Airworthiness Directives: Recovering the Cost of Compliance

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NEARLY AS SOON AS man began to conceive of devices that could bear him aloft, he also began to perceive their potential defects. The story of the flight of Icarus is a good example. Icarus, using wings made of feathers and wax, flew too close to the sun. The hot sun melted the wax holding the wings together and Icarus crashed into the sea. 1 Had Icarus suffered a similar fate in the late 20th Century in the United States, the crash undoubtedly would have caused an investigation into the "airworthiness" of human propelled wings made of wax and feathers. Aircraft design is extensively regulated in the United States. The authority for this regulation is founded on title VI, section 601 of the Federal Aviation Act of 19582 (Act). This section empowers the Administrator of the Federal Aviation Administration (FAA) to set minimum standards for virtually every component of an aircraft.3 To implement the Administrator's authority, title VI, section 603 of the Act sets up a certification system by which the FAA approves and issues type certificates, production certificates and airworthiness certificates for aircraft and aircraft components.4

As part of its effort to provide for safe aircraft, the FAA also promulgates regulations known as “Airworthiness Directives” (AD). Airworthiness Directives typically require that aircraft be inspected or modified for safety reasons. Part 39 of title 14 of the Code of Federal Regulations states the criteria for the issuance of an AD. It provides:

This part prescribes airworthiness directives that apply to aircraft, aircraft engines, propellers, or appliances (hereinafter referred to in this part as “Products”) when

(a) An unsafe condition exists in a product; and

(b) That condition is likely to exist or develop in other products of the same type design.  

Part 39 further provides that “[n]o person may operate a product to which an airworthiness directive applies except in accordance with the requirements of that airworthiness directive.” Though these sections are quite brief, they can nevertheless have an enormous economic impact on an aircraft operator. An AD, for example, grounded all DC-10 aircraft until performance of a required inspection of the pylons attaching the engines to the wings of each aircraft. Even for an aircraft owner who does not fly commercially, the cost of compliance with an AD can be substantial. Also, compliance with an AD is mandatory; the owner of the aircraft has no choice as to whether to comply (though the time of compliance can sometimes be varied and an owner may be given

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7 Id. § 39.3.


9 Statistics compiled by the Staff of Aviation Consumer magazine for ADs issued during 1980 affecting general aviation aircraft revealed that the average expenditure to comply with an AD was $218.22 in the case of Piper aircraft owners, $30.21 in the case of Cessna owners, $231.40 for Beechcraft owners, and $86.25 for Mooney owners. Who Pays For ADs?, AVIATION CONSUMER, March 1, 1981, at 5-8 [hereinafter cited as Who Pays for ADs?]. These figures are, of course, averages; a particular AD may be very expensive to comply with.
several alternative methods of compliance). Because ADs are mandatory, and because they are frequently quite expensive—both in out-of-pocket costs and aircraft downtime—it is not surprising that ADs have been the subject of a considerable amount of friction between aircraft owners and manufacturers. Aircraft owners complain that even though ADs are usually a result of the manufacturer's errors, owners frequently must bear the cost. Manufacturers, on the other hand, point out that the costs of AD compliance must ultimately be passed on to the consumer regardless of who pays the initial bill. Moreover, the manufacturers claim that they are already picking up a good deal of the cost of ADs. This claim is disputed by owners. Not surprisingly, Congress and at least one state legislature have become concerned with the situation and have considered legislation dealing with the apportionment of the cost of AD compliance between owners and manufacturers.

The purpose of this article is to review the current state of the law concerning liability for the cost of AD compliance.
and to review the various remedies available to an aircraft owner who feels that he has been unfairly required to pay for an AD that is the fault of the manufacturer. Four theories of recovery will be examined: (1) breach of warranty; (2) negligence; (3) strict products liability; and (4) private cause of action under the Act. The article will then suggest a system by which aircraft owners and manufacturers can cooperate to fairly apportion the cost of AD compliance.

I. LIABILITY FOR THE COST OF AIRWORTHINESS DIRECTIVE COMPLIANCE

Neither the Act nor any of the regulations pursuant to it promulgated by the FAA specify how the cost of AD compliance is to be apportioned between the owner and the manufacturer.\(^4\) Instead, the aircraft owner is left to whatever remedies he may have under contract and tort law. This section will review the various theories under which recovery has been attempted and their treatment by the courts.

A. Warranties

The most obvious course of action for an owner whose aircraft has become the subject of an AD is to make a claim under the aircraft manufacturer’s warranty. If the aircraft or its components are still covered by a warranty, the party giving the warranty will probably be obligated to fix the condition leading to the AD.\(^5\) The first step in asserting a claim


under a written manufacturer's or seller's warranty is to read the provisions of the warranty and compare them with the defect or problem an AD seeks to remedy. Such a reading will usually disclose an immediate problem: aircraft and aircraft component manufacturers' warranty periods are surprisingly brief. Such warranties usually last only between three and six months. Engine warranties are similarly brief. Moreover, most airframe manufacturers pay only a flat rate for labor, regardless of what the particular shop that is doing the labor actually charges. The aircraft owner must make up the difference.

Another problem with warranties is the limitations of their coverage. Warranties often contain disclaimers, exclusions of coverage or clauses that limit liability to the repair or replacement of defective parts. These disclaimers and limitations are often upheld by the courts, especially where only economic loss and not personal injury results from a defect.

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17 Id. Teledyne Continental's basic warranty lasts only six months or 240 hours of use, whichever occurs first; Aveo Lycoming's warranty lasts six months with no engine time use limit. Id.

18 Id.


20 See, e.g., Airlift Int'l, Inc. v. McDonnell Douglas Corp., 685 F.2d 267, 269 (9th Cir. 1982) (holding valid a disclaimer clause in an aircraft purchase agreement where defective part caused aircraft to explode but caused no personal injury); Steiner Aero AB v. Page Airmotive, Inc., 499 F.2d 709, 712 (10th Cir. 1974) (holding that purchasers of rebuilt aircraft engine could not recover for property damage sustained when engine failed on takeoff where sales contract had expressly excluded all warranties after a six month or one hundred hour period); Delta Air Lines v. McDonnell Douglas Corp., 503 F.2d 239, 243 (5th Cir. 1974), cert. denied, 421 U.S. 965 (1975) (holding that plaintiffs were not entitled to recover the cost of repair of aircraft nosegear that collapsed where exculpatory clause limited liability to contractual warranty provisions); Delta Air Lines v. Douglas Aircraft Co., 238 Cal. App. 2d 95, 47 Cal. Rptr. 518, 522 (1965) (holding that the law does not, in general, prohibit a clear and express contract absolving an actor from his own negligence); Pan American World Airways, Inc. v. United Aircraft Corp., 53 Del. 7, 163 A.2d 582, 585 (1960) (holding that plaintiffs could not recover for damage caused by aircraft propellers where contractual provisions had limited warranty to replacement and repair of the propellers alone).
additional problem confronting a potential claimant under a warranty is whether the warranty applies to him at all. Courts have reached different conclusions on the question of whether a second or third-hand purchaser of goods may claim under a warranty given by the manufacturer or seller to an earlier purchaser. Certain courts have held that a remote purchaser may not maintain an action based on warranty against a manufacturer on the grounds that a warranty claim requires contractual privity. Other courts, analogizing to products liability law, have permitted recovery against manufacturers for defective goods by remote purchasers solely for economic loss. If a manufacturer makes an express warranty, but fails to limit it to the original purchaser, a second or third purchaser faced with AD compliance may be able to recover, depending on the jurisdiction.

Warranties may also contain language traps. In the case of Banko v. Continental Motors Corp., for example, the District Court for the Eastern District of Virginia found that an aircraft engine manufacturer's advertising statements claiming that an engine was free from "carburetor ice" constituted an express warranty. The aircraft crashed as a result of icing

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22 Seeley v. White Motor Co., 63 Cal. 2d 9, 403 P. 2d 145, 150, 45 Cal. Rptr. 17, 20 (1965); (holding that where there was an express warranty to purchaser in the purchase order, no privity of contract was required to render truck manufacturer liable for breach); Spence v. Three Rivers Builders & Masonry Supply, Inc., 353 Mich. 120, 90 N.W.2d 873, 878-79 (1958) (stating that "the modern trend is to permit recovery by remote vendees against the manufacturer whether the action sounds in negligence or implied warranty or both"); see generally Comment, Manufacturers' Liability to Remote Purchasers for "Economic Loss" Damages — Tort or Contract?, 114 U. Pa. L. Rev. 539, 540-41 (1966).


25 Id. at 233.
in the engine. When the owner sued, however, the court de-nied recovery after expert testimony was unable to establish where the ice formed and how it got into the throttle area.\textsuperscript{26} The court held that the express warranty that carburetor ice would not form was not a warranty that ice would not form elsewhere in the engine and then migrate to the carburetor area to cause engine failure.\textsuperscript{27}

While the result in \textit{Banko} was unfavorable to the plaintiffs, it does suggest a course of action for a distressed aircraft own-er seeking to recover for breach of warranty. An express war-ranty does not have to be contained in a document headed by the word "Warranty."\textsuperscript{28} An express warranty can be created by statements of the seller relating to or describing the goods.\textsuperscript{29} If an aircraft purchaser remembers what the seller said before or at the time of the purchase, it is possible that some of those statements could be construed as express war-ranties upon which an action can be maintained to recover the cost of AD compliance.

Advertising by the seller or manufacturer should be scrutinyzied to see if any statement rises to the level of an express warranty. In the Arizona case of \textit{Downs v. Shouse},\textsuperscript{30} for example, an aircraft seller claimed that the oil in the engine had been changed every 50 hours.\textsuperscript{31} After the buyer purchased the aircraft, a renter pilot was required to make a forced landing as a result of a sudden oil pressure loss.\textsuperscript{32} A subsequent examination of the engine revealed that the oil pressure had dropped because an oil filter adapter plate was loose. The buyer of the damaged aircraft brought an action against the seller on a theory of breach of express and implied

\textsuperscript{26} Id. at 231-32.
\textsuperscript{27} Id. at 233.
\textsuperscript{28} See U.C.C. § 2-313(2) (1972). Section 2-313(2) provides, "[I]t is not necessary to the creation of an express warranty that the seller use formal words such as "warrant" or "guarantee" or that he have a specific intention to make a warranty . . . ." Id.
\textsuperscript{29} U.C.C. §§ 2-313(l)(a), (b) (1972).
\textsuperscript{31} 501 P.2d at 403.
\textsuperscript{32} Id. Pursuant to a lease arrangement, the purchaser leased the aircraft to a flying club. A club member was flying the aircraft when the engine lost oil pressure. Id. at 404.
warranties. The Arizona Court of Appeals rejected the implied warranty theory, since the seller was not an aircraft merchant, but upheld the claim for breach of an express warranty, holding that the seller’s statement concerning regular 50-hour oil changes constituted an express warranty that the oil changes had been done correctly. Since the loose oil filter adapter plate was the result of a faulty oil change, the court permitted recovery.

A potentially important source of express warranties was recently recognized by the Court of Appeals for the Eighth Circuit in *Limited Flying Club, Inc. v. Wood*. In this case the court held that express warranties were created by the aircraft’s airworthiness certificate and the engine and airframe logbooks, which the purchaser examined and relied upon in purchasing the aircraft. The court found that a breach of those express warranties had occurred, but remanded the case to the district court for consideration of the question of damages. Since all aircraft are required to have airworthiness certificates and engine and airframe logs, the holding in *Limited Flying Club* creates the possibility of liability for sellers for virtually any defect existing at the time of sale. Perhaps the only way for a seller to exclude express warranties in light of the *Limited Flying Club* decision will be to require a buyer to sign a statement that no express warranties have been made in connection with the sale. In the meantime, aircraft owners faced with AD compliance, as well as other disappointed

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33 Id. U.C.C. §§ 2-314 and 2-315 require that the seller be a merchant or that the buyer be relying on the seller to select suitable goods before an implied warranty may arise.
34 *Downs*, 501 P.2d at 404.
35 *Id. But see* Del Ray Air v. Expressway Airparts, Inc., 468 F.2d 187, 187-88 (10th Cir. 1972) (holding that statement that “everything about the aircraft was to be in good working order” did not constitute an express warranty).
36 632 F.2d 51 (8th Cir. 1980).
37 *Id.* at 53, 55-56.
38 *Id.* at 57.
40 See Seelye, *Goodbye Homebuilt, Hello, Your Honor*, AVIATION CONSUMER, August 11, 1982 at 17 for an example of such a waiver.
buyers, may attempt to recover from sellers on the basis of "airworthiness and logbook warranties."

Similar to an action on an express warranty is a claim against an aircraft seller for fraud and deceit. Such an action is based on the same types of statements as an express warranty claim: affirmations of fact concerning a particular aircraft. A recovery for fraud and deceit, however, requires that the buyer also prove intent to mislead on the part of the seller, materiality of the misrepresented fact, and justified reliance on the part of the buyer which results in injury. Because of the requirement that the buyer prove these extra elements, a recovery against a seller for fraud and deceit is usually difficult. In Aerospesca Ltd. v. Butler Aviation International, Inc., a Maryland case, the plaintiff hired the defendant to repair some of the plaintiff's aircraft. The defendant's inspector represented to the plaintiff that the aircraft were airworthy when in fact they were not. The court awarded the plaintiff actual damages for fraud and deceit, though it refused to award punitive damages. There is no reported case where a court has awarded the cost of AD compliance based on a theory of fraud and deceit.

In the event that a buyer faced with AD compliance cannot find any applicable express warranty or fraud (or, as an alternative argument), a claim can be brought for breach of an implied warranty. The mere fact that an express warranty has been given will not constitute a disclaimer of implied warranties that otherwise may be present. Implied

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* Restatement (Second) of Torts §§ 525-530 (1977). Under certain circumstances, including sales of products to consumers, a person in the business of selling products may be liable for misrepresentation even though the misrepresentation was not fraudulently or even negligently made. Id. at § 402B.

* See, e.g., Limited Flying Club v. Wood, 632 F.2d 51, 54-55 (8th Cir. 1980) (reversing plaintiffs' judgment for fraud against an aircraft seller for failure to prove intent to deceive).


* Aerospesca, 411 A.2d at 1058, 1063.

* Id. at 1064-65. For a discussion of the possibility of bringing an action against an aircraft seller based on deceptive trade practice acts, see Maynard, The Application of Consumer Protection Legislation to Aviation Litigation, 45 J. AIR L. & COM. 621, 626 (1980).

* Empire Airlines v. Beech Aircraft Corp., 1948 U.S. Av. R. 457, 461 (D. Kan.) (stating that if an implied warranty does not relate to matters covered by an express
warranties are warranties created not by the words or actions of the seller, but rather by the law regulating the relationship between buyer and seller. An implied warranty may arise under two theories. First, section 2-314 of the U.C.C. creates an implied warranty of "merchantability" when the seller of an aircraft is an aircraft merchant; that is, one who deals in aircraft and holds himself out as having knowledge and skill in dealing in aircraft. While the term "merchantability" can mean a number of different things in a number of different contexts, in an aircraft sale it will generally mean that the aircraft is fit for the ordinary purposes to which such an aircraft is put. Arguably, an aircraft grounded until an AD is complied with is not fit for any ordinary aircraft purpose and hence is not merchantable.

The second warranty created by operation of law is the implied warranty of fitness for a particular purpose. This implied warranty arises when the seller knows the particular purpose for which the aircraft is being purchased and knows that the buyer is relying on the skill or judgment of the seller to select a suitable aircraft. In such circumstances, the aircraft seller impliedly warrants that the aircraft is fit for the particular purpose for which the buyer has purchased it. This implied warranty does not require that a seller be a merchant. The key to recovery under this implied warranty theory is reliance by the buyer on the seller's judgment, and

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50 The use to which an aircraft can be put is regulated by its airworthiness certificate and classification at the time of transfer. The certification standards for various categories of aircraft are set forth in 14 C.F.R. §§ 23-35 (1983).
51 Id.
52 Id.
53 Id.
knowledge of such reliance on the part of the seller. Establishing such reliance and knowledge can present interesting proof problems. In *Empire Airlines v. Beech Aircraft Corp.*, for example, aircraft delivered by the defendant to the plaintiff failed to operate properly in the cold climate of upstate New York. The plaintiff sued for breach of implied warranty. The District Court for the District of Kansas, in considering whether to find an implied warranty of fitness for the particular purpose of reliable cold-weather operation, reasoned that if the aircraft had been manufactured especially for the plaintiff to use in upstate New York, such a warranty existed.

In the event that an AD is issued concerning a defect in an aircraft that the buyer can prove was present when he purchased the aircraft from the seller, recovery may be possible under one or both of these implied warranties. Unfortunately, implied warranties can be modified or completely excluded by appropriate language in the contract of sale. While section 2-316 of the U.C.C. requires specific language and conspicuousness to effectively disclaim implied warranties, any seller of aircraft large enough to be considered a merchant, or with enough aircraft on hand to be able to imply a warranty of fitness for a particular purpose, probably is sophisticated enough to know how to effectively limit or exclude any implied warranties.

Thwarted by the absence of express warranties and an effective exclusion or limitation of implied warranties, the distressed aircraft purchaser might reasonably wonder if the growing body of federal law regarding warranties might afford some financial relief from the cost of an AD. While there is a possibility that federal law might apply, in general it will afford an aircraft owner no relief. Federal warranty

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54 Id.
55 1948 U.S. Av. R. 457 (D. Kan.).
56 Id. at 458-60.
57 Id. at 462.
58 U.C.C. § 2-316.
59 U.C.C. § 2-316(2).
60 See Magdelinat, supra note 19, at 164.
law centers around the Magnuson-Moss Warranty-Federal Trade Commission Improvement Act (Magnuson-Moss). This act limits the right of a manufacturer to disclaim or limit warranty protection. Magnuson-Moss, however, applies only to "consumer products." A consumer product is defined as "tangible personal property which is distributed in commerce and which is normally used for personal, family or household purposes." A private aircraft might be a consumer product if it is to be used for personal or family use. There is legislative history suggesting that even a small amount of consumer use is sufficient to bring an entire line of products within the consumer product definition. If a court could be convinced to so hold, Magnuson-Moss could be a useful tool for some aircraft owners. In a Georgia case construing the term "consumer product" in the context of an aircraft engine, however, the court did not look to the entire range of uses to which the aircraft's engine might be or was

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62 A full discussion of Magnuson-Moss is beyond the scope of this article. In brief, Magnuson-Moss differentiates between "full" and "limited" warranties. 15 U.S.C. § 2303 (1976). Minimum standards must be met before a warranty may be considered full. Id. § 2304. Limited warranties, on the other hand, are subject to considerably fewer requirements, but such warranties must be labelled as "limited" and there are certain requirements concerning circumstances under which a manufacturer can disclaim a warranty. Id. § 2308. An attack on a disclaimer on grounds of violation of Magnuson-Moss was attempted in Patron Aviation, Inc. v. Teledyne Ind., Inc. 154 Ga. App. 13, 267 S.E.2d 274, 278 (1980), discussed infra in text accompanying notes 66-69.
65 Balser v. Cessna Aircraft Co., 512 F. Supp. 1217, 1220 (N.D. Ga. 1981) (stating that regardless of its cost, an aircraft could be held to be a "consumer good" so long as it is used or bought for use for primarily personal, family, or household purposes). See also S. Rep. No. 93-151, 93d Cong., 2d Sess., 11 (1973). The Federal Trade Commission, the agency empowered to enforce Magnuson-Moss, has, however, decided that aircraft are not consumer products within the meaning of Magnuson-Moss. 41 Fed. Reg. 26,757 (1976) (amending 40 Fed. Reg. 25,721 (1975)).
66 Maynard, supra note 45, at 631; H. R. Rep. No. 93-1107, 93d Cong., 2d Sess., reprinted in 1974 U.S. CODE CONG. & AD. NEWS 7702, 7717. The number of aircraft purchased for personal use is quite small. The General Aviation Manufacturers Association estimates that only about four percent of new general aviation aircraft are purchased for personal use, the rest being purchased for business. Lacagnina, supra note 13.
put, but looked rather to the use that such engines are normally put. In *Patron Aviation, Inc. v. Teledyne Industries, Inc.*, the Georgia Court of Appeals found that warranties on an aircraft engine were not covered by Magnuson-Moss because aircraft engines are not normally used for personal or family use. There was no consideration of whether the particular aircraft or engine was generally used for personal or family use.

Recovery under Magnuson-Moss is unlikely for anyone other than an individual who buys an aircraft solely for personal use. If a distressed aircraft buyer can, however, convince the court that a significant number of the type of aircraft he owns are used for personal use, there is a chance that Magnuson-Moss can be used to attack the disclaimers, exclusions and limitations that are a part of manufacturers' warranties. Such an allegation should probably be part of any aircraft owner's attempt to force a manufacturer or supplier to pay for the cost of AD compliance.

In summary, then, an aircraft owner facing an AD should first consult the warranty furnished by the manufacturer or seller, or the warranties of any other suppliers that may have furnished components that are involved in AD compliance. If any of those warranties are in effect and cover the defect that is the subject of the AD, the owner should follow the warranty claim procedures set forth in the warranty. If the warranty has expired or the defect is excluded from coverage, the owner should consider his immediate seller as the source of additional warranties. In light of the holding in *Limited

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68 Id.
69 Id. at 278. The court stated that "it would stretch the greatest of imaginations to hold that an aircraft engine is normally used for personal, family or household purposes." Id.
70 Id. In fact, the aircraft was used by an aviation business. Id. at 276. The prevalence of leasebacks in the sale of new aircraft may account for the relative lack of reported cases of aircraft warranty exclusions and limitations being attacked under Magnuson-Moss.
71 An individual should reflect on the tax consequences of claiming that an aircraft is being owned for personal use before making such a claim in attempting to attack a warranty limitation or exclusion by using Magnuson-Moss.
Flying Club, a claim of an express warranty based on the aircraft's airworthiness certificate should be plead. If statements of the seller were untrue and the buyer suspects that the seller knowingly sold a defective aircraft, an action for fraud and deceit should also be considered. Any contract of sale and the facts surrounding it should be scrutinized to see if any warranties can be implied and whether there have been effective disclaimers or limitations. If all of these avenues still produce no warranty, disclaimers should also be examined in light of Magnuson-Moss, if that act is applicable.

B. Negligence

If an aircraft owner cannot recover the cost of an AD in a claim for breach of warranty, there exists the possibility of a claim against a manufacturer, component supplier or seller for negligence. Negligence is generally the breach of a duty that one person owes to another that results in an injury. In the context of aircraft design, manufacture, marketing and servicing, the possibilities for negligence are virtually limitless. In order to prevail on a claim of negligence, the plaintiff must first establish that the defendant owed a duty to the plaintiff. The duty to conform to a particular standard of conduct may be established in a number of different ways, such as by a statute or regulation or by a judicially-created duty to act reasonably. In aviation cases, plaintiffs have frequently attempted to establish that the Federal Aviation Act of 1958 and regulations promulgated thereunder creates such a duty. In Rauch v. United Instruments, for example, the plaintiffs unsuccessfully based their action to recover for the cost of compliance with an AD, *inter alia*, on a theory of negligence for breach of the sections of the Act dealing with aircraft appliances. In the Georgia case of Tanner v. Rebel Aviation,

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72 See *supra* notes 36-40 and accompanying text.
74 *Id.*
75 W. Prosser, *supra* note 73, § 53.
76 548 F.2d 452 (3d Cir. 1976).
77 *Id.* at 454. *See infra* text accompanying notes 94-97. *See also* Delta Air Lines v. McDonnell Douglas Corp., 503 F.2d 239, 243-44 (5th Cir. 1974) (stating in dicta that
Inc., the plaintiffs claimed that the former owner of a 1955 Aero Commander was negligent in failing to maintain, repair or inspect the aircraft with the result that it did not meet FAA airworthiness standards at the time the plaintiff purchased it. The Georgia Court of Appeals rejected the plaintiff's theory, holding that the Federal Aviation Regulations were not commercial warranties and denied the plaintiff any recovery.

Other plaintiffs, with varying degrees of success, have relied upon duties imposed by law to establish negligence. One such common law duty is the duty to act reasonably so as to protect others from unreasonable risk of harm. In determining whether a person has acted reasonably, the courts generally balance the risk associated with a particular activity or course of conduct against the social utility or benefits to be gained by that activity. Alternative methods of accomplishing the same goal and the costs associated with those alternative methods are other factors often considered in determining reasonableness. Failure to notify users of potential problems with propellers was held to be negligence by the

violation of a Federal Aviation Regulation is evidence of negligence). *But see* Bruce v. Martin-Marietta Corp., 544 F.2d 442, 446-47 (10th Cir. 1976) (holding that defendants raised a successful defense in a negligence action where they proved compliance with all applicable federal safety standards at the time of manufacture).

79 Tanner, 245 S.E.2d at 464-69.
80 Id. at 465.
81 See, e.g., La Belle v. McCauley Indus. Corp., 649 F.2d 46, 48-50 (1st Cir. 1981), *discussed infra* in text accompanying note 86; Kritser v. Beech Aircraft Corp., 479 F.2d 1089, 1096 (5th Cir. 1973), *discussed infra* in text accompanying note 87; Braniff Airways, Inc. v. Curtiss-Wright Corp., 411 F.2d 451, 453 (2d Cir.), *cert. denied*, 396 U.S. 959 (1969), *modified on other grounds*, 424 F.2d 427 (2d Cir.), *cert. denied*, 400 U.S. 829 (1970) (holding that after dangerous defects in the design of an aircraft engine have come to the manufacturer's attention, the manufacturer has a duty to either remedy the defects or give users adequate warning); Noel v. United Aircraft Corp., 342 F.2d 232, 236-37 (3d Cir. 1964), *discussed infra* in text accompanying note 85; Boeing Airplane Co. v. Brown, 291 F.2d 310, 313 (9th Cir. 1961) (holding that an aircraft manufacturer has a duty to exercise reasonable care in the design and construction of an aircraft component as well as in the testing and inspecting of a particular component which is installed in its manufactured product).
82 W. PROSSER, supra note 73, § 31.
83 Id.
84 Id.
Court of Appeals for the Third Circuit in *Noel v. United Aircraft Corp.*\(^{85}\) and by the Court of Appeals for the First Circuit in *LaBelle v. McCauley Industries Corp.*\(^{86}\) In *Kritser v. Beech Aircraft Corp.*\(^{87}\) the Court of Appeals for the Fifth Circuit held that failure to advise pilots of fuel unporting problems was negligence. In other cases failure to adequately inspect and test components supplied by other manufacturers before incorporating them into the finished product has also given rise to negligence liability.\(^{88}\)

An aircraft owner seeking to recover the cost of AD compliance on a negligence theory must also contend with two more obstacles to recovery. First, some courts are reluctant to allow a recovery for negligence for a strictly "commercial" loss where there is no property damage or personal injury.\(^{89}\) Second, the same disclaimers, exclusions and limitations that hamper a recovery for breach of warranty\(^{90}\) also are used as a defense to negligence claims.\(^{91}\) If the jurisdiction is reluctant

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\(^{85}\) 342 F.2d 232, 236-37 (3d Cir. 1964).

\(^{86}\) 649 F.2d 46, 48-49 (1st Cir. 1981).

\(^{87}\) 479 F.2d 1089, 1096 (5th Cir. 1973).


\(^{90}\) See supra notes 58-60 and accompanying text.

\(^{91}\) See, e.g., V.A.R.I.G. Airlines v. Boeing Co., 641 F.2d 746, 750 (9th Cir. 1981) (holding that an exculpatory clause whereby an aircraft purchaser agreed to waive any obligation "arising from tort" was valid under California law); Delta Air Lines v. McDonnell Douglas Corp., 503 F.2d 239, 243-44 (5th Cir. 1974) (holding aircraft manufacturer's exculpatory clause valid); Delta Air Lines v. Douglas Aircraft Co., 238 Cal. App. 2d 95, 47 Cal. Rptr. 518, 522 (1965) (holding aircraft manufacturer's exculpatory clause valid). Not only must plaintiffs contend with these specialized defenses, but they may also face "routine" negligence defenses such as contributory negligence and assumption of the risk. In *Washington Jet, Inc. v. Rockwell Int'l, Inc.*, 524 F. Supp. 442 (N.D. Ill. 1981), the defendant contended that the plaintiff had assumed the risk of the cost of later AD compliance when it bought an aircraft already subject to an AD, and where a later AD and the earlier AD covered the same problems with the aircraft. *Id.* at 444. The court rejected the defendant's motion for summary judgment on the ques-
to recognize recovery for purely commercial losses on a negligence theory in most situations, it might be worthwhile to contend that recovery for the cost of compliance with ADs should be an exception since ADs are safety related. Since one of the objects of the law of negligence is to safeguard persons from injuries or losses, it could be argued that permitting recovery for the cost of AD compliance should be allowed in order to encourage aircraft manufacturers to design and build safe aircraft in the first place. An attempt to assert such a safety-related negligence theory of recovery for commercial losses resulting from an AD was rejected, however, in Rauch. In Rauch, the plaintiffs brought a class action against an altimeter manufacturer for the cost of modifying or replacing altimeters to comply with an AD. One of the theories of recovery was negligence, with the plaintiffs asserting that since ADs were accident prevention measures, they should be allowed to recover for the negligence of the manufacturer that led to the AD even before any accident had occurred. The court, however, rejected the plaintiffs' theory and held that ADs were not a part of a scheme to protect aircraft owners from economic losses and created no right of recovery from the manufacturer for negligence.

If an aircraft owner is fortunate enough to be able to bring

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92 See supra notes 5-10 and accompanying text.
93 Such a theory was suggested by the California Supreme Court in Seely v. White Motor Co., 63 Cal. 2d 9, 403 P.2d 145, 151, 45 Cal. Rptr. 17, 21 (1965). The court drew a distinction between the law of commercial warranties, which allocated the risk that a particular product would not perform as expected, and the law of products liability, which sought to prevent the sale of unsafe products. In Trans World Airlines v. Curtiss-Wright Corp., 1 Misc. 2d 477, 148 N.Y.S.2d 284, 288 (N.Y. Sup. Ct. 1955), the plaintiffs pressed a similar argument on the court, contending that the extreme danger associated with catastrophic engine and propeller failure in aircraft justified imposing “commercial loss” liability on manufacturers to prod them to design and produce more reliable engines and propellers. The New York Supreme Court, however, rejected the plaintiffs' theory and limited the plaintiffs' recovery for repair of the defective engines and propellers to losses occurring from breach of warranty. Trans World Airlines, 148 N.Y.S.2d at 290.
94 548 F.2d 452 (3d Cir. 1976).
95 Id. at 454.
96 Id. at 458.
97 Id. at 458-59.
an action in a jurisdiction that does recognize a claim for negligence that results in only economic loss, or if the owner can convince a court to make an exception for AD-related conduct in spite of the adverse holding in Rauch, there may remain the problem of contractual exclusions and express limitations of liability for negligence. Such provisions are common in aircraft sales contracts. There are two avenues by which to attack such exclusions and limitations: (1) read narrowly, they are inapplicable to the negligence for which relief is sought; and (2) they are against the public policy of the jurisdiction whose law applies. These two forms of attack have met with varying degrees of success.

It is well-established that contractual exclusions and limitations on recovery for negligence are read narrowly by the courts. The application of this rule gives the aircraft owner a chance to contend that, read narrowly, an exclusion or limitation does not apply to a particular AD. In Keystone Aeronautics Corp. v. R.J. Enstrom Corp., the Court of Appeals for the Third Circuit held that a disclaimer of “any liability in connection with the sale was not specific enough to disclaim liability for negligence as a matter of law” and that a trial would be required on the question of the extent of the disclaimer. Similarly, in O'Brien v. Grumman Corp., the District Court for the Southern District of New York refused to dismiss the plaintiff's negligence claim solely on the basis of

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99 See Magdelinat, supra note 19, at 164.


101 Id. at 150.

exclusionary language, where the language failed to reveal "the 'unmistakable intent' of the parties to relieve Grumman American of liability for its own negligence."\(^{104}\) The court seemed impressed by the fact that certain sections of the contract expressly mentioned negligence but that the exclusionary clause did not.\(^{105}\) Even though narrowly read, exculpatory clauses or disclaimers of liability for negligence are sometimes upheld.\(^{106}\) Courts are particularly apt to uphold such clauses and disclaimers in instances where a transaction involves knowledgeable parties on both sides and where the disclaimers and exclusions are part of the bargained-for-exchange of a contract.\(^{107}\)

If the exclusions and limitations are held to be applicable to the complained-of defect, the final avenue of attack for an aircraft owner seeking recovery for compliance with an AD is to assert that such exclusions and limitations are void as against public policy. While there is authority holding that such disclaimers are void,\(^{108}\) they generally have been upheld

\(^{104}\) Id. at 290.

\(^{105}\) Id. See also Steiner Aero AB v. Page Airmotive, Inc., 499 F.2d 709, 713-14 (10th Cir. 1974) (language found to be an effective warranty disclaimer held not explicit enough to bar claim for negligence); Pan American World Airways v. United Aircraft Corp., 55 Del. 163 A.2d 582, 586-87 (1960) (warranty exculpatory clause held ineffective to disclaim liability for negligence).

\(^{106}\) See, e.g., Airlift Int'l Inc. v. McDonnell Douglas Corp., 685 F.2d 267, 269 (9th Cir. 1982) (holding that an aircraft purchase agreement exclusion clause was not vitiated under state law by aircraft manufacturer's alleged violation of federal air regulations); Aero aces de Mexico, S.A. v. McDonnell Douglas Corp., 677 F.2d 771, 773 (9th Cir. 1982) (holding parties bound to exculpatory agreement contained in warranty provision); V.A.R.I.G. Airlines v. Boeing Co., 641 F.2d 746, 753-54 (9th Cir. 1981); Tokio Marine & Fire Ins. v. McDonnell Douglas Corp., 617 F.2d 936, 940 (2d Cir. 1980) (holding disclaimer clause to be broad enough to include post-delivery negligence); Delta Air Lines v. McDonnell Douglas Corp., 503 F.2d 239, 243-44 (5th Cir. 1974); Delta Air Lines v. Douglas Aircraft Co., 238 Cal. App. 2d 95, 47 Cal. Rptr. 518, 522-24 (1965).


\(^{108}\) Courts have held various agreements contracting away a right to sue for negligence void as against public policy. See, e.g., Tunkl v. Regents of Univ. of California, 60 Cal. 2d 92, 383 P.2d 441, 442-47, 32 Cal. Rptr. 33, 35-39 (1963) (holding hospital negligence release form void as against public policy); Meiman v. Rehabilitation Center, Inc., 444 S.W.2d 78, 80 (Ky. Ct. App. 1969) (holding that exculpatory contract between plaintiff and rehabilitation center for center's negligence was invalid as being
where the only loss complained of is economic.\(^{109}\)

A claim for negligence asserted by an aircraft owner seeking to recover the cost of compliance with an AD faces a number of hurdles. The plaintiff must show that the defendant had a duty to the plaintiff to design and produce safe aircraft and that the condition that was the subject of the AD was caused by the defendant's failure to meet that duty.\(^{110}\) Many courts do not recognize an action for negligence for a purely commercial loss,\(^ {111}\) though a plaintiff might conceivably convince a court to recognize one for the cost of AD compliance on the ground that ADs are safety-related.\(^ {112}\) Even if a jurisdiction recognizes a claim for negligence for economic loss, the contractual disclaimers of the seller may bar it, and sufficiently explicit disclaimers will probably be upheld by the courts.\(^ {113}\)

C. **Strict Products Liability**

Another potential avenue of recovery for an aircraft owner seeking to force a manufacturer to pay the cost of AD compliance is an action based on strict products liability. Such a claim can be asserted as a third count in an action also alleging breach of warranty and negligence.\(^ {114}\) A recovery for

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\(^{110}\) See supra notes 73-88 and accompanying text.

\(^{111}\) See supra note 89.

\(^{112}\) See supra notes 93-97 and accompanying text.

\(^{113}\) See supra notes 99-109 and accompanying text.

\(^{114}\) Plaintiffs asserted claims under all three theories in Airlift Int'l, Inc. v. McDon-
strict products liability ordinarily requires the following elements: (1) the person against whom recovery is sought must be in the business of selling the product that was the source of the problem; (2) the product sold must be defective; (3) the product must be unreasonably dangerous to users or consumers in its defective condition; (4) the product must reach the user or consumer without substantial change from the condition in which it was sold; and (5) physical injury must result from the defect. Noteable is that the plaintiff need not prove: (1) any failure of the seller to exercise due care in preparing and selling the product; and (2) any contractual relation between the plaintiff and the seller against whom recovery is sought.

While it is generally true that establishing the elements of strict products liability is easier than establishing the elements of negligence, failure to establish all of the elements of strict liability will bar recovery.

In the case of an AD, especially a serious AD, an aircraft owner will probably have relatively little difficulty in establishing the first four elements of recovery for strict products liability. ADs are, after all, safety related, and are not issued unless there is a product defect that is a threat to safety. The problem is recovery in the absence of the last element: physical injury. Most courts do not recognize a cause of action for strict products liability in the absence of some accident causing personal injury or at least property damage.

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115 \text{RESTATEMENT \(\text{SECOND\) OF Torts} \S 402A (1965).}

116 \text{Id.}


118 See \text{supra text accompanying notes 5-10.}

119 See, \text{e.g., Scandinavian Airlines System v. United Aircraft Corp. 601 F.2d 425, 428-29 (9th Cir. 1982); Seely v. White Motor Co. 63 Cal. 2d 9, 403 P.2d 145, 149, 45 Cal. Rptr. 17, 22 (1965). See generally Note, \text{supra note 89 at 526. Comment, supra note 22 at 540-51. In addition, an aircraft manufacturer may raise a defense of assumption of the risk. See supra note 91.}
In the Court of Appeals for the Ninth Circuit case of Scandinavian Airlines System v. United Aircraft Corp.,220 for example, the plaintiff brought an action based on strict products liability when engine fan blades failed in engines purchased by the plaintiff from the defendant.221 No injuries resulted from these failures but the DC-9 aircraft on which the engines were installed was damaged.222 In considering the applicability of strict products liability, the court found that the basis of the doctrine was risk distribution between manufacturers and consumers and the protection of small consumers who could not bargain effectively with large manufacturers.223 In this case, however, the plaintiff and defendant negotiated the purchase of the jet engines as economic and technically expert equals and were able to allocate the risk of economic loss as part of the bargain-for-exchange.224 The Ninth Circuit therefore rejected the plaintiff's attempt to recover economic losses on a theory of strict products liability.225

Even in jurisdictions that recognize a cause of action in strict products liability for economic loss,226 an aircraft owner seeking to recover the cost of AD compliance will likely still face the nemesis of a disclaimer, exclusion or limitation of liability.227 These disclaimers, exclusions and limitations will be read narrowly by the courts, and sometimes will be held inapplicable for lack of explicitness.228 They can also be attacked on public policy grounds.229 Most likely, however,
they will be upheld where the only loss is the cost of complying with an AD.\textsuperscript{130} An attempt to recover the cost of an AD on a theory of strict liability is not, therefore, likely to be successful.

D. Action Under Federal Aviation Act of 1958

As the preceding sections have shown, the aircraft owner attempting to recover the cost of AD compliance from a manufacturer faces an uphill struggle. If the AD item is still under warranty, recovery may be fairly simple, but attempting to recover under implied warranties, negligence or strict products liability means contending with elaborate disclaimers as well as with courts that probably do not even recognize the theory of recovery asserted. Because of these difficulties, some aircraft owners have attempted to recover the cost of AD compliance on a theory that the Federal Aviation Act of 1958\textsuperscript{131} (Act) creates a private cause of action for its breach and a condition causing the promulgation of an AD is a breach of the Act.\textsuperscript{132} In effect, this theory eliminates one step from the theory that violation of the Act constitutes negligence: the plaintiff need not show that the violation of the Act breaches a duty of due care.\textsuperscript{133} While the theory of such an action is ingenious, there has been little acceptance of it by the courts.\textsuperscript{134} There is no express creation of a private cause of action for most sections of the Act.\textsuperscript{135} Persons seeking recovery under the Act have therefore had to rely on the theory of an implied cause of action.

\textsuperscript{518}, 519-23 (1965) (trial court holding exclusion void as against public policy reversed).


\textsuperscript{133} See supra notes 74-80 and accompanying text.

\textsuperscript{134} See infra notes 141-175 and accompanying text. Certain sections of the Act do create a private cause of action. See, e.g., 49 U.S.C. §§ 1371(a), 1487(a) (1976).

\textsuperscript{135} But see 49 U.S.C. §§ 1371(a), 1487(a) (1976).
Under certain circumstances, courts have held that the Act does imply a private cause of action. In *In Re Paris Air Crash of March 3, 1974*, the District Court for the Central District of California held that the Act creates a private cause of action for persons injured or killed in aircraft crashes. The court applied *Cort v. Ash*’s four-factor test for determining whether an implied cause of action exists. The court found that a private cause of action could be implied from the Act because: (1) the Act was for the special protection and safety benefit of airline passengers; (2) an intent to create a private cause of action was inferable from the FAA’s power to promulgate safety regulations; (3) a private cause of action was consistent with a Congressional intent to mandate proper design and construction of aircraft; and (4) the pervasive regulation of aviation by the federal government pre-empted state regulation.

More typically, however, courts have refused to find a private cause of action to be implied by the Act. In the Fifth Circuit Court of Appeals case of *Rogers v. Ray Gardner Flying Service, Inc.* , a pilot rented an aircraft from the defendant. The aircraft crashed and the surviving passengers sued the defendant on the theory that the Act made the defendant vicariously liable for the negligence of the pilot.
The plaintiffs asserted that since the Act defines "operation of an aircraft" to include authorizing the operation of an aircraft,144 the defendant had operated an aircraft by renting the aircraft to the pilot.145 The plaintiffs conceded that the relevant state law imposed no liability on the defendants.146 In support of their contention that the Act intended to impose vicarious liability on aircraft lessors, the plaintiffs pointed out that certain sections expressly exempted security interest holders from liability.147 They also asserted that it was sound public policy to impose liability on financially responsible aircraft owners rather than impecunious renter pilots.148 The Fifth Circuit, however, rejected the plaintiffs' theory, finding that Congress, in passing the Act, had not intended to pre-empt state laws regarding the liability of bailors to third parties.149 The court reasoned that Congress only intended to subject aircraft owners to the Act and regulations promulgated under it and did not intend to create a private cause of action under the Act.150

This interpretation of the Act has been almost uniformly applied.151 For example, in Polansky v. Trans World Airlines,152

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145 Rogers, 435 F.2d at 1391.
146 Id. at 1392.
147 Id.
148 Id. at 1393.
149 Id.
151 See, e.g., Diefenthal v. C.A.B., 681 F.2d 1039, 1050 (5th Cir. 1982) (holding that
the Court of Appeals for the Third Circuit held that the Act did not create a private cause of action for tour passengers against a tour operator for inferior accommodations arranged during the tour.\textsuperscript{153} Similarly, in \textit{Obenshain v. Haliday},\textsuperscript{154} the District Court for the Eastern District of Virginia refused to recognize an implied right of action for an air carrier’s violation of safety regulations.\textsuperscript{155}

Only one reported case has considered the narrow question of whether the Act creates a private right of action for an aircraft owner seeking recovery of the costs of AD compliance from a manufacturer. In \textit{Rauch v. United Instruments, Inc.},\textsuperscript{156} an action was brought in the Eastern District of Pennsylvania by three joint-owners of a Cessna aircraft alleging that the aircraft contained an altimeter manufactured by the defendant.\textsuperscript{157} The altimeter was in need of replacement or modification as a result of an AD. The plaintiffs brought an action for actual and consequential damages on four theories: (1) breach of implied warranties of merchantability and of fitness for a particular purpose;\textsuperscript{158} (2) negligence;\textsuperscript{159} (3) strict products liability;\textsuperscript{160} and (4) breach by the defendants of the Act and its regulations.\textsuperscript{161} The plaintiffs then sought leave to

\begin{footnotes}
\footnotetext{153}{523 F.2d 332 (3d Cir. 1975).}
\footnotetext{154}{Id. at 337.}
\footnotetext{155}{504 F. Supp. 946 (E.D. Va. 1980).}
\footnotetext{156}{Id. at 949-50.}
\footnotetext{157}{548 F.2d 452 (3d Cir. 1976).}
\footnotetext{158}{Id. at 454.}
\footnotetext{159}{Id. See supra notes 47-60 and accompanying text.}
\footnotetext{160}{Id. See supra notes 73-113 and accompanying text.}
\footnotetext{161}{Id. See supra notes 114-130 and accompanying text.}
\footnotetext{162}{Id. The plaintiffs alleged a breach of 49 U.S.C. § 1430(a)(7) (1976). This section provides that it shall be unlawful “[f]or any person holding an air agency or production certificate to violate” the certificates terms or any “order, rule, or regulation” relating to it. Id.}
\end{footnotes}
amend their complaint to state a claim for $15,000,000 in punitive damages for the defendant's alleged breach of the sections of the Act dealing with aircraft appliances. The defendants opposed the amendment on grounds that the Act created no private cause of action.

The district court granted the plaintiff's motion for leave to amend on the basis of the four factors identified by the Supreme Court in *Cort*: (1) the Act had been passed for the special benefit of members of the public who owned or flew airplanes, including protection from economic loss; (2) private actions were not expressly forbidden and were not incompatible with FAA enforcement of the Act; (3) allowing such private actions would be consistent with the legislative scheme of enforcement of the Act, since the threat of private actions is an incentive to comply with the Act; and (4) the pervasive regulation of aviation by the federal government indicated a desire that settlements reached under state law causes of action not compromise aviation safety. The district court therefore held that the Act did create a private cause of action for aircraft owners to recover the cost of AD compliance from manufacturers. On rehearing, the court reaffirmed its decision, citing the fact that ADs were concerned with safety, not economic regulation and that aviation was primarily a federal concern, with a need for national uniformity. The district court permitted an interlocutory appeal on the issue.

On appeal, the Court of Appeals for the Third Circuit reversed the district court after conducting its own application of the four factor test of *Cort*. The court found that the Act had not been passed for the special benefit of aircraft owners and pilots, but was rather intended to benefit the general

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162 *Rauch*, 548 F.2d at 454.
163 *Id.*
165 *Id.* at 441-42. The court, perhaps inconsistently, also upheld the plaintiff's right to claim under state law remedies. *Id.* at 442.
166 *Id.* at 442, 445-46.
167 *Id.* at 447.
168 *Rauch*, 548 F.2d at 456-60.
The purpose of the Act, stated the Third Circuit, was not to protect aircraft owners from the economic risks of aircraft ownership, even where economic losses arose from safety related defects. The court also rejected the notion that there was a pervasive federal regulation of aviation for the benefit of aircraft owners. To the extent the federal government did pervasively regulate aviation, the court held, it was for the benefit of the general public, and duties were imposed on both aircraft owners and manufacturers. The court also found that the allocation of economic risks between aircraft owners and manufacturers was traditionally a matter regulated by state laws regarding warranties, negligence or strict products liability. The court held that the fact that the defect complained of was also the subject of AD did not change the underlying nature of the claim. The court did not consider the second and third elements of the four-part Cort test.

The result, then, of the only reported case attempting recovery for the cost of an AD on a theory of a private cause of action under the Act, is unfavorable to aircraft owners. While some courts may be willing to imply a private cause of action under the Act on a safety rationale, courts in general are reluctant to use the Act to invade the state laws regulating tort and contract.

II. Possible Solutions

As the preceding sections have shown, an aircraft owner facing an AD has limited prospects of recovering the cost of compliance from the manufacturer. Theories of negligence, strict products liability, and implied causes of action under the Act are not well-suited to recovery for economic losses.

169 Id. at 456-57.
170 Id. at 458.
171 Id. at 459.
172 Id.
173 Id.
174 Id. at 459-60.
175 See supra notes 136-140 and accompanying text.
While a warranty is an economic risk allocator, it is frequently limited in coverage or duration, or disclaimed altogether. One possible solution is for aircraft buyers to negotiate longer warranty periods specifically for ADs. Questions of coverage under an AD warranty would not be difficult to determine, since a defect is either the subject of an AD or it is not. This solution would perhaps be ideal, since the question of warranty coverage for ADs could then become part of the bargained-for-exchange between aircraft purchaser and seller.

In the event that manufacturers and aircraft sellers do not offer such extended AD warranties, is a legislative solution possible? The federal legislation that has been suggested has the disadvantage of automatically imposing the economic risk of ADs on the manufacturer, even if the owner is able and willing to bear it. Some aircraft owners would therefore be charged for the manufacturer’s cost of fixing all ADs even though the owner is willing to risk undertaking the economic burden himself. Moreover, if aircraft manufacturers must budget for the cost of complying with all ADs, the price of aircraft, already quite high, will likely increase even more.

It would not be surprising, however, to see legislation requiring manufacturers to bear the cost of ADs passed in the near future if manufacturers do nothing more to see to it that aircraft owners have some protection. Manufacturers are, after all, in a better position to evaluate the possibility of ADs and estimate their probable cost, since they design, test and build the aircraft. The inability of aircraft owners to anticipate ADs may influence legislatures to require manufacturers to pay for the cost of ADs.

One alternative legislative approach would be to modify the law in the area of aircraft warranties to warn aircraft purchasers that the warranty will not apply to ADs that are

177 See supra notes 5-11 and accompanying text. If such warranties become common, however, it would give manufacturers an incentive to pressure the FAA not to make a defect the subject of an AD.

178 See supra note 13.

179 See Lacagnina, supra note 13.
promulgated beyond the warranty period. Such a warning or disclaimer would have to be conspicuous in the purchase contract. In the absence of such a conspicuous warning or disclaimer, the manufacturer would be liable for the cost of rectifying defects in design or construction that result in an AD within a reasonable time. To forestall any legislation in this area, it would be in the best interest of manufacturers to offer, as an option, warranty protection to buyers from the cost of AD compliance.

\footnote{The U.C.C. requires that disclaimers of implied warranties be conspicuous. U.C.C. § 2-316(2) (1972).}