

## Introduction to Aviation Law

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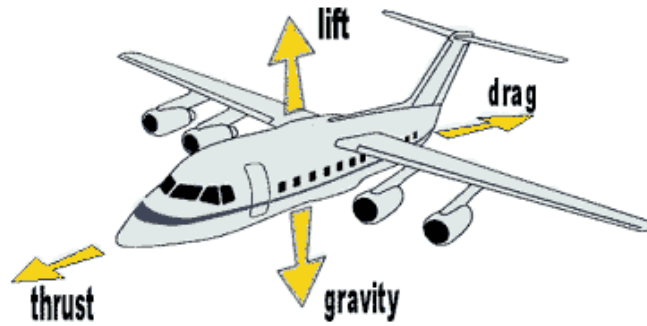


Fig. 1 – how airplanes fly

Aviation law is a distinct subject area with its own history, vocabulary, and bodies of statutory and case law. It borrows heavily from other areas of law—constitutional, administrative, property, tort, contract, international, and criminal law. Of course, for lawyers who practice aviation law it also helps to have a basic understanding of how airplanes work. And it is no secret that most lawyers abhor math and physics. Therefore, figure 1 is a sufficient conceptual diagram for understanding how airplanes work for an introduction to aviation law. When an airplane's wings produce enough lift (by air flowing over the wing surface) to overcome gravity, it will fly. To move the wing forward through the air and to produce lift, the aircraft engine(s) must produce more thrust than the drag created by the aircraft's movement through the air. Simply put, the four forces of lift, gravity, thrust, and drag must all be equal for an airplane to fly.

When things go wrong and the wings stop producing lift due to a pilot's error or an engine or airframe failure, the usual result is high-energy unmanaged contact with the earth's surface. This is commonly known as a crash. Airplane crashes are typically litigated using either the theory of negligence or the theory of products liability. Piloting errors are generally litigated under negligence, while everything else is generally under products liability. We're going to ignore piloting errors and focus on products liability for now.

To refresh you, the three big areas of products liability are (1) manufacturing defects, (2) design defects, and (3) failure to warn. See Rest. 3d. Torts sec. 2. In aviation law, manufacturing defect cases aren't very common, because the industry has a very effective, mature quality control system in place. And aircraft operating manuals and cockpits are festooned with warnings. See fig. 2. Design defects are where the action is.

**WARNING**

Because your aircraft is a high performance, high speed transportation vehicle, designed for operation in a three-dimensional environment, special safety precautions must be observed to reduce the risk of fatal or serious injuries to the pilot(s) and occupant(s).

It is mandatory that you fully understand the contents of this publication and the other manuals which accompany the aircraft; that FAA requirements for ratings, certifications and review be scrupulously complied with; and that you allow only persons who are properly licensed and rated, and thoroughly familiar with the contents of the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual to operate the aircraft. IMPROPER OPERATION OR MAINTENANCE OF AN AIRCRAFT, NO MATTER HOW WELL BUILT INITIALLY, CAN RESULT IN CONSIDERABLE DAMAGE OR TOTAL DESTRUCTION OF THE AIRCRAFT ALONG WITH SERIOUS OR FATAL INJURIES TO ALL OCCUPANTS.

Fig. 2 - Warning

A good example of an easy design defect case is *Pioneer Seed v. Cessna*, 16 Av. Cas 941 (1981).

## OPINION

Before WILLIAMS, J.

### Findings of Fact and Conclusions of Law

1. Plaintiff is a corporation organized under the laws of South Africa, and its principal place of business is in that country. The defendant is a corporation organized under the laws of Kansas and has its principal place of business in that state. The amount in controversy exclusive of interest and costs is more than \$ 10,000. The Court has jurisdiction on diversity grounds.

2. Plaintiff purchased a new Cessna 441 aircraft, serial number 0055, on June 7th, 1978 from South African Factors Limited who had purchased it from Commercial Air Services (PTY) Limited, a duly authorized South African Cessna dealer.

3. The subject aircraft was a high performance turbo-propeller executive jet manufactured by Cessna Aircraft Company in Wichita, Kansas.

4. Prior to purchasing the subject aircraft representatives from Pioneer went to Wichita, Kansas, to inspect a Cessna 441, and fully informed Cessna of the conditions that the aircraft would operate under and the uses to [\*2] which it would be put.

5. Pioneer's regular pilot received training and instructions from Cessna in Wichita, Kansas. Pioneer is engaged in agricultural activities and purchased the aircraft as a working piece of equipment for its business.

6. Before a sale was consummated, Cessna represented to Pioneer that its aircraft had the capability to meet Pioneer's needs.

7. From the time Pioneer purchased the aircraft on June 7th, 1978, until the nosewheel collapsed on

January 24th, 1979, it was regularly serviced and well maintained.

8. Pioneer did not make any alterations or modifications to the aircraft from the date of purchase to the date of failure that would relieve Cessna from its warranty obligations.

9. On January 24th, 1979, the aircraft had logged approximately 307 hours of flying time and was under the manufacturer's warranty (one year).

10. The pilot operating the subject aircraft when the nose gear collapsed was a well-qualified experienced professional pilot with approximately 8,000 pilot hours, roughly 300 of which were in the subject aircraft.

11. Hoopstad Airport, the place where the accident occurred, is listed on the South African airport directory [\*3] as a grass-surfaced runway with Published LCN figure of 8.0. Runways 14/32 were 4,800 feet in length and 98 feet in width.

12. The Cessna 441 at maximum weight had an LCN of 5.85 pounds. LCN is an airport weight classification.

13. Prior to the nose gear failure, the aircraft made a normal landing on runway 32, and after landing reversed course and taxied back on runway 14 to the runway threshold. At the runway threshold the aircraft started a left turn in the overrun area to a parking position to the right of the threshold of runway 32.

14. This procedure and this parking position was the normal practice used by Pioneer for both this aircraft and a Cessna 421 aircraft which Pioneer owned prior to purchasing the 441.

15. During the course of the turn the trunnion of the nose gear assembly suddenly failed, causing the nose gear to collapse. As a result of the collapse

of the nose gear both propellers dug into the ground, both engines were badly shock-loaded, and major damage resulted.

16. As the aircraft could not be flown until new engines and nose gear were fitted, Pioneer constructed a hangar at the airport to protect it from the weather. Temporary repairs [\*4] were completed late in May 1979, and the aircraft was flown to Rand Airport for completion of repairs by COMAIR, a Cessna repair facility and Cessna agent in South Africa.

17. Prior to the accident the subject aircraft was maintained under the Cessna progressive care program authorized by Cessna maintenance facilities.

18. The aircraft had never been subjected to hard landings, strains, or misuse, although the aircraft had on one prior occasion been pushed by hand from soft ground, and on another occasion it was taxied off the paved runway because of tire trouble and planks were inserted beneath the wheels in accordance with Cessna-approved procedure. Neither of these events damaged the nose gear trunnion.

19. The collapse of the nose gear was caused by the catastrophic failure of the nose gear trunnion, a component of the nose gear assembly.

20. The nose gear trunnion attached the nose gear to the aircraft structure by means of two lugs encased in a bearing which fitted into bearing retainers on either side of the nosewheel well. The nose gear collapse was the result of the failure of the left lug.

21. Metallurgical examination of the failed lug showed that it [\*5] failed due to the presence of fatigue cracks originating in the bottom of the lug radius. The remaining cross-sectional area of the lug failed due to stresses that exceeded the strength of the remaining lug.

22. The fatigue cracks were caused by a steel washer Cessna placed over the lug during manufacture as a spacer, which etched a notch into the radius of the aluminum trunnion. The notch concentrated stress in the area of the notch, and the fatigue crack resulted. Fatigue cracks weaken the structure of metal and will cause eventual failure.

23. It was design error to use a steel washer as a shim or spacer. Knowledge that the steel washer would notch the lug radius and result in fatigue cracks was within the state of the art when the subject aircraft was manufactured and sold.

24. Prior to the purchase of the subject aircraft Pioneer owned and operated a Cessna 421 in its business on the same airfield without problems. A 421 is a lighter aircraft but used the same nose gear assembly as that employed by Cessna when it switched to the heavier 441 model.

25. Cessna and its South African agents and distributors advised Pioneer that the Cessna 441 aircraft could operate [\*6] anywhere the 421 could operate knowing that operations under certain South African field conditions imposed stress on nosewheel assemblies due to the nature of landing surfaces in South Africa and other airport factors. At the time of the sale of the subject aircraft Cessna knew that it was to be operated from grass and sod airfields and should have known that the Cessna 441 was not designed to operate from unimproved airports.

26. There were no restrictions in the pilot's handbook or any other aircraft document warning against operations from grass or sod airports.

27. The trunnion was of insufficient strength to support the Cessna 441 under South African field conditions.

28. The trunnion used by Cessna on the subject aircraft was designed in 1962 for the Cessna 411, an aircraft no longer in production, and an aircraft much lighter than the 441. The Cessna 441 and its

jet engines generate far greater horsepower than the Cessna 411.

29. Cessna used the same trunnion on the Cessna 441 that it did on the 411 because it was cheaper to use a common part; that even though the nose gear trunnion designed by Cessna in 1962 was for use on a light plane, the trunnion had a [\*7] design load capability that theoretically should have accommodated the Cessna 441; however, I find from the evidence that the variables of field conditions are such that the trunnion in use on non-improved surfaces would not perform its intended function on an aircraft as heavy as a Cessna 441.

30. The trunnion lug failed under normal operating conditions, and the evidence discloses that other Cessna 441 aircraft had experienced similar difficulties. At least two of the prior failures occurred as a result of the steel washer cutting into the radius of the lug.

31. The steel washer was required on all 441 aircraft. Washers were used to center the trunnion within the wheel well to correct faulty manufacturing. The requirement for the steel washer on the subject aircraft was a manufacturing defect.

32. By Service Information Letter PJ 79-23 of July 23rd, 1979, Cessna directed that a heavy-duty nose gear trunnion be installed on all Cessna 441 aircraft before returning them to service again. The heavy-duty trunnion was to be installed for increased strength and longevity.

33. The heavy-duty replacement trunnion leveled out the sharp lug radius from .040 inches to .120 [\*8] inches and increased the lug diameter from 1.1875 inches to 1.3120 inches. It also provided a grease fitting for the lug bearing lubrication, and the steel washer or shim was eliminated.

34. Cessna was negligent in the manufacture of the aircraft in that it was foreseeable that: One, the

steel washer on the trunnion lug would cause metal fatigue and ultimate failure of the lug; two, the sharp lug radius would concentrate stress; and, three, the lug diameter was insufficient for the weight and horsepower of the Cessna 441 aircraft. Use of a trunnion designed for the lighter Cessna 411 aircraft on the Cessna 441 was a design defect, as was the use of the steel washer on the trunnion lug.

35. At the time of the sale and delivery of the aircraft it was defective and unreasonably dangerous for the use for which it was sold, it being in substantially the same condition at the time of the accident as it was when it was sold.

36. Cessna knowingly misrepresented that the Cessna 441 as configured before the accident was fit for the uses and purposes that it knew Pioneer required in its normal business operations.

37. Cessna breached its expressed warranty that the Cessna 441 [\*9] was fit for the aircraft operations conducted by Pioneer. Cessna also breached the implied warranty of fitness of the aircraft for its intended use.

#### PIONEER'S DAMAGE CLAIMS

The Court finds from the evidence of the various items of damages claimed by Pioneer that the following were established with sufficient certainty to enable the Court to award their recovery by Pioneer: Repair cost, \$ 179,416; break-in fuel for new engines. \$ 1,465; rental of other aircraft, \$ 59,597, decreased by one third for operating expenses, or \$ 39,732; one half of lost-time claim of \$ 35,910, or \$ 17,955. This results in a judgment award of \$ 238,568.

In determining the law applicable to this case the Court has considered these three choices: The site of the accident; the forum state; and the place of manufacture and delivery.

I find from the evidence that the forum state has no relationship to the accident or sale, and was merely selected by the plaintiff as a location for processing the claim. At an earlier stage in the proceedings Cessna moved under forum non conveniens to transfer the action to Kansas for trial. This motion was denied for reasons fully stated in the record. I have no doubt [\*10] that if the motion had been granted and the case transferred to Kansas, that a court in Kansas would have applied its own law since the manufacture, representations, and sale actually occurred in that state.

The cases seem to hold, and I so find, that in the commercial use of sophisticated equipment such as an aircraft, that the place of failure bears no reasonable relationship to the happening of an accident unless such defenses as contributory negligence, assumption of risk, misuse, and related defenses are raised. Since I do not find that any of these elements enter into a determination of the present case, there is no basis for applying any of South Africa's laws.

For the foregoing reasons an order will issue granting the plaintiff judgment in the amount of \$ 238,568 with interest to run at the rate of 8% per annum from January 21st, 1981, the date this action was filed.

Moving to a more complicated case involving issues of public policy is *Brake v. Beech*, 184 Cal. App. 3d 930 (1986):

**OPINION BY: SMITH**

**OPINION**

[\*934] [\*337] The 1976 crash of a twin-engine aircraft, a Beechcraft Baron 58, took the lives of William P. Brake and Donald E. McCarter. Their widows, as administrators of the estates, brought independent actions for wrongful death against the plane's manufacturer, Beech Aircraft [\*\*\*2] Corporation, and the actions were consolidated for jury trial. Plaintiff widows (plaintiffs) appeal from a judgment entered on a special verdict in favor of defendant manufacturer (Beech) and from a subsequent order denying their motion to tax costs.

**Background**

The aircraft crashed in rugged high-desert terrain north of a ridge of the San Gabriel Mountains, near the town of Pearblossom in Los Angeles [\*935] County, about one hour after a 9:05 a.m. takeoff from Hawthorne Municipal Airport. Eyewitnesses attracted by an "oscillating" engine sound saw the plane descend, with nose tilted downward, in a series of 13 to 15 tight circles to the right (pivoting on the right wing) just before impact.

Decedents both worked for Northrop Aircraft Corporation (Northrop), which owned the plane. <sup>1</sup> McCarter, a certificated military jet fighter plane (F-5) instructor working in Saudi Arabia, had come to California for training toward a multiengine rating in order to fly such a plane in Saudi Arabia for Northrop. Not yet certified, but having logged 14 hours of "dual" time in the aircraft (i.e., with a copilot), McCarter, together with Brake, the manager of flight support operations for Northrop, [\*\*\*3] took off on the morning of the accident for

a "pilot check flight" -- an opportunity for Brake to evaluate McCarter's training progress. McCarter was in the pilot's and Brake in the copilot's seat. The plane was equipped [\*\*338] with dual controls so that it could be flown from either position. Brake did not have an instructor's rating but had logged 225 hours in the plane and was an experienced commercial pilot.

1 An action by Northrop against Beech to recover damages for loss of the plane was tried along with plaintiffs' wrongful death actions. Northrop, like plaintiffs, appealed from the judgment herein but has since abandoned its appeal.

It was undisputed at trial that the aircraft stalled and then entered into a fully developed "flat spin" from which it never recovered. <sup>2</sup> The crucial question was why or how.

2 A "stall" is a loss of lift on the wing caused by either inadequate airspeed or exceeding the wing's critical angle of attack. A spin cannot occur unless the plane first stalls. Because a fully developed spin in a twin-engine plane is potentially impossible to recover from, early recovery from the stall or spin is critical.

[\*\*\*4] Plaintiffs attempted to prove negligent or defective design. To summarize, their evidence showed possible negligence or defect in the selection of the Baron 58's airfoils and its rudder configuration, which assertedly rendered the aircraft unusually susceptible to spins and difficult to control once a spin developed. They relied as well on claimed violations of federal aircrafts regulations governing standards for maneuverability, stall

warnings and single-engine-out stall recovery. They further maintained that the aircraft's operating manual inadequately warned of stall/spin characteristics and recovery and that Beech inadequately tested the aircraft. Their factual theory of the accident was that the decedents were flying with reduced power in the left engine (probably to simulate single-engine-out conditions) when they inadvertently dipped below minimum control speed, stalled and rapidly entered the fatal spin.

[\*936] Beech countered with evidence that the Baron 58 has the same airfoil and tail design found on other twin-engine aircraft, is FAA (Federal Aviation Agency) certified as complying with federal regulations, has adequate stall warnings, is not unduly prone to [\*\*\*5] spin, recovers easily from "incipient" spins,<sup>3</sup> and had a safety information booklet (distributed to owners before the accident and in response to an FAA communique) that specially warned of potential spin problems and instructed on recovery techniques.

3 An "incipient" spin is what occurs before a "fully developed" (or "steady state") spin.

Beech's theory was pilot negligence or error. The relative inexperience of both decedents with the Baron 58, their apparent use of asymmetric (simulated single-engine) power before the crash and the existence of strong turbulence in the San Gabriel Mountains that morning<sup>4</sup> suggested the use of improper recovery techniques (perhaps those appropriate to the F-5 fighter) following a single-engine stall brought on or aggravated by winds.<sup>5</sup> Examination of the wreckage showed the aircraft to have been trimmed for "blue line speed," indicating a safe single-engine speed and thus tending to rebut plaintiffs' theory of inadvertent loss of airspeed.

4 An "AIRMET" (small aircraft weather advisory) in effect when the aircraft took off warned of moderate turbulence within 5,000 feet of terrain, mainly over mountains, with strong updrafts and downdrafts on south and west slopes. That advisory was cancelled less than one-half hour before the accident and upgraded to a "SIGMET" (an advisory to all aircraft) warning of locally severe turbulence below 15,000 feet, again mainly over mountains and with updrafts and downdrafts on south and west slopes. Expert testimony showed a likelihood of such updrafts and downdrafts ("mountain wave" conditions) on *all* mountain slopes.

[\*\*\*6]

5 The Baron 58, being certified by the FAA as a "normal category" aircraft, bears a placard warning against intentional spins. The FAA does not require "placarded" aircraft like the Baron 58 to be spin tested for certification. The placard advises pilots of that fact and warns them to assume that the aircraft may become uncontrollable in a spin. An FAA advisory circular warns flight test instructors and test applicants not to demonstrate single-engine stalls in pilot flight tests -- that such maneuvers should be practiced only by qualified engineering test pilots.

The jury returned a special verdict in favor of Beech, finding no negligence and no defect. Judgment on the verdict was entered on November 24, 1981, and Beech thereafter filed a memorandum for costs totaling over \$ 107,000. Plaintiffs timely noticed motions for judgment notwithstanding the verdict, for new trial, and to tax costs. At a combined hearing, the superior court denied the motions for new trial and judgment notwithstanding the verdict and took the remaining motion under [\*\*339] submission. By order of February 8, 1982, the [\*\*\*7] court denied the motion to tax costs and



allowed, as reasonable and necessary, \$ 45,470.70 of the costs claimed.

Plaintiffs timely appeal from both the judgment and the order denying the motion to tax costs.

[\*937] Appeal

(1) "Evidence of prior accidents is admissible to prove a defective condition, knowledge, or the cause of an accident, provided that the circumstances of the other accidents are similar and not too remote. [Citation.]" ( *Elsworth v. Beech Aircraft Corp.* (1984) 37 Cal.3d 540, 555 [208 Cal.Rptr. 874, 691 P.2d 630].) Plaintiffs claim cumulative prejudice from several rulings denying the admission of other-accidents evidence.

(2) One ruling granted Beech's motion to exclude a computer-generated statistical analysis comparing accident rates for the Baron with rates for other aircraft, on a per-flight-hour basis. Statistician Brent Silver, an expert for plaintiffs, prepared the analysis from National Transportation Safety Board (NTSB) data on domestic aviation accidents. After hearing an extensive offer of proof through testimony by Silver, the court granted [\*\*\*8] the motion on grounds that the proffered evidence was "hearsay upon hearsay, unreliable, speculative [and] conjectural." Plaintiffs have not presented arguments that surmount those problems. Error has not been shown. (Cf. *Luque v. McLean* (1972) 8 Cal.3d 136, 147-148 [104 Cal.Rptr. 443, 501 P.2d 1163].)

(3) Plaintiffs also claim error in the exclusion of five accident report memoranda, produced by Beech during discovery, and three NTSB publications.

Taking first the Beech memoranda, plaintiffs failed to lay a foundation of similarity between the accidents discussed therein and the accident in this case. Descriptions of flight attitude, trim settings, engine power, loading, weather conditions, altitudes, feathering, etc., were widely varied. In

addition, there are complex multiple hearsay problems in the documents. Plaintiffs cannot overcome these myriad problems by relying on similarity of airfoils or tail design. Similarly, there was no foundation laid to show similarity as to the accidents referred to in the NTSB documents. All of this evidence was presented for the first time at the close of plaintiffs' case, without calling witnesses.

[\*\*\*9] [\*938] Despite the lack of foundation to show similarity, however, those prior accidents involving stall/spins of Beech Baron 58's could have been admitted for the limited purpose of showing that Beech had notice of a dangerous condition. "For this purpose, ""all that is required . . . is that the previous injury should be such as to attract the defendant's attention to the dangerous situation. . . ."" [Citation.]" ( *Elsworth v. Beech Aircraft Corp.*, *supra*, 37 Cal.3d 540, 555.) Here, as in *Elsworth*, "[there] can be no question that the prior accidents should have alerted Beech to the faulty spinning characteristics of the [aircraft]. It was contrary to FAA regulations to spin . . . the Baron . . . , and Beech should therefore have been alerted to the fact that the spinning of the airplanes in the prior accidents was unintentional and may have been due to a defect in their design." (*Ibid.*, fn. omitted.)<sup>16</sup>

16 For purposes of our analysis, it is not necessary to decide whether the Baron 55 or other Beech models are similar enough to the Baron 58 to warrant admission of stall/spin accidents of those planes on the question of notice.

[\*\*\*10] Nevertheless, because Beech had requested that the evidence be excluded under *Evidence Code section 352* and because the court explained that its ruling was based in part on the risk of prejudice from undue consumption of time, we could not find exclusion of the evidence to be

error unless an abuse of discretion appeared under all the circumstances. ( *Simmons v. [\*\*340] Southern Pac. Transportation Co. (1976) 62 Cal.App.3d 341, 365 [133 Cal.Rptr. 42].*)

Assuming, without deciding, that the court did abuse its discretion, however, we would not find reversible error on this record. ( *Evid. Code, § 354; Cal. Const., art. VI, § 13; People v. Watson (1956) 46 Cal.2d 818, 836 [299 P.2d 243].*) The accidents would have been admissible only to show *knowledge* of a dangerous condition, not the existence of one, and it does not appear reasonably probable that the jury's verdict was predicated on doubt over the element of notice. Beech never disputed that it knew the Baron 58 would quickly develop a full spin if stalled and not promptly recovered. There was no conflict in the evidence -- [\*\*\*11] all experts agreed that an unrecovered spin in the Baron 58 could be irreversible. The FAA materials were to the same effect, as was the placard on the plane itself. Beech's defense in this regard, rather, was that the plane was "docile" and easy to recover if proper techniques were employed and that its published materials adequately warned against the plane's spinning tendencies. In other words, the focus of the trial was on whether the plane's stall/spin characteristics constituted a dangerous condition, not whether Beech knew of them. By returning its special verdict of no negligence and no defect, the jury appears [\*939] to have concluded that those characteristics were not unusually dangerous and that the efforts of Beech to warn against them were adequate.<sup>17</sup>

17 Plaintiffs emphasized in argument to the jury that Beech had knowledge from its awareness of the T-42A tests, its possession of a copy of the resulting report and its revision of the T-42A manual. They also relied on the circumstantial facts that Beech put out the safety booklet and developed a

VSSE (velocity safe single engine) speed for the plane.

[discussion of costs awarded and collateral estoppel arguments omitted –JV]

Finding no prejudicial error at trial and no abuse of discretion or other error in the award of costs, we affirm both the judgment on special verdict and the order re motion to tax costs.

The aviation manufacturing industry was nearly litigated to death in the 1980s in cases like these.

There are some aviation-friendly cases that exist in the defective design line of cases, such as the venerable *Goldberg v. Kollsman*, 191 N.E.2d 81 (1963):

**OPINION BY: DESMOND**

**OPINION**

We granted leave to appeal in order to take another step toward a complete solution of the problem partially cleared up in *Greenberg v. Lorenz* (9 N Y 2d 195) and *Randy Knitwear v. American Cyanamid Co.* (11 N Y 2d 5) (both decided after the making of the Special Term and Appellate Division orders here appealed from). The question now to be answered is: does a manufacturer's implied warranty [\*435] of fitness of his product for its contemplated use run in favor of all its intended users, despite lack of privity of contract?

The suit is by an administratrix for damages for the death of her daughter-intestate [\*\*82] as the result of injuries suffered in the crash near La Guardia Airport, New York City, of an airplane in which the daughter was a fare-paying passenger on a flight from Chicago to New York. American Airlines, Inc., owner and operator of the plane, is sued here for negligence (with present respondents Lockheed and Kollsman) but that cause of action is not the subject of this appeal. The two causes of action, from the dismissal of which for insufficiency plaintiff appeals to us, run against Kollsman Instrument Corporation, manufacturer or supplier of the plane's altimeter, and Lockheed Aircraft Corporation, maker of the plane itself. Kollsman and Lockheed are charged with breaching their respective implied warranties of merchantability and fitness. Those breaches, it is alleged, caused the fatal crash.

There is nothing in the complaint that says where the plane or its altimeter were manufactured or sold nor does the pleading inform us as to decedent's place of residence, although it is alleged that plaintiff's appointment as administratrix was by a New York court. Plaintiff argues that California law should apply on the "grouping of contracts" theory and it is clear (indeed in effect conceded by respondents) that California law allows recovery for a proven breach of implied warranties as to dangerous instrumentalities (see *Peterson v. Lamb Rubber Co.*, 54 Cal. 2d 339, 347; *Greenman v. Yuba Power Prods.*, 59 Cal. 2d 67). Special Term, however, said in its opinion in the present case that the governing law is that of New York State where the accident took place, citing *Poplar v. Bourjois, Inc.* (298 N. Y. 62) and that under New [\*\*\*594] York law no claim for breach of implied warranty may be enforced by one not in privity with the warrantor. The Appellate Division, affirming, wrote no opinion. The Special Term opinion, as we have said above, was filed before our *Greenberg* and *Randy Knitwear* decisions (*supra*) and *Greenberg* and *Randy Knitwear* declared that in New York privity of contract is not always a requisite for breach of warranty recoveries. The *Randy Knitwear* opinion (11 N Y 2d, p. 16) at least suggested that all requirements of privity have been dispensed with in our State. That is the immediate, [\*436] or at least the logical and necessary result of our decisions and, accordingly, it really makes no difference whether New York or California law be applied, since in this respect both States use the same rules.

The enormous literature on this subject and the historical development of the law of

warranties to its present state need not be reviewed beyond the references in our *Greenberg* and *Randy Knitwear* opinions (*supra*). A breach of warranty, it is now clear, is not only a violation of the sales contract out of which the warranty arises but is a tortious wrong suable by a noncontracting party whose use of the warranted article is within the reasonable contemplation of the vendor or manufacturer. As to foodstuffs we definitively ruled in *Greenberg v. Lorenz* (9 N Y 2d 195, *supra*) that the persons thus protected and eligible to sue include the purchaser's family. We went no further in that case because the facts required no farther reach of the rule.

The concept that as to "things of danger" the manufacturer must answer to intended users for faulty design or manufacture is an old one in this State. The most famous decision is *MacPherson v. Buick Motor Co.* (217 N. Y. 382) holding the manufacturer liable in negligence to one who purchased a faulty Buick automobile from a dealer (see the recent and similar case of *Markel v. Spencer*, 5 A D 2d 400, *affd.* 5 N Y 2d 958). But the *MacPherson* opinion cites much older cases such as *Devlin v. Smith* (89 N. Y. 470 [1882]) where one who negligently built a scaffold for a contractor was adjudged liable to the contractor's injured employee. [\*\*83] *MacPherson* and its successors dispelled the idea that a manufacturer was immune from liability in tort for violation of his duty to make his manufactures fit and safe. In *MacPherson's* day enforcement required a suit in negligence. Today, we know from *Greenberg v. Lorenz*, *Randy Knitwear v. American Cyanamid Co.* (*supra*) and many another decision in this and other States (see, for instance, *Henningsen v. Bloomfield Motors*, 32 N. J. 358, and [\*\*84] *Thomas v. Leary*, 15 A D 2d 438) that, at least where an article is of such a character that when used for [\*\*\*595] the purpose for which it is made it is likely to be a source of danger to

several or many people if not properly designed and fashioned, the manufacturer as well as the vendor is liable, for breach of law-implied warranties, to the persons [\*437] whose use is contemplated. The *MacPherson* holding was an "extension" of existing court-made liability law. In a sense, *Greenberg v. Lorenz* and *Randy Knitwear v. American Cyanamid Co.* (*supra*) were extensions in favor of noncontracting consumers. But it is no extension at all to include airplanes and the passengers for whose use they are built -- and, indeed, decisions are at hand which have upheld complaints, sounding in breach of warranty, against manufacturers of aircraft where passengers lost their lives when the planes crashed (see, e.g., *Conlon v. Republic Aviation Corp.*, 204 F. Supp. 865; *Middleton v. United Aircraft Corp.*, 204 F. Supp. 856; *Ewing v. Lockheed Aircraft Corp.*, 202 F. Supp. 216; *Hinton v. Republic Aviation Corp.*, 180 F. Supp. 31).

As we all know, a number of courts outside New York State have for the best of reasons dispensed with the privity requirement (see Jaeger, Privity of Warranty: Has the Tocsin Sounded?, 1 Duquesne U. L. Rev. 1). Very recently the Supreme Court of California (*Greenman v. Yuba Power Prods.*, 59 Cal. 2d 67 [Jan., 1963], *supra*) in a unanimous opinion imposed "strict tort liability" (surely a more accurate phrase) regardless of privity on a manufacturer in a case where a power tool threw a piece of wood at a user who was not the purchaser. The California court said that the purpose of such a holding is to see to it that the costs of injuries resulting from defective products are borne by the manufacturers who put the products on the market rather than by injured persons who are powerless to protect themselves and that implicit in putting such articles on the market are representations that they will safely do the job for which they were built. However, for the present at least we do not think it

necessary so to extend this rule as to hold liable the manufacturer (defendant Kollsman) of a component part. Adequate protection is provided for the passengers by casting in liability the airplane manufacturer which put into the market the completed aircraft.

The judgment appealed from should be modified, without costs, so as to provide for the dismissal of the third (Kollsman) cause of action only and, as so modified, affirmed.

[Dissent omitted –JV]

The overall state of aviation law remained a plaintiff's lawyer's dream-come-true throughout the 1980s and early 90s, which nearly killed the industry. In response, congress in 1994 passed a statute of repose--the General Aviation Revitalization Act (GARA):

PUBLIC LAW 103-298 [S. 1458]

AUGUST 17, 1994

GENERAL AVIATION REVITALIZATION  
ACT OF 1994

An Act

To amend the Federal Aviation Act of 1958 to establish time limitations on certain civil actions against aircraft manufacturers, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

[\*1] SECTION 1. <49 USC 40101 note>  
SHORT TITLE.

This Act may be cited as the "General Aviation Revitalization Act of 1994".

[\*2] SEC. 2. <49 USC 40101 note> TIME  
LIMITATIONS ON CIVIL ACTIONS  
AGAINST AIRCRAFT MANUFACTURERS.

(a) In General.--Except as provided in subsection (b), no civil action for damages for death or injury to persons or damage to property arising out of an accident involving a general aviation aircraft may be brought against the manufacturer of the aircraft or the manufacturer of any new component, system, subassembly, or other part of the aircraft, in its capacity as a manufacturer if the accident occurred--

(1) after the applicable limitation period beginning on--

(A) the date of delivery of the aircraft to its first purchaser or lessee, if delivered directly from the manufacturer; or

(B) the date of first delivery of the aircraft to a person engaged in the business of selling or leasing such aircraft; or

(2) with respect to any new component, system, subassembly, or other part which replaced another component, system, subassembly, or other part originally in, or which was added to, the aircraft, and which is alleged to have caused such death, injury, or damage, after the applicable limitation period beginning on the date of completion of the replacement or addition.

(b) Exceptions.-- Subsection (a) does not apply--

(1) if the claimant pleads with specificity the facts necessary to prove, and proves, that the manufacturer with respect to a type certificate or airworthiness certificate for, or obligations with respect to continuing airworthiness of, an aircraft or a component, system, subassembly, or other part of an aircraft knowingly misrepresented to the Federal Aviation Administration, [\*\*1553] or concealed or withheld from the Federal Aviation Administration, required information that is material and relevant to the performance or the maintenance or operation of such aircraft, or the component, system, subassembly, or other part, that is causally related to the harm which the claimant allegedly suffered;

(2) if the person for whose injury or death the claim is being made is a passenger for purposes of receiving treatment for a medical or other emergency;

(3) if the person for whose injury or death the claim is being made was not aboard the aircraft at the time of the accident; or

(4) to an action brought under a written warranty enforceable under law but for the operation of this Act.

(c) General Aviation Aircraft Defined.--For the purposes of this Act, the term "general aviation aircraft" means any aircraft for which a type certificate or an airworthiness certificate has been issued by the Administrator of the Federal Aviation Administration, which, at the time such certificate was originally issued, had a maximum seating capacity of fewer than 20 passengers, and which was not, at the time of the accident, engaged in scheduled passenger-carrying operations as defined under regulations in effect under the Federal Aviation Act of 1958

(49 U.S.C. App. 1301 et seq.) at the time of the accident.

(d) Relationship to Other Laws.--This section supersedes any State law to the extent that such law permits a civil action described in subsection (a) to be brought after the applicable limitation period for such civil action established by subsection (a).

[\*3] SEC. 3. <49 USC 40101 note>  
OTHER DEFINITIONS.

For purposes of this Act--

(1) the term "aircraft" has the meaning given such term in section 101(5) of the Federal Aviation Act of 1958 (49 U.S.C. 1301(5));

(2) the term "airworthiness certificate" means an airworthiness certificate issued under section 603(c) of the Federal Aviation Act of 1958 (49 U.S.C. 1423(c)) or under any predecessor Federal statute;

(3) the term "limitation period" means 18 years with respect to general aviation aircraft and the components, systems, subassemblies, and other parts of such aircraft; and

(4) the term "type certificate" means a type certificate issued under section 603(a) of the Federal Aviation Act of 1958 (49 U.S.C. 1423(a)) or under any predecessor Federal statute.

[\*\*1554] [\*4] SEC. 4. <49 USC 40101 note> EFFECTIVE DATE; APPLICATION OF ACT.

(a) Effective Date.-- Except as provided in subsection (b), this Act shall take effect on the date of the enactment of this Act.

(b) Application of Act.-- This Act shall not apply with respect to civil actions commenced before the date of the enactment of this Act.