFO FROM ACN 142756: CONTRIBUTING FACTORS: THIS PARTICULAR LENS COVER IS NEITHER STANDARD NOR REPRESENTED IN THE PLT ACFT MANUAL OR DIFFERENCES HANDOUT. THE FACT THAT THIS WARNING LIGHT INDICATES 2 INDEPENDENT, UNRELATED CONDITIONS WAS UNKNOWN TO ME.
SYNOPSIS : ACR MLG UNABLE TO PRESSURIZE AFTER TKOF. ACFT MADE TKOF WITH A WARNING LIGHT ON THAT THE FLT CREW COULD NOT IDENTIFY OR THAT INDICATED A PROBLEM WITH EQUIPMENT NOT ON THE ACFT. POSTFLT INSPECTION REVEALED ELECTRICAL EQUIPMENT ACCESS DOOR OPEN.
REFERENCE FACILITY ID : CLT
FACILITY STATE : NC
AGL ALTITUDE : 0,5000

ACCESSION NUMBER : 153103
DATE OF OCCURRENCE : 9008
REPORTED BY : FLC; FLC; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; TRACON,DC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : DFW
FACILITY STATE : TX
FACILITY TYPE : ARPT; TRACON;
FACILITY IDENTIFIER : DFW; DFW;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/LESS SEVERE; ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC; OTHER;
ANOMALY RESOLUTION : FLC OVERCAME EQUIP PROBLEM; FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : JUST AFTER ROTATION, MY EFIS DISPLAYS WENT BLANK FOR APPROX 2 SECS THEN CAME BACK. (THE F/O WAS FLYING). ABOUT 10 SECS LATER A CHIME WENT OFF JUST ABOUT CONTINUALLY. I LOOKED DOWN AT THE PEDESTAL AND SAW THE ACARS PRINTER LIGHT WAS FLASHING. I HAVE PREVIOUSLY SEEN PRINTERS MALFUNCTION IN A MANNER LIKE WE WERE EXPERIENCING SO I EXTINGUISHED THE LIGHT BY DEPRESSING IT AND DISABLED THE ACARS PRINTER (WITH THE INTENTION OF SORTING OUT ITS PROB AT A MORE CONVENIENT TIME). THE CHIME STOPPED FOR A FEW SECS THEN RESUMED. THIS TIME I FINALLY REALIZED THAT I WAS HEARING 4 CHIMES, THE EMER SIGNAL FROM THE CABIN. I PICKED UP THE INTERPHONE ONLY TO BE INFORMED, BY THE F/AS IN THE REAR OF THE ACFT, THAT THE #3 OVEN IN THE AFT GALLEY HAD SHORTED OUT AND HAD BEEN SMOKING. THEY SAID THE SMOKE APPEARED TO BE DISSIPATING. WE CONTINUED THE CLB TO 10000'. AT ABOUT 8000' I CALLED BACK TO THE CABIN TO SEE WHAT THE STATUS WAS WITH THE OVEN. ALL WAS WELL; HOWEVER, BY THE TIME I GOT OFF THE INTERPHONE WE WERE AT APPROX 9600' AND CLBING AT A GOOD RATE. I HAD MISSED OUR STANDARD CALLOUT 1000' PRIOR TO LEVEL OFF. I REMINDED THE F/O THAT WE WERE TO LEVEL OFF AT 10000'. (THE CLR HAD CALLED OUT TFC AT 1 TO 2 O'CLOCK AT 11000'). I TOLD THE F/O TO LEVEL OFF BUT HE WASN'T DOING IT FAST ENOUGH SO I STARTED PUSHING ON THE YOKE. THE CLB HAD BEEN ARRESTED BY 10250' BUT WHEN I RELEASED PRESSURE ON THE YOKE WE STARTED TO CLB SLIGHTLY AND REACHED 10280'. THE F/O FINALLY INITIATED A DSNT AND WE GOT BACK TO 10000'. SUPPLEMENTAL INFO FROM ACN 152909. AFTER LEVELING OFF AT 10000' AGL, THE F/A NOTIFIED THE CAPT THAT HE HAD EXTINGUISHED THE FIRE BY PULLING THE OVEN CB AND THAT THERE WAS NO DAMAGE TO THE ACFT.
SYNOPSIS : ALT BUST OCCURS AS FLT CREW GETS REPORT FROM CABIN ATTENDANT IN REAR THAT THEY ARE DEALING WITH AN OVEN ELECTRICAL FIRE.
REFERENCE FACILITY ID : DFW
FACILITY STATE : TX
DISTANCE & BEARING FROM REF. : 10,,SE
MSL ALTITUDE : 10000,10280

ACCESSION NUMBER : 218390
DATE OF OCCURRENCE : 9208
REPORTED BY : FLC; ; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; ARTCC,RDR; ARTCC, RDR.SUPVR;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : COD
FACILITY STATE : WY
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZLC;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT; COCKPIT/FLC;
ANOMALY RESOLUTION : NOT RESOLVED/DETECTED AFTER-THE-FACT;
ANOMALY CONSEQUENCES : FLC/ATC REVIEW;
NARRATIVE : THE FLT WAS BEING CONDUCTED IN AN MLG ACFT FOR A SCHEDULED AIRLINE. WE WERE OPERATING A PAX CHARTER BTWN DENVER AND CODY, WY, FOR OUR COMMUTER AIRLINE. I AM A QUALIFIED CHK AIRMAN FOR BOTH THE MLG ACFT AND THE MORE ADVANCED AND AUTOMATED MLG Y. HOWEVER, I ONLY HAVE ABOUT 75 HRS IN THE MLG X AS COMPARED TO OVER 700 HRS IN THE MLG Y. THE FO IS ALSO A QUALIFIED CHK AIRMAN ON BOTH MODELS OF THE MLG WITH MANY THOUSANDS OF HRS IN THE MLG Y. I WAS SITTING IN THE L SEAT AND WAS FLYING THE ACFT AT THE TIME OF THE ALTDEV. WE WERE LEVEL AT FL350 WHEN WE RECEIVED A CLRNC TO DSND. WE ACCEPTED FL230 AND STARTED DOWN. DURING THE DSCNT THE OTHER PLT WAS ON THE #2 RADIO TALKING TO THE COMPANY AND WAS HAVING TROUBLE GETTING THE WX FOR CODY. WHILE HE WAS WAITING FOR THEM TO CALL BACK I WAS EXPLAINING TO HIM ABOUT THE AUTOMATED WX SVC AND HOW TO TUNE IT UP. SOMETIME DURING THE DSCNT WE HEARD 1 CHIME. SINCE HE IS VERY FAMILIAR WITH THE ACFT I ASKED HIM IF THAT WAS THE CABIN CREW TRYING TO CALL US. WE TRIED TO RAISE THEM ON THE INTERPHONE BUT TO NO AVAIL. JUST AFTER PASSING THROUGH 16000 FT I ASKED HIM WHAT ALT WE WERE CLRED TO. HE SAID THAT HE DIDN'T KNOW AS HE HAD BEEN ON AND OFF THE RADIO SINCE SHORTLY AFTER WE STARTED OUR DSCNT. WE BOTH AGREED THAT THE ALT INDICATOR WAS SET TO FL230. I LEVELED OFF AROUND 15500 FT AND IMMEDIATELY ASKED CTR WHAT ALT WE WERE CLRED TO AS WE HAD JUST PASSED 16000 FT. THE RESPONSE WAS 'AH, AH, I'M CHKING' OR SOMETHING SIMILAR TO THAT. FINALLY, THE CTLR CAME BACK ON AND SAID THAT HE HAD ONLY CLRED US DOWN TO FL230 BUT THAT WE WERE NOW CLRED TO 12000 FT. I CONTINUED THE DSCNT AND LEVELED OFF AT 12000 FT. I ASKED HIM POINT BLANK IF HE HAD A PROBLEM WITH THE ALTDEV AND HE SAID NO. DURING THE DSCNT FROM FL350 UNTIL WE REACHED 12000 FT WE WERE CLR OF CLOUDS AND HAD EXCELLENT INFLT VISIBILITY. THERE WERE ONLY 2 ACFT ON THE FREQ AND THE OTHER ACFT WAS NOT IN OUR AREA SECTOR. AFTER WE LEVELED AT 12000 FT WE HAD TO KEEP REQUESTING LOWER ALTS AS WE WERE IN AND OUT OF THE CLOUDS AND COULD NOT GET LOW ENOUGH TO SIGHT CODY VISUALLY. FINALLY, AT 10 MI SE OF THE ARPT WE BROKE THROUGH THE LAST CLOUD BANK AND MADE A VISUAL APCH INTO CODY. ONCE ON THE GND I CALLED THE SALT LAKE CTR AND SPOKE TO THE SUPVR. HE INDICATED THAT HE HAD NOT HEARD OF ANY ALT PROBLEMS BUT THAT HE WOULD CHK INTO IT. I TOLD HIM THAT I DID NOT WANT TO CAUSE ANY PROBLEMS AND THAT I WAS SATISFIED WITH HOW THE CTLR HAD HANDLED THE SITUATION. AGAINST MY WISHES, THE SUPVR INDICATED THAT HE WAS GOING TO TALK TO THE CTLR ON DUTY.
SYNOPSIS : CAPT OF MLG ACR ACFT INADVERTENTLY DSNDED BELOW ASSIGNED ALT DUE TO DISTR.
REFERENCE FACILITY ID : COD
FACILITY STATE : WY
DISTANCE & BEARING FROM REF. : ,,SE
MSL ALTITUDE : 15500,23000

FURTHER CREW ALERTING ISSUES

ACCESSION NUMBER : 66046
DATE OF OCCURRENCE : 8703
REPORTED BY : FLC; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : FLM
FACILITY STATE : KY
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZID;
AIRCRAFT TYPE : WDB;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/LESS SEVERE; ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE; ACFT EQUIP PROBLEM RESOLVED ITSELF;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : ACFT EQUIPMENT;
NARRATIVE : F/O FLYING THIS SEGMENT ON AFDS (AUTOPLT F/D SYSTEM). ENROUTE ATL-CVG. ON DESCENT INTO CVG, ATC HAD CLEARED OUR FLT DIRECT FLM, DIRECT CVG, WITH AN INTERIM CLRNC TO DESCEND TO FL240. DESCENDING THROUGH FL245+, AN UNACCOUNTED FOR ELEVATOR SERVO INPUT DISCONNECTED THE AUTOPLT WHILE SIMULTANEOUSLY NUMEROUS HYDRAULIC AND ELECTRICAL ABNORMAL INDICATIONS OCCURRED. EICAS (ENGINE INDICATING AND CREW ALERT SYSTEM) CRT MESSAGES FILLED UPPER SCREEN AND 3 MAINTENANCE MESSAGES APPEARED ON LOWER CRT -- "FUEL QUANTITY CHANNEL", "AUTO 2 CABIN ALT", AND "AIR/GND DISAGREE". CENTER HYDRAULIC PRESS LOW LIGHTS AND UTILITY ELECTRICAL BUS INOP LIGHTS CAME ON ON OVERHEAD PANEL. ALERT MESSAGES APPEARED SO RAPIDLY THEY COULD NOT ALL BE UNDERSTOOD ESPECIALLY IN VIEW OF THE FACT THAT NEITHER THE F/O NOR MYSELF HAD BEEN FLYING ACFT TYPE FOR MORE THAN 150 HRS TOTAL. THE F/O RESUMED MANUAL CONTROL OF THE ACFT AS I TURNED ON THE APU PRECAUTIONARY TO AN AC BUS OR GENERATOR LOSS. IT WAS AT THIS TIME THAT I REALIZED THE ACFT HAD DESCENDED THROUGH FL240. I ALERTED THE F/O AND TOOK CONTROL, STOPPING THE DESCENT AT FL235. F/O RESUMED CONTROL AND CLIMBED BACK TO FL240. WHEN THE APU CAME ON LINE ALL SYSTEMS RETURNED TO NORMAL. ONLY THE 3 EICAS MESSAGES ON THE LOWER CRT REMAINED. REMAINDER OF THE FLT WAS ROUTINE. ON GND IN CVG, MECHANICS SUSPECTED CAUSE OF OCCURRENCE WAS INDICATIVE OF AN ENGINE GENERATOR ATTEMPTING TO DISCONNECT ITSELF FROM THE AC SYSTEM. THIS PARTICULAR WDB HAD HAD A HISTORY OF SPURIOUS ELECTRICAL QUIRKS THAT ALWAYS SEEMED TO CORRECT THEMSELVES. THIS TYPE OF OCCURRENCE IS NOT OVERLY TROUBLESOME IN A 3 PLT COCKPIT. IN A 2 PLT ENVIRONMENT IN WHICH WHAT WAS FORMERLY THE SECOND OFFICER/FLT ENGINEERS FUNCTIONS ARE NOW TOTALLY AUTOMATED, AN APPARENT FAILURE OF THE AUTOMATION IS PARTICULARLY DISTRACTING TO THE CAPT AND F/O. THE CREW MEMBER FLYING BECOMES IMMEDIATELY ABSORBED IN DETERMINING WHICH FLT INSTRUMENTS ARE RELIABLE WHILE THE REMAINING CREW MEMBER SEEKS THE SOURCE OF THE PROBLEM. THIS RESULTS IN A BRIEF INTERVAL WHEN HDG AND ALT ARE OF SECONDARY CONCERN. STABILIZED FLT IS FIRST. EMPHASIS ON HDG AND ALT RETURNS ALMOST IMMEDIATELY BUT ONLY AFTER THE PRIMARY CONCERN IS CONFIRMED. ALT EXCURSIONS OCCUR DURING THESE BRIEF PERIODS, UNLESS SUCH AN ABNORMALITY OCCURS IN STABILIZED STRAIGHT AND LEVEL FLT. A 2 PLT CREW CONCEPT WORKS GREAT, BUT ONLY AS LONG AS THE AUTOMATIC BLACK BOX ITEMS WHICH HAVE REPLACED THE S/O ARE FEEDING THE CAPT AND F/O ACCURATE INFO.
SYNOPSIS : ACR WDB ALT DEVIATION OVERSHOT DURING DESCENT.
REFERENCE FACILITY ID : FLM
FACILITY STATE : KY
DISTANCE & BEARING FROM REF. : 90,,SO
MSL ALTITUDE : 23500,24000

ACCESSION NUMBER : 189654
DATE OF OCCURRENCE : 9109
REPORTED BY : FLC; FLC; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,OTH; FLC,PIC.CAPT; TRACON, AC;
FLIGHT CONDITIONS : IMC
REFERENCE FACILITY ID : NRT
FACILITY STATE : FO
FACILITY TYPE : ARPT; TRACON; TRACON;
FACILITY IDENTIFIER : NRT; NRT; NRT;
AIRCRAFT TYPE : WDB;
ANOMALY DESCRIPTIONS : IN-FLT ENCOUNTER/WX; OTHER; ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : ATC/CTLR;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE; CTLR INTERVENED; CTLR ISSUED NEW CLNC;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : PROC OR POLICY/ATC FACILITY; DESIGN/AIRSPACE; AN ACFT TYPE;
NARRATIVE : I WAS THE FO AND WAS RESPONSIBLE FOR COMPUTER ENTRIES AND RADIO COM. WE WERE CLRED OUT OF FL230 TO 10000 FT BY TOKYO CENTER. WE WERE GIVEN A XING RESTRICTION OF AT OR BELOW 15000 FT AT MELON INTXN. IN SHORT ORDER, WE WERE GIVEN REVISED CLRNC TO 11000 FT THEN HANDED OFF TO TOKYO NARITA APCH WHO THEN GAVE A CLRNC TO HOLD AT ARIES INTXN. WE WERE PERHAPS 20 DME FROM THE FIX. AN ALREADY BUSY ARR WAS MADE MORE SO BY THE FOLLOWING FACTORS: 1) WX - TSTMS, TURB. CAPT WAS CLOSELY MONITORING RADAR. 2) WX AT DEST - RPTED AT MINS. CREW DURING DSCNT WAS DISCUSSING POSSIBLE DIVERT TO OSHKA. INTL OFFICER FELL OUT OF LOOP WHILE GETTING OSHKA WX AND MONITORING ATIS. NEW ATIS INDICATED RWY CHANGE. 3) I WAS OVERLY OCCUPIED WITH COMPUTER DUTIES - HOLDING, NEW ARR, NEW APCH. I DID NOT MONITOR DSCNT CLOSELY ENOUGH. 4) LANGUAGE - THE CTLR WAS DIFFICULT TO UNDERSTAND. I REQUIRED REPEATS OF SEVERAL OF THE TRANSMISSIONS. I ALSO HAD TO ASK FOR EFC. 5) WE WERE DSNDED LATE - CAPT ELECTED TO HAND FLY THE ACFT TO MAKE THE XING RESTRICTION. THE AUTO PLT OFF ALARM DISTRACTED ME FOR A FEW MOMENTS AT A CRITICAL TIME ABOUT 17000 FT (TA 14000 FT). I HAD COMPLETED THE DSCNT CHKLIST TO 18000 FT (OR TRANS ALT). AFTER THE AUTOPLT OFF ALARM I WENT BACK TO THE COMPUTER AND WAS SO ENGAGED WHEN NARITA APCH TOLD US WE WERE BELOW ALT AND TO CLB AND TURN. THE CAPT REACTED IMMEDIATELY. WE HAD FAILED TO RESET ALTIMETERS FROM 29.92 TO 29.19 AT TRANSITION ALT. NOBODY WAS THINKING DSCNT CHKLIST. IT IS EXTREMELY DIFFICULT TO MAINTAIN COCKPIT AWARENESS AND SCAN IN FMC ACFT WHEN RAPID CHANGE IS REQUIRED. PARTICULARLY WITH THE HEAD DOWN KEYPAD. CONTRIBUTING FACTORS: 1) HIGH WORKLOAD ACFT WITH RELATIVELY LOW TIME CREW DSNDING INTO AREA OF HVY WX. 2) LAST MIN HOLDING INSTRUCTIONS TOOK THE FO OUT OF THE LOOP WHILE REPROGRAMMING THE COMPUTER. 3) I NOW BACKING FO UP ON GETTING THE TRANSITION ALT CHKLIST COMPLETED. 4) CAPT NOT DOUBLECHKING TO SEE THAT ALL THE CHKLIST ITEMS HAD BEEN COMPLETED. LESSONS TO BE LEARNED: 1) ALL CREW MEMBERS NEED TO INSURE CHKLIST IS COMPLETE (INCLUDING THE ONE WHO IS FLYING). 2) ALL CREW MEMBERS NEED TO BE IN THE LOOP DURING APCH, PARTICULARLY WHEN WX, LANGUAGE DIFFERENCES, AND LAST MIN CLRNCS COULD COMPLICATE THE APCH.
SYNOPSIS : ACR FLC IN NEW MODEL WDB HAS ALT DEV ALT OVERSHOT ALT EXCURSION DUE TO WRONG ALTIMETER SETTING.
REFERENCE FACILITY ID : NRT
FACILITY STATE : FO
MSL ALTITUDE : 7500,14000

ACCESSION NUMBER : 189853
DATE OF OCCURRENCE : 9109
REPORTED BY : FLC; FLC; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; TWR,LC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : LAN
FACILITY STATE : MI
FACILITY TYPE : ARPT; TWR;
FACILITY IDENTIFIER : LAN; LAN;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/LESS SEVERE; NON ADHERENCE LEGAL RQMT/PUBLISHED PROC; NON ADHERENCE LEGAL RQMT/FAR;
ANOMALY DETECTOR : OTHER; COCKPIT/FLC;
ANOMALY RESOLUTION : FLC ABORTED TKOF; OTHER;
ANOMALY CONSEQUENCES : OTHER;
SITUATION REPORT SUBJECTS : PROC OR POLICY/ATC FACILITY; PROC OR POLICY/COMPANY;
NARRATIVE : WE WERE WORKING FLT IN MLG FROM LANSING TO DAYTON. THE L ENG WAS STARTED AT THE GATE AND WHILE I STARTED THE R ENG THE CAPT BEGAN TAXIING TO RWY 28. AFTER SECOND ENG WAS STARTED I READ THE AFTER START CHKLIST VERY QUICKLY AND NOTICED COCKPIT DOOR WAS UNLOCKED. I SLID MY SEAT BACK AND LOCKED DOOR. I MISSED THE CARGO DOOR OPEN LIGHTS ON OVERHEAD AND WAS JUST LISTENING FOR PROPER RESPONSE. I FINISHED BEFORE TKOF CHK AND MADE TKOF ANNOUNCEMENT THEN IMMEDIATELY CALLED TWR. WE WERE CLRED FOR TKOF. THE CAPT ADVANCED THROTTLES AND SAID 'YOUR TKOF'. I ADVANCED THROTTLES TO THE PWR AS WE LINED UP ON RWY HDG. CAPT REACHED UP TO TURN ANTI SKID ON AND CAUGHT CARGO DOOR LIGHTS ON AND ADVISED ME TO 'STOP'. WE STOPPED ON RWY AND COULDN'T EXIT ABEAM TWR DUE TO TAXIWAY CONSTRUCTION. WE DID TAXI BACK DOWN RWY AND NOTICED 7 BAGS ON RWY. CAPT NOTIFIED TWR WE HAD TO STOP AND RETURN TO GATE BECAUSE OF DOOR OPEN LIGHTS. TWR REPLIED, 'WE KNOW. WE HAVE BEEN WATCHING YOU THE WHOLE TIME AND HAVE YOU ON VIDEO TAPE'. WE RETURNED TO GATE, LOADED BAGS AND CONTINUED TO DAY. I SHOULD HAVE SEEN LIGHTS ON BUT I WAS OCCUPIED BY COCKPIT DOOR AND ANNOUNCEMENTS. ALSO, ACFT HAS UNUSUALLY DIM ANNUNCIATOR PANEL AND SUNLIGHT WAS SHINING DIRECTLY ON PANEL. EVEN AFTER BEING TOLD LIGHTS WERE ON, THEY WERE DIFFICULT TO SEE. I WILL NOT LET ANYONE RUSH ME FROM NOW ON! SUPPLEMENTAL INFO FROM ACN 189653: I FEEL THAT I RUSHED THE OP IN ORDER TO BE FIRST IN THE BANK OF ARRS AT DEST ARPT IN ORDER TO AVOID THE USUAL DELAY BECAUSE OF HVY TFC DEMANDS AT BANK TIMES.
SYNOPSIS : TKOF ABORTED WHEN PIC NOTES OPEN CARGO DOOR LIGHT ON TKOF PROC EXPEDITED TKOF TKOF RUN.
REFERENCE FACILITY ID : LAN
FACILITY STATE : MI
AGL ALTITUDE : 0,0

ACCESSION NUMBER : 197052
DATE OF OCCURRENCE : 9112
REPORTED BY : FLC; ; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; MISC,GNDCREW; TWR, GC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : GSP
FACILITY STATE : SC
FACILITY TYPE : ARPT; TWR;
FACILITY IDENTIFIER : GSP; GSP;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : OTHER; ACFT EQUIPMENT PROBLEM/LESS SEVERE; NON ADHERENCE LEGAL RQMT/OTHER;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : OTHER;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : PREFLT AND ENG STARTS NORMAL. ACCOMPLISHED ALL CHKLISTS. CLRED FOR ENG START BY GND CREW. STARTED L ENG ONLY TO SAVE FUEL. PERFORMED AFTER START CHKLIST. TAXIED TO RWY 21. SEVERAL MINS LATER STARTED R ENG, PERFORMING DELAYED ENG START AND AFTER START CHKLISTS. THEN ACCOMPLISHED BEFORE TKOF CHKLIST, DURING WHICH WE WERE CLRED FOR TKOF. WHILE TAXIING ONTO THE RWY, WE WERE JUST COMPLETING BEFORE TKOF CHKLIST, SECOND TO LAST ITEM BEING 'ANNUNCIATOR PANEL' GLANCING UP, I WAS STARTLED TO SEE A 'FORWARD CARGO DOOR' LIGHT ILLUMINATED. TAXIED OFF RWY, CALLED COMPANY ON RADIO, REQUESTED THEY SEND SOMEONE OUT TO LOOK AT THE AIRPLANE. AFTER SEVERAL MINS A TRUCK PULLED UP. THEY FOUND THE FORWARD CARGO DOOR AJAR. CLOSED DOOR, LIGHT WENT OUT, FLT CONTINUED NORMALLY. I OBSERVE THE FOLLOWING: THE TENDENCY TO REPEAT CHKLIST RESPONSES BY ROTE WITHOUT THOROUGHLY CHKING EACH ITEM. SETTING SUN AT OUR BACK ON TAXI OUT BLANKETED THE ANNUNCIATOR PANEL WITH LIGHT, MAKING IT DIFFICULT TO SEE INDIVIDUAL LIGHTS ON THE PANEL. DOUBLECHKING AND CLOSELY FOLLOWING CHKLISTS DID, IN THE END, SAVE THE DAY. IN THE FUTURE, I'LL VOW TO BE 100 PERCENT SURE ALL DOOR LIGHTS ARE OUT BEFORE MOVING THE ACFT FROM THE GATE. AND DOUBLECHK IT!
SYNOPSIS : FLC OF MLG MISSED CARGO DOOR LIGHT ON PRE TAXI CHKLIST.
REFERENCE FACILITY ID : GSP
FACILITY STATE : SC
AGL ALTITUDE : 0,0

ACCESSION NUMBER : 201659
DATE OF OCCURRENCE : 9202
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; ARTCC,RDR;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : FWA
FACILITY STATE : IN
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZAU;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/LESS SEVERE;
TRACK OR HDG DEVIATION; NON ADHERENCE LEGAL RQMT/CLNC; NON ADHERENCE LEGAL RQMT/FAR;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE; CTLR ISSUED NEW CLNC;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : WE WERE CLRD FOR THE OXI 2 ARR, FWA TRANSITION TO ORD, FO FLYING THE AIRPLANE. AFTER PASSING FWA, BOTH MASTER CAUTION LIGHTS ON OUR MLG CAME ON AND REMAINED LIT UNTIL THEY WERE RESET. THE OVERHEAD ANNUNCIATION PANEL WAS WASHED OUT BY BRIGHT SUNLIGHT, MAKING IT DIFFICULT TO FIND ILLUMINATED SYS MALFUNCTION LIGHTS. THE FO AND I BOTH STRAINED TO SEE IF ANY ANNUNCIATOR LIGHT WAS LIT, AND TO FIND EVIDENCE OF ANY OTHER ACFT MALFUNCTION. NO SYS ABNORMALITY OR OTHER MALFUNCTION WAS FOUND. (THE ACFT LOGBOOK HAD SEVERAL RELATED ENTRIES WHICH HAD BEEN ADDRESSED BY PLACARDING ONE OF THE OVERHEAD ANNUNCIATOR LIGHTS. THE 'FLASHING' OF THE MASTER CAUTION LIGHTS WAS NOT DIRECTLY ADDRESSED BY MAINT ACTION). AFTER CONCLUDING THAT THE STEADY ILLUMINATION OF THE CAUTION LIGHTS WAS A NUISANCE WARNING, I BEGAN TO CONSIDER HOW I WOULD WRITE THE LOGBOOK ENTRY TO ENSURE THAT THIS PROBLEM WOULD BE REPAIRED. THE FO HAD BECOME INVOLVED IN ASSESSING THE PROBLEM AND THEN IN JOINING ME IN MY DELIBERATIONS ABOUT THE LOGBOOK ENTRY. ALTHOUGH WE HAD TUNED THE OXI 095 DEG RADIAL FOR THE TURN AT SPANN INTXN, WE FAILED TO TURN BECAUSE OF OUR DISTR. AT FWA 40 DME I NOTICED OUR DIVERGENCE AND HAD THE FO TURN TO HDG 230. TO INTERCEPT THE COURSE (OXI 275 DEG INBOUND). NEXT, WE RECEIVED AN ACARS MESSAGE TO CALL CTR ON A NEW FREQ ASAP. THE FO AND I DO NOT BELIEVE THAT WE MISSED A RADIO CALL, EVEN THOUGH WE WERE DISTR AND WERE OFF COURSE. WE CALLED THE NEW FREQ AND RECEIVED A NEW CLRNC. I BELIEVE THAT MY FAILURE TO MONITOR THE FO'S NAV WHILE I INVESTIGATED POSSIBLE ACFT ABNORMALITIES WAS THE MOST IMPORTANT CONSIDERATION IN THIS OCCURRENCE. ALSO, I SHOULD HAVE INSTRUCTED HIM TO FOCUS SOLELY ON FLYING AND NAV WHILE I RESEARCHED THE PROBLEM. SECONDARY FACTORS: REPEATED FAILURE OF MAINT TO REMEDY A SERIOUS PLT DISTR EVEN THOUGH MEL REQUIREMENTS WERE ARGUABLY MET. CREW FATIGUE AND 'LAST FLT OF THE TRIP' COMPLACENCY. RELATIVE INEXPERIENCE OF CAPT. AND FO IN THESE CREW CONDITIONS.
SYNOPSIS : HDG TRACK DEV.
REFERENCE FACILITY ID : FWA
FACILITY STATE : IN
DISTANCE & BEARING FROM REF. : 25,311
MSL ALTITUDE : 31000,31000

ACCESSION NUMBER : 211433
DATE OF OCCURRENCE : 9205
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; ARTCC,RDR;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : ARD
FACILITY STATE : NJ
FACILITY TYPE : ARTCC; ARPT;
FACILITY IDENTIFIER : ZNY; LGA;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ALT DEV/UNDERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : NOT RESOLVED/ANOMALY ACCEPTED;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : ENRTE TO NEW YORK'S LGA ARPT WE WERE GIVING A XING RESTRICTION TO CROSS SOMTO INTXN AT FL260. I WAS THE PF AND THE CAPT HAD GONE TO THE FORWARD LAV WHEN CLRNC WAS ISSUED. I PROGRAMMED THE FMC WITH THE XING RESTRICTION BUT FAILED TO ENTER THE FL260 ALT IN THE MODE CTL PANEL, CAUSING THE ACFT NOT TO START DOWN ON TIME MISSING THE ALT BY APPROX 1000 FT OR 4 MI. THIS PROBLEM COULD HAVE BEEN AVOIDED IF, ON THE CAPT'S RETURN TO THE COCKPIT, A BRIEFING WOULD HAVE BEEN CONDUCTED OF EVENTS THAT HAD OCCURRED WHILE A PLT WAS OFF THE FLT DECK. DURING THE REST OF OUR 4 DAY TRIP WE PRACTICED THIS CHK OF BRIEFING EACH OTHER IF ONE PLT LEFT THE FLT DECK, INCLUDING ANY CHANGES IN RTE, ALT, REQUEST OR GENERAL INFO RELAYED BY ATC, WITH EMPHASIS ON SET UP OF THE FMC AND MODE CTL PANEL WITH THE AUTOPLT CONNECTED. POSSIBLY ANOTHER SOLUTION TO THIS WOULD BE THAT CERTAIN FMC COMMANDS THAT APPEAR IN THE MESSAGE PAD BE FOLLOWED BY AN AURAL WARNING OR CHIME, ESPECIALLY THE COMMAND OF RESET MCP, FMC FAIL, VERIFY POS, OR OTHER CRITICAL FMC MESSAGES. IN THE CASE OF BRIGHT SUNLIGHT, THE FMC PROMPS ARE NOT REALLY EYE CATCHING.
SYNOPSIS : AN ACR MLG MISSED AN ALT ON DSCNT ON A STAR.
REFERENCE FACILITY ID : ARD
FACILITY STATE : NJ
DISTANCE & BEARING FROM REF. : 10,233
MSL ALTITUDE : 26000,33000

ACCESSION NUMBER : 91653
DATE OF OCCURRENCE : 8807
REPORTED BY : FLC; FLC;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO;
FLIGHT CONDITIONS : IMC
REFERENCE FACILITY ID : MHT
FACILITY STATE : NH
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZBW;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : CLBING OUT OF BOS ENRTE TO ORD. ASKED BOS ARTCC FOR SOUTHERLY DEVIATION ON INITIAL CONTACT IN ORDER TO AVOID STORMS TO THE WNW AND N OF OUR ROUTE. REQUEST DENIED ACCOUNT TFC. CENTER SAID A HDG OF 330 DEGS SHOULD AVOID THE WX AND SAID THAT PREVIOUS FLTS HAD NO PROB. WE PROCEEDED TO CLB ON OR CLOSE TO A HDG OF 330 DEGS. THE ALT CLRNC LIMIT WAS FL230. WE ENTERED IMC ABOUT 16000' IN THE CLB AND TURNED ENG ANTI-ICE ON. BOTH OF US BECAME VERY BUSY NAVIGATING VIA THE ON BOARD WX RADAR. I WAS HAND FLYING RATHER THAN USING ALL OF THE AUTOMATIC FLT SYSTEMS. I DON'T RECALL HEARING THE ALT ALERT AS WE PASSED THROUGH FL221 AND DON'T RECALL SEEING THE ALT ALERT LIGHT EITHER. FOR SOME REASON, I RECALL THINKING THAT WE WERE CLRED TO FL240. LEAVING FL233 THE ALT ALERT SOUNDED AND THE LIGHT BEGAN FLASHING. I INTERPRETED THIS AS THE WARNING APCHING FL240 AND HAD JUST BEGUN A SLIGHT THROTTLE REDUCTION PRIOR TO THE ALERT. AT FL234 I MADE A SLIGHTLY GREATER THROTTLE REDUCTION AS THE F/O SAID, "HEY! 230, WE'RE ONLY CLRED TO 230!" I RECOGNIZED THE ERROR AT THAT POINT AND MADE A POSITIVE CORRECTION TOWARD FL230. THE ACFT REACHED FL236 BEFORE THE CORRECTION WAS EFFECTIVE. SEVERAL FACTORS PROBABLY CONTRIBUTED TO THE BUST. (1) BOTH OF US WERE SOMEWHAT FATIGUED. IT WAS THE LAST LEG OF A DAY THAT BEGAN WITH A WAKE-UP. (2) I WAS HAND FLYING. THE BUST WOULDN'T HAVE OCCURRED IF I'D HAD THE AUTOMATICS ENGAGED. (3) BOTH OF US WERE CONSTANTLY REFERRING TO THE RADAR. (4) SAME OLD STORY ABOUT THE ALT ALERT BEING USED AS AN EVERYDAY COMMONPLACE WARNING AND THEN BEING OVERLOOKED WHEN IT REALLY MEANS SOMETHING. IF YOU KNEW IN FRONT THAT FATIGUE MIGHT AFFECT YOUR PERFORMANCE, YOU MIGHT BE ABLE TO CHANGE SOMETHING. I WILL CERTAINLY CONSIDER USING THE AUTO FLT SYSTEM DURING PERIODS OF FATIGUE OR OTHER ANOMALIES IN THE FUTURE. I WASN'T TRYING TO TORTURE MYSELF OR PROVE A POINT BY HAND FLYING. I NORMALLY HAND FLY AT LEAST TO CRUISE BECAUSE I REFUSE TO FORGET HOW TO FLY JUST BECAUSE THERE'S A MACHINE THAT CAN DO IT AS WELL OR BETTER THAN I. IN FACT, I FELT QUITE COMFORTABLE RIGHT UNTIL THE F/O MADE HIS WARNING. THE ALT ALERT SITUATION SHOULD REALLY BE CORRECTED. HOW ABOUT JUST A LIGHT FOR THE ALERT APCHING THE ASSIGNED ALT AND RESERVE THE AURAL WARNING FOR POTENTIAL BUSTS? ANYBODY SUGGESTED THIS BEFORE?? I ALREADY KNOW THE ANSWER...JUST WONDER HOW LONG IT WILL TAKE. SUPPLEMENTAL INFO FROM ACN 91717. I DON'T REMEMBER MAKING THE 1000 REMAINING CALL. I BELIEVE THE PRIMARY CAUSE OF THE BUST WAS OVER ATTENTION TO THE RADAR. THE ACFT RADAR IS FANTASTIC AND WHEN SUPERIMPOSED OVER THE MAP MODE GIVES AN AMAZING AMOUNT OF INFO.
SYNOPSIS : ACR MLG ALT DEVIATION OVERSHOT DURING CLIMB AS FLT CREW STUDIED THE ACFT RADAR RETURN FOR A SOFT ROUTE THROUGH THE ENROUTE TSTM WX ACTIVITY.
REFERENCE FACILITY ID : MHT
FACILITY STATE : NH
DISTANCE & BEARING FROM REF. : 40,,NW
MSL ALTITUDE : 23000,23600

ACCESSION NUMBER : 181971
DATE OF OCCURRENCE : 9106
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; ARTCC,RDR;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : DAG
FACILITY STATE : CA
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZLA;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ALT DEV/UNDERSHOOT ON CLB OR DES; ALT DEV/XING RESTRICTION NOT MET; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC; ATC/CTLR;
ANOMALY RESOLUTION : NOT RESOLVED/ANOMALY ACCEPTED;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : PROC OR POLICY/FAA; PROC OR POLICY/COMPANY; ACFT EQUIPMENT;
NARRATIVE : WHILE CRUISING AT FL280, DSNT TO A XING RESTRICTION 10 MI NE OF DAG VORTAC WAS INITIATED LATE. THE RESTRICTION WAS MADE A FEW MI PAST THE 10 MI RESTRICTION. I BELIEVE THAT CREW FATIGUE WAS A PRIME FACTOR IN THIS INCIDENT. WE WERE ON THE THIRD DAY OF A 4 DAY TRIP PAIRING, WHICH FLEW 27 FLTS IN A 4 DAY PERIOD. FLT TIME SCHEDULED AT 28 HRS AND 15 MINS. ALL BUT 6 OF THESE ROUND TRIPS WERE IN AND OUT OF "KAMIKAZE ALLEY" (AKA, BUR). CREW REST WAS APPROX 14 HRS BTWN EACH OF THESE DAYS. THERE IS SUCH A LET DOWN WHEN NOT DODGING ACFT IN AND OUT OF BUR THAT ONE TENDS TO RELAX AND NOT PAY AS MUCH ATTN AS NEEDED AT CRUISE FLT. WE ALSO NOTED A NEAR MISS OF 2 LIGHT ACFT IN THE BUR AREA ON THE PREVIOUS LEG. ALSO THE LOUD VOL OF THE TCAS SYS CONSTANTLY YELLING AT ONE CONTRIBUTES GREATLY TO OVERALL COCKPIT FATIGUE.
SYNOPSIS : ALT DEVIATION. ALT CROSSING RESTRICTION NOT MADE.
REFERENCE FACILITY ID : DAG
FACILITY STATE : CA
MSL ALTITUDE : 24000,25000

ACCESSION NUMBER : 54213
DATE OF OCCURRENCE : 8606
REPORTED BY : FLC;
PERSONS FUNCTIONS : FLC,PIC.CAPT;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : DEN
FACILITY STATE : CO
FACILITY TYPE : ARPT; ARTCC;
FACILITY IDENTIFIER : DEN; ZDV;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY CONSEQUENCES : NONE;
SYNOPSIS : ACR MLG OVERSHOT CLRNC ALT DURING DESCENT INTO DEN. FLT CREW WAS DISTR BY ACARS DISCUSSION. ALT ALERT NOT HEARD. FLEET INCONSISTENCY NOTED. THIS ACFT HAD SOFTER AURAL WARNING. APCH CTLR QUESTIONED ALT AS ACFT CLIMBED THROUGH 14800'.
REFERENCE FACILITY ID : DEN
FACILITY STATE : CO
DISTANCE & BEARING FROM REF. : 45,,W
MSL ALTITUDE : 14500,15000

ACCESSION NUMBER : 117785
DATE OF OCCURRENCE : 8907
REPORTED BY : FLC; ; ; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; FLC,FO; ARTCC,RDR; MISC,CAB;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : CYN
FACILITY STATE : NJ
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZNY;
AIRCRAFT TYPE : LRG;
ANOMALY DESCRIPTIONS : OTHER; ALT DEV/OVERSHOOT ON CLB OR DES; NON ADHERENCE LEGAL RQMT/CLNC;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : CTLR ISSUED NEW CLNC; NOT RESOLVED/DETECTED AFTER-THE-FACT;
ANOMALY CONSEQUENCES : NONE;
NARRATIVE : FLT LGA-MIA, WAS MY LEG. OUR ORIGINAL CLRNC WAS THE LGA 3 DEP CONEY CLB, 5000'. ON OUR INITIAL CONTACT WITH NY DEP CLIPPER 231 WAS CLRED TO 12000' AND THEN SUBSEQUENTLY CLRED TO 17000'. DURING OUR CLBOUT OUR SPACING WITH THE ACFT IN FRONT OF US BECAME TIGHT. WE WERE RESTRICTED TO 250 KIAS UNTIL FURTHER ADVISED. WE WERE THEN PASSED TO ZNY. CENTER DIRECTED US TO TURN 040 DEGS RIGHT OF COURSE TO A HDG OF 275 DEGS DUE TO ACFT SPACING. AT THAT TIME, ANOTHER ACFT RPTED HEARING AN ELT ON 121.5. ZNY ASKED US IF WE WOULD MIND TUNING IN 121.5 AND LISTENING FOR THE ELT. THE CAPT WAS HANDLING THE RADIOS THIS LEG AND RESPONDED TO ZNY THAT HE WOULD OBLIGE. AT THIS POINT, THE F/A CAME IN TO TAKE BREAKFAST ORDERS, THE CAPT WAS LISTENING TO THE ELT, ATC ISSUED ANOTHER CLRNC TO TURN LEFT TO A HDG OF 190 DEGS AND THE F/E WAS PERFORMING COMPANY PAPERWORK. I RESPONDED TO ATC. ATC CAME BACK AND CLRED US DIRECT TO COYLE VOR. IN THE BACKGROUND OF ALL THE COCKPIT COMMOTION I HEARD WHAT SOUNDED LIKE A SELCAL. IN ACTUALITY, IT WAS THE ALT ALERT; WE WERE APCHING 17000', OUR LEVEL OFF ALT. UNFORTUNATELY, I NOR ANYONE ELSE ON THE FLT DECK RECOGNIZED THIS CHIME AS ALT ALERT, AS IT IS NOT ONLY DIFFERENT IN SOUND THAT THOSE OF OUR OTHER 17 DIFFERENT LGT MODELS, BUT ALSO DIFFERENT IN COCKPIT PLACEMENT AND THE ALT IN WHICH IT ALERTS PRIOR TO YOUR ASSIGNED ALT. (MOST ALT ALERTS CHIME AT 1000' PRIOR, 300' PRIOR AND 300' PAST THE ALT SELECTED. THIS PARTICULAR MODEL CHIMED AT 500' PRIOR AND AFTER.) ATC THEN CLRED US TO FL240. BY THAT TIME, I WAS AT FL180. I HAD CLBED 1000' PAST MY ALT. THE FACTORS AND DISTRS THAT CONTRIBUTED TO THIS INCIDENT WERE: 1) A NUMBER OF REQUESTS FROM ATC, 2) THE CAPT LISTENING TO THE ELT, 3) THE F/A IN THE COCKPIT DURING CLBOUT, 4) THE F/E NOT BEING IN THE LOOP, AND 5) THE DIFFERENT TONE FOR THE ALT ALERT.
SYNOPSIS : ACR FLT CREW BUSTS ALT IN CLIMB CLAIMING TOO MANY DISTRS AND NON STANDARD TYPE ALT ALERT.
REFERENCE FACILITY ID : CYN
FACILITY STATE : NJ
DISTANCE & BEARING FROM REF. : 20,45
MSL ALTITUDE : 17000,18000

ACCESSION NUMBER : 130973
DATE OF OCCURRENCE : 8912
REPORTED BY : FLC; ; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; TRACON,AC;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
FACILITY TYPE : TRACON;
FACILITY IDENTIFIER : ORD;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/LESS SEVERE; NON ADHERENCE LEGAL RQMT/CLNC; ALT DEV/OVERSHOOT ON CLB OR DES;
ANOMALY DETECTOR : COCKPIT/FLC;
ANOMALY RESOLUTION : NOT RESOLVED/DETECTED AFTER-THE-FACT; FLC RETURNED ACFT TO ORIGINAL CLNC OR INTENDED COURSE;
ANOMALY CONSEQUENCES : NONE;
SITUATION REPORT SUBJECTS : AN ACFT TYPE; ACFT EQUIPMENT;
NARRATIVE : OUR CLRNC HAD BEEN "DSND TO 9000', SPD 210 KTS." ORD APCH CTL WAS VERY BUSY. WHILE DSNDING AT 210 KTS THROUGH APPROX 10000', WE WERE ASKED TO SLOW TO 170 KTS. PLEASE NOTE THAT THE ACFT IN QUESTION HAS A LOUD DISTRACTING VOICE WARNING SYS, WHICH AT 210 KTS AND IDLE PWR WARNS YOU "LNDG GEAR." WITH THE LNDG GEAR WARNING GOING OFF AND THE CTLR ISSUING A NEW SPD AT THE SAME TIME, THE 1000' CALL WAS TO BE MADE ("10000 FOR 9000"). BOTH THE CAPT AND I FAILED TO NOTICE THAT THE ALT ARMING AMBER "ALT" LIGHT WAS NOT ON. WHETHER THE CAPT FAILED TO ARM IT OR THE ALT MODE WAS DISARMED BY MY USE OF THE VERT SPD MODE OF THE FGS, IS UNKNOWN. AT 8700' THE CAPT NOTICED OUR ALT DEVIATION, AT WHICH TIME I TURNED OFF THE AUTOPLT AND CLBED BACK TO THE ASSIGNED ALT OF 9000'. IN MY OPINION, THE ALT DEVIATION WAS CAUSED BY A VARIETY OF DISTRS: 1) VERY BUSY ATC ENVIRONMENT, 2) DISTRACTING WARNING HORN FOR LNDG GEAR AT 210 KTS, 3) NO WARNING ON ACFT OF 1000' TO LEVEL-OFF (IT WARNS YOU ONLY AFTER ALT DEVIATION, NOT BEFORE AS ON OTHER ACFT IN FLEET), AND 4) RADIO CALL FROM ATC TO FURTHER SLOW ACFT TO 170 KTS AT CRITICAL TIME (DSNDING FROM 10000 TO 9000'). MY RECOMMENDATIONS: 1) REQUIRE WARNING OTHER THAN LIGHT (AURAL) OF IMPENDING LEVEL-OFF, 2) REMOVE "LNDG GEAR" WARNING UNTIL FLAPS ARE AT LEAST DOWN TO 15 DEGS AND THROTTLES IDLE, AND 3) MODIFY AUTOPLTS SO THAT MOVEMENT OF VERT SPD WHEEL WHILE AUTOPLT IS IN CAPTURE MODE DOES NOT DISENGAGE CAPTURE MODE. (PLEASE NOTE THAT OUR AIRLINES IS CURRENTLY MAKING THIS MODIFICATION, BUT THE ACFT WE WERE ON WAS NOT MODIFIED.)
SYNOPSIS : REPORTER CITES A VARIETY OF REASONS FOR OVERSHOOTING ALT IN DESCENT. BOTTOM LINE IS THAT THE ALT CALLOUT WAS OMITTED. THE DISTRS OF GEAR WARNING, BUSY COCKPIT, COM PROCS AND NO ALT WARNING LIGHT MAY HAVE BEEN CONTRIBUTORY. PLT TECHNIQUE IN USE OF AUTOPLT WAS QUESTIONED BY REPORTER.
REFERENCE FACILITY ID : ORD
FACILITY STATE : IL
DISTANCE & BEARING FROM REF. : 40,,E
MSL ALTITUDE : 8700,9000

ACCESSION NUMBER : 143339
DATE OF OCCURRENCE : 9004
REPORTED BY : FLC; FLC; ;
PERSONS FUNCTIONS : FLC,FO; FLC,PIC.CAPT; MISC,GNDCREW;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : CLT
FACILITY STATE : NC
FACILITY TYPE : ARPT; TWR; ARPT;
FACILITY IDENTIFIER : CLT; CLT; CLT;
AIRCRAFT TYPE : MLG;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/CRITICAL; NON ADHERENCE LEGAL RQMT/PUBLISHED PROC;
ANOMALY DETECTOR : COCKPIT/FLC; COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : NOT RESOLVED/UNABLE; OTHER;
SITUATION REPORT SUBJECTS : ACFT EQUIPMENT; PROC OR POLICY/COMPANY;
NARRATIVE : ACFT BROUGHT FROM HANGAR FOLLOWING MAINT WORK ON AVIONICS. ON PUSHBACK IT WAS OBSERVED THAT THE FOLLOWING ANNUNCIATOR LIGHT WAS ILLUMINATED. THE CAPT HAD THE PUSHBACK PERSONNEL CHK THE TIRE BURST SCREENS IN MAIN WHEEL WELL AREA. GND PERSONNEL RPTED THAT THE TIRE SCREENS WERE NOT INSTALLED. CAPT DECIDED TO CONTINUE. FLT DEPARTED GATE 15 MINS LATE DUE TO PREVIOUSLY MENTIONED MAINT ACTION. THE ANNUNCIATOR LIGHT WAS STILL ON. ON TKOF A VERY LOUD AIR NOISE ENSUED AND WE COULD NOT PRESSURIZE. ALL PRESSURIZATION CONTROLS WORKED NORMALLY; THE OUTFLOW VALVE WAS FULLY CLOSED. LEVELED OFF AT 5000'. NOISE WAS REDUCED. BURNED OFF FUEL FOR 1 HR, PUT GEAR DOWN AND THE LOUD AIR NOISE RETURNED. DECIDED THAT THERE MUST BE AN AIR LEAK IN NOSE WELL. THOUGHT THAT A NOSE TIRE MAY HAVE BURST CAUSING A HOLD, THEREFORE WAS MADE A LOW APCH AND THE TWR RPTED NOTHING UNUSUAL NOTED. HAD EMER EQUIP STAND BY, LANDED AND TAXIED AS NORMAL. IT TURNED OUT THAT THE E & E COMPARTMENT DOOR WAS OPEN. A MECH HAD FAILED TO SECURE THE DOOR FOLLOWING MAINT ACTION. I DID NOT SEE AN OPEN DOOR ON EXTERIOR PREFLT. CONCLUSIONS: MULTIPLE CHAIN OF EVENTS CAUSED INCIDENT. I BELIEVE THE ANNUNCIATOR LIGHT ON THIS ACFT IS A NON STANDARD CONFIGN. ACFT MANUAL AND MODEL DIFFERENCES MATERIAL DO NOT SHOW THIS PARTICULAR LIGHT. INSTEAD THERE ARE 2 DIFFERENT LIGHTS: ONE FOR THE TIRE SCREEN AND THE OTHER FOR EQUIP (WHICH INDICATES AN OPEN
E & E DOOR). IF AN ACFT DOES NOT HAVE TIRE BURST SCREENS, THEN THAT LIGHT SHOULD BE REMOVED. IT NEVER OCCURRED TO US THAT THE LIGHT ON THIS ACFT HAD A DUAL SOURCE. EXTERIOR PREFLTS OF DOORS IS NOT THE FINAL CHK FOR A SECURE STATUS. SINCE DOORS ARE ROUTINELY OPENED AFTER PREFLTS, LIGHTS ARE THE COCKPITS FINAL CHK. WE SHOULD NOT HAVE LEFT THE RAMP WITH THE ANNUNCIATOR LIGHT ILLUMINATED W/O A LOG BOOK ENTRY AND MEL STATUS. IF WE HAD REQUESTED THIS, THEN A MECH MAY HAVE THOUGHT TO CHK THE E & E DOOR. SUPPLEMENTAL INFO FROM ACN 142756: CONTRIBUTING FACTORS: THIS PARTICULAR LENS COVER IS NEITHER STANDARD NOR REPRESENTED IN THE PLT ACFT MANUAL OR DIFFERENCES HANDOUT. THE FACT THAT THIS WARNING LIGHT INDICATES 2 INDEPENDENT, UNRELATED CONDITIONS WAS UNKNOWN TO ME.
SYNOPSIS : ACR MLG UNABLE TO PRESSURIZE AFTER TKOF. ACFT MADE TKOF WITH A WARNING LIGHT ON THAT THE FLT CREW COULD NOT IDENTIFY OR THAT INDICATED A PROBLEM WITH EQUIPMENT NOT ON THE ACFT. POSTFLT INSPECTION REVEALED ELECTRICAL EQUIPMENT ACCESS DOOR OPEN.
REFERENCE FACILITY ID : CLT
FACILITY STATE : NC
AGL ALTITUDE : 0,5000

ACCESSION NUMBER : 210730
DATE OF OCCURRENCE : 9205
REPORTED BY : FLC; ; ; ;
PERSONS FUNCTIONS : FLC,PIC.CAPT; FLC,FO; FLC,OTH; ARTCC, MANUAL;
FLIGHT CONDITIONS : VMC
REFERENCE FACILITY ID : CYQX
FACILITY STATE : NF
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : CZQX;
AIRCRAFT TYPE : WDB;
ANOMALY DESCRIPTIONS : OTHER; ACFT EQUIPMENT PROBLEM/CRITICAL;
ANOMALY DETECTOR : COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : NOT RESOLVED/ANOMALY ACCEPTED;
ANOMALY CONSEQUENCES : OTHER;
SITUATION REPORT SUBJECTS : AN ACFT TYPE; ACFT EQUIPMENT; PROC OR POLICY/COMPANY;
NARRATIVE : FLT: BRUSSELS TO JFK VIA N ATLANTIC TRACK SYS AT FL330 (2000 FT BELOW FLT PLANNED ALT OF FL350). UNEVENTFUL UNTIL VICINITY OF 30W WHEN 'TURBINE CASE COOLING' LIGHT ILLUMINATED. PROC INFORMED US WE COULD EXPECT HIGHER FUEL CONSUMPTION. AT 40 W, FUEL CONSUMPTION WAS MORE THAN 2000 POUNDS GREATER THAN FLT PLANNED ESTIMATE. WE SUSPECTED: 1) INCORRECT TANK GAUGE READINGS, 2) FUEL CONSUMPTION GREATER THAN FUEL FLOW WOULD INDICATE, OR 3) FUEL LEAK. WE SPOKE WITH OUR COMPANY OVER GANDER, NF, ADVISED THEM OF OUR STATUS AND CONCERNS AND DETERMINED THAT WX IN JFK, BOS, AND BGR WAS EXCELLENT. WE ELECTED TO CONTINUE TO JFK, FEELING THAT, IF WE HAD A LEAK, IT WAS AT A FIXED RATE AND SUFFICIENT FUEL WOULD REMAIN AT ARR TO COVER A GAR IF NECESSARY. UPON ARR IN THE JFK AREA, WE ADVISED APCH CTL THAT WE SUSPECTED A FUEL LEAK, REQUESTED RWY 22R FOR LNDG DUE TO ITS LENGTH, AND ASKED THAT A FIRE TRUCK MEET US ON TURNING OFF THE RWY TO ADVISE US OF ANY LEAKAGE. AN EMER WAS NOT DECLARED! THE LNDG WAS UNEVENTFUL. HOWEVER, ONCE OFF THE RWY, TWR ADVISED US OF SMOKE AND FUEL LEAKING FROM #1 ENG. WE SHUT THE ENG DOWN, HAD IT EXAMINED BY THE FIRE DEPARTMENT PERSONNEL, AND THEN TAXIED TO THE GATE. SUBSEQUENT EXAMINATION REVEALED A SMALL FUEL LINE SEPARATED FROM A FITTING IN #1 ENG. CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING INFO: THIS ACFT WAS ACQUIRED FROM A NOW 'RETIRED ACR.' THE WARNING LIGHT IN QUESTION ONLY WARNED THE CREW THAT A VALVE IN THE FUEL SYS WAS NOT IN THE POS THAT IT SHOULD HAVE BEEN AND TO EXPECT A 0.2 PERCENT HIGHER FUEL BURN. THE ACR THAT NOW HAS THIS ACFT HAS SINCE REMOVED THE 0.2 PERCENT REMARK FROM THE 'SCREEN' INFO FOR THE SAKE OF FLEET STANDARDIZATION. CREW WAS NEVER CONVINCED OF A FUEL LEAK AND STATED THAT THIS WAS THE REASON FOR NOT DECLARING AN EMER. PIC SAID THAT, IF HE HAD POSSESSED MORE INFO ON THE POSSIBILITY OF THIS HE MIGHT HAVE LANDED AT AN INTERMEDIATE POINT OR AT LEAST HAVE DECLARED AN EMER. THERE IS NO PLT ACTION REQUIRED WHEN THIS WARNING IS PRESENTED TO THE CREW. THE FUEL USE WENT FROM MINUS 300 POUNDS UNDER FLT PLAN TO ABOVE PLUS 600 POUNDS OVER FLT PLAN AFTER ONE-WAY POINT. FUEL FORECAST FOR ARR JFK ON THE FMS SCREEN WAS 15000 POUNDS AFTER CLB TO FL390. FUEL ON ARR WAS PROBABLY LESS THAN REQUIRED BY REGS DUE TO THE EVER-CHANGING FUEL PICTURE. THE SMOKE AS NOTED IN RPT WAS ACTUALLY VAPOR THAT WAS SEEN BY TWR. FIRE CHIEF EVENTUALLY PLUGGED INTO ACFT TO ASSURE PIC THAT ACFT WAS OK AFTER ENG SHUTDOWN. RPTR WOULD LIKE MORE INFO TO CREWS REF THE POSSIBILITY OF A FUEL LEAK, A DISCREET COM FREQ FOR CRASH FIRE RESCUE VEHICLES.
SYNOPSIS : ACFT EQUIP PROBLEM EVIDENT IN THAT FUEL REMAINING REDUCED AT A GREATER RATE THAN FUEL BURN.
REFERENCE FACILITY ID : CYQX
FACILITY STATE : NF
DISTANCE & BEARING FROM REF. : 1000,,E
MSL ALTITUDE : 33000,33000