

1974

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### Recommended Citation

Ralph Harmon, *Use of Experts in Investigation*, 40 J. AIR L. & COM. 441 (1974)  
<https://scholar.smu.edu/jalc/vol40/iss3/7>

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## USE OF EXPERTS IN INVESTIGATION

RALPH HARMON\*

**T**HIS PAPER is an effort to outline some of the more important facets of the use of experts in general aviation discovery as related to litigation. The philosophy behind the present trends in products litigation is not a part of this paper. That will be a subject of discussion for those indulging in the question from both approaches, namely plaintiff and defendant. For the purpose of establishing a starting point assume that a plaintiff has filed suit for wrongful death, injury or loss of property, etc. involving an aircraft. At this point, the accident factors, namely the aircraft type, place and date of accident, mark the actual starting point. From this basic starting point, the plan of investigation is aimed at one primary objective—ACTUAL CAUSE. This is the ideal objective but more than likely is not attainable because of insufficient facts. With insufficient facts, we may have to compromise on a PROXIMATE CAUSE level and, thirdly, on a PROBABLE CAUSE level. Whatever the level of cause achievable from facts, it is available for the plaintiff and/or the defendant for the purpose of resolving the litigation. Providing, however, the discovery material is used discreetly and effectively for this purpose.

The complexities of the aviation business are substantial, varied, unique and deep-rooted in many fields of technology. Since man is not physically equipped to fly and leave his natural environment, he has resorted to a vast accumulation of carefully designed devices, systems, physical training and adaptation to do something he desires; that is, being associated with aviation, its benefits and possible risks. This aeronautical machine involves us with:

1. A man-made assemblage of the elements in the form of an aeronautical machine.

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2. A man operating the aeronautical machine for various purposes.
3. A man imposing rules on how the aeronautical machine is made, operated and its effect on his fellow men.

It is apparent that a full investigation involves many fields of endeavor and almost limitless scope and depth. The discovery process in investigation by the expert is to determine who and why the human factor caused the problem. Certainly if the bauxite from which aluminum is made had not been converted to aluminum, the aluminum to an airframe, the airframe flown, all of which is and can only be accomplished by man, it becomes a matter of who did it. The bauxite in its natural state in the earth can hardly cause injury or loss to man. Man-made contribution to the cause of the loss which resulted in litigation is the object of the investigation.

Some of the more significant areas often involved are shown on the chart labelled "Figure #1." The areas of possible investigation are divided roughly into two groups. Those on the right are involved in the product; how it is designed, made, offered to the public and supported for its intended use. Those on the left are some typical non-product areas of investigation that can effect or establish facts of equal weight in arriving at a cause category. Given the accident factors (bottom of chart), the highest category of cause attainable is limited only by effort, cost and available facts, and/or developed facts from any combination of the areas of investigation listed on both sides of the chart.

Figure #1, for simplicity, shows four major groups flowing upward in decreasing width to [illustrate] consolidation into a minimum of hard facts resulting in the final level of cause depicted at the top of the chart. In practice, we will usually find only a select group of items on both sides of the chart worthy of investigation. Some of these areas may prove unproductive or justify serious in-depth investigation. Most aircraft flying today have every area listed on the right hand side of the chart incorporated in or dealt with in varying degrees during the design, manufacture, sale and support of the product. However, when a metal part separates into two or more pieces as found in an accident, it does not necessarily mean that we will have a metallurgical problem. Poor quality control resulting in leaving out bolts or rivets in a joint does not ensure that we have a quality control problem causing an accident.

Since the aircraft is designed, manufactured and presented to

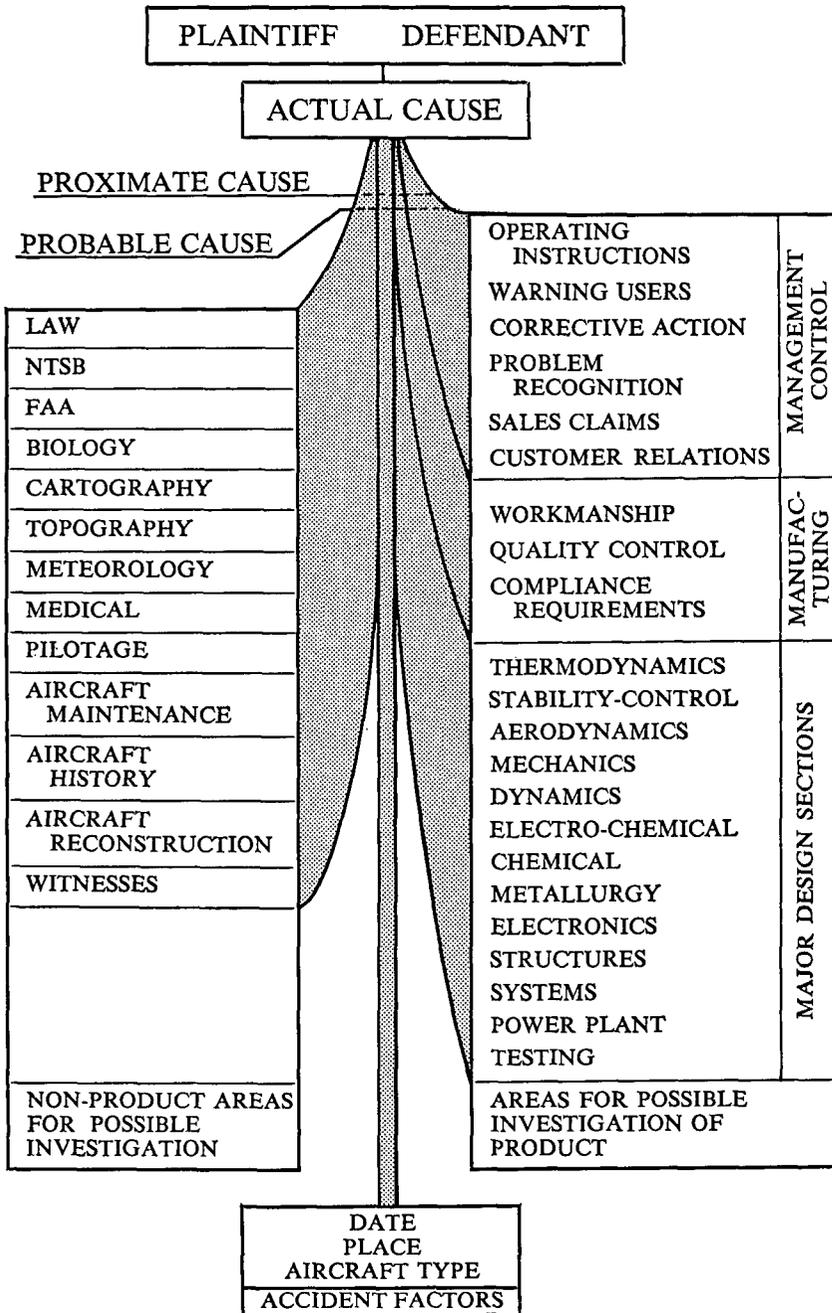


FIGURE No. 1

the using public as a product of the experts in every area listed on the right side of the chart, they then can become involved in the investigation. The areas listed on the left side may also become involved in an investigation. It follows then that expertise must be applied as necessary to probe any and all areas deemed pertinent to the investigation. Modern business requires specialization as indicated by those items listed on the chart. Rarely does an expert in any one area possess much knowledge to any degree in other areas. Yet, the attorney must somehow be assured all productive areas are explored, consolidated, boiled down to jury language to the highest level of attainable cause at the top of the chart. The NTSB (National Transportation Safety Board) has immediate and total control of the aircraft wreckage, beginning at the crash site and any testing deemed necessary by the investigator assigned to the case. In most general aviation accidents, one NTSB man assisted by a local FAA GADO (General Aviation District Office) man spends from part of a day for single engine, or two to three days per accident if a twin engine is involved. Sometimes investigations are cut short because of personnel and shortage of funds. The NTSB is charged only with making a finding of PROBABLE CAUSE. Short of sufficient available facts resulting from reduced investigative effort, the NTSB finding is usually, at best, a presumption only. This can be attributable to several unrefined areas as indicated by the broad but somewhat narrowed diagram as shown at the Probable Cause level on Figure #1.

Coordinated and controlled investigative effort in many areas can lead to the Proximate Cause or Actual Cause in most accidents, as experience has shown. The attorney has this responsibility assisted by the experts he chooses. Experienced aviation litigation lawyers understand and practice this approach in various ways leading to the desired objective. The common fault of the inexperienced aviation lawyer is that of starting usually with one area listed on the right side of the chart based on an NTSB report, when actually areas on both sides of the chart, properly investigated, would greatly enhance his case.

How to proceed when one finds himself with an aviation lawsuit? The following comments are suggested, based on experience:

1. If you are experienced, use methods that work.
2. If you are not experienced, try to find an experienced lawyer

to assist or an experienced aviation expert, preferably with engineering, manufacturing, management and pilot experience who also has some understanding of products litigation and procedures.

3. Have your experts make their own accident investigation. Use qualified experts. Keep them in their field of expertise.

4. Be alert that causes of accidents are often not what is readily apparent. Too often a probable cause is not the proximate or actual cause.

5. Manage the experts and their approach so that as facts are developed they are evaluated, pro and con. Early conclusions are often premature. New facts are being developed right up to the time of trial.

6. Start early. Accidents are difficult to investigate at best. Two months before the statute of limitations has run is always too late, particularly after the wreckage is sold for scrap, the witnesses have moved away and the impact site plowed up. At that time we may have only the fuzzy pictures in a brief NTSB report which is usually at the Probable Cause level.

7. Use experts to assist in interrogatories and motions to produce. Use the vernacular of the aviation business. Asking for "plans and specifications" or "the stress and strain on a wing" gets a big laugh and little results. Plans are just that—plans. Aircraft are built from very detailed drawings, not plans which are very general. The aircraft industry uses specs but they are different than those used in, say, construction contracting. There is no technical way to answer "what is the stress and strain on a wing." The statement is so vague it will produce nothing. Language and methods vary between companies, so questions must be technically objective in the area being explored.

8. Establishing and preserving the chain of evidence to insure admissability is a prime requirement. Only the manager of the experts can assume this responsibility. Neglect of this one facet of investigation discovery often severely weakens a case and runs up the cost of discovery. It should be apparent that aeronautical machines and their use are complicated composites of many areas of specialization. The expertise extracted from those areas involved, organized into a logical sequence of facts requires effective management of experts. This most effective management of each area comes from one who is most familiar with the areas and their pos-

sible contributions. No one person can be knowledgeable in such a broad field of endeavor. But this type of management is the basis of industry today. It is time to apply it to the discovery investigation procedure.

In a brief presentation such as this, it is not practical to delve into the many lesser but very important techniques of accident investigation as all of the areas may be subject to in-depth exploration and their possible effect on other areas. New technology advances all the areas charted in Figure #1. Figure #1 is not represented to be a complete list but is representative of the areas to be considered in an average aircraft investigation. The fact that aviation litigation damage claims are on the increase will, and must, require the attorney to present to the jury well supported, concise facts proving the highest level of cause attainable.