COMPUTER STATISTICS   G.I.G.O.

Recently the various governments have been cataloging accidents into categories and computer storing the data for retrieval and statistical computations. This was a complaint that C.O.Miller expressed even before computer statistical analysis of safety material. He was verbal about the N.T.S.B. pigeon hole method of accident investigation that reduced a total investigation to one probable cause and pigeon holed it in that category and that label.

He likened the N.T.S.B. method as being similar to an antique roll top desk with lots of pigeon holes. It was his belief that the investigation was conducted in part to facilitate the fitting and filing of an accident into one of the convenient pre-labeled spaces.

Once the investigation was so fitted, it was thought to be complete. The failure here was that once so located the myriad of causative circumstances were relegated to a meaningless sub position. Since almost no accident is a result of a single factor, in reality there is a chain of events leading to the accident. Break any event in that chain and the accident might not occur. Since enhancement of safety is the real purpose for accident investigation, the chain of events may be as or more important than the probable cause pigeon hole.

Probably no greater travesty of aircraft investigative honesty has ever occurred than the pigeon hole of pilot error for a series of aircraft accidents that involved a general aviation aircraft with a unique tail design. This travesty precedes even the existence of the N.T.S.B. and sits squarely with the C.A.B. who fit a myriad of mid air separations into the category pilot error." Visual Pilot continued flight into instrument conditions, lost control, over sped aircraft and overstressed the airplane in pullout."

This fiction existed even though as early as 1958 the cause had been identified by New York Structures of the C.A.B. Only when the statistics of mid air separations of an identical standard tail version were noted did the N.T.S.B. even take note. Finally in the 1980's an F.A.A. Airworthiness Directive mandated the strengthening of the tail. Statistics were available, documentary evidence was available. The problem was that the statistics were hidden under the label pilot error. Design error, supervisory error, manufacturer's reluctance, C.A.R. part 3 engineering standards insufficiency, were not pigeon holes in the N.T.S.B. desk.

In another investigation, a aircraft fire was caused by a short circuit and maintenance error. The N.T.S.B. pigeon holed the accident as maintenance

error and never questioned why the aircraft interior burned like a World War II negative.

Today much thought has been applied to creating computer generated and retrieved data to enhance aviation safety and accuracy. The problem is still the adequacy and descriptiveness of the computer pigeon holes. The problem is two fold:

1. Does the system of entry to storage have the appropriate titles, and modifiers to correctly catalogue all occurrences?

2. Does the investigator have the requisite investigative skills and computer language skills to catalogue an investigation completely and correctly ?

For as in any system of computers the axiom holds true " GARBAGE IN …GARBAGE OUT " If single accidents are miss identified regularly as to cause or mislabeled on data entry then we have a simple case of garbage. When a computer system is full of garbage for individual investigations. When a computer full of garbage is utilized to retrieve statistics we have a veritable landfill of mismanaged data. The problem is that the computers are government owned and data is too often considered trustworthy while in fact the data is incorrect.

An example of misuse of computerized search words was directed to NASA and its NASA ASRs database of Aircraft incidents and safety mistakes. That system encourages flight crews to write up and submit narrative reports of mistakes they had made. One very big mistake Flight crews regularly make is to fail to configure the flaps, slats, spoilers, trim appropriately for safe take off. A foreign government queried NASA for configuration errors as it search tool.

The problem is Flight crews write narratives in their words and all most never use the word unfamiliar such as configuration error. Much more likely would be reports such as "F/O was distracted from checklist and failed to put flaps down for take off…The Take off was aborted when the Warning sounded"

That report and statistic was lost because the foreign government asked precisely for what data it wanted. Unfortunately much data was left behind. A better query would be for all airliner Rejected take offs for all reasons in a particular time frame. It would take work, but by reading all such reports one would come much closer to recognizing the scope of configuration mistakes.

Probably the best, most complete accident compendium of categories and word modifiers is that utilized by the Australian government investigators. The second best in my opinion is that utilized by the United States Air Force in

tracking maintenance failures of components. In either of the systems if the failure mode and causes are identified correctly, there is computer wording sufficient to appropriately store and retrieve meaningful data sufficient to create statistics that are valid.

The field investigator must be equipped and carry a investigative computer checklist so as he gains data and information he is consistently recording it and entering it appropriately. The schools of investigation must teach this methodology or else data will be lost as it is transcribed into field notes and then later deciphered and translated to computerize.

The Australian version is so good, so complete; I now use it to supplement the field checklist that I have utilized for years.