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AIRCRAFT MANUFACTURERS' AND OVERHAULERS' LIABILITY FOR DEFECTS IN CONSTRUCTION, DESIGN AND OVERHAUL — THE EXTENSION OF THE MACPHERSON V. BUICK RULE FROM THE TERRESTRIAL TO THE CELESTIAL

DANIEL E. MURRAY*

INTRODUCTION

The purpose of this article is to survey the American, Canadian and British Commonwealth cases which have expressly or impliedly recognized the liability of the aircraft manufacturer and overhauler for negligent construction, design or overhaul of aircraft which results in injury or property damage to the manufacturer's immediate vendees, remote vendees and third persons.

In the famed case of *MacPherson v. Buick*,¹ a *bête noire* to the manufacturer, Justice Cardozo enunciated the basic principle:

If the nature of a thing is such that it is reasonably certain to place life and limb in peril when negligently made, it is then a thing of danger If to the element of danger there is added knowledge that the thing will be used by persons other than the purchaser, and used without new tests, then, irrespective of contract the manufacturer of this thing of danger is under a duty to make it carefully There must also be a knowledge that in the usual course of events the danger will be shared by others than the buyer We are dealing now with the liability of the manufacturer of the finished product, who puts it on the market to be used without inspection by his customers.

The court was concerned with the liability of the manufacturer of the finished product and not the manufacturer of a component part. The latter question remained for *Smith v. Peerless Glass Co.*,² wherein a broad rule of liability was applied to any negligent manufacturer, whether of an assembled article or a component part thereof.

The *MacPherson* and *Peerless Glass* cases left unanswered the questions: (1.) What is the liability of the manufacturer to vendees buying *used* articles? (2.) What is the liability of the manufacturer to the immediate

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1. 217 N.W. 382, 111 N.E. 1050 (1916). See also RESTATEMENT, TORTS §§ 395, 398 (1934). For an entertaining fictionalized account of the *MacPherson* case by an attorney to his client, see Parker, *The Most Outrageous Consequences*, in LAW IN ACTION, 427-432 (Fuller ed. 1947).

2. 259 N.Y. 292, 181 N.E. 576 (1932).

or remote vendees when the alleged defect does not cause an "accident," but necessitates expensive repairs? (3.) Has the *MacPherson* doctrine been extended to include overhaulers or repairmen as well as the original manufacturer? This article will attempt to answer these and other questions in connection with aircraft manufacturers and overhaulers.³

Breach of Warranty

At the outset it should be emphasized that a breach of warranty theory will be of little avail in aviation cases. Under the orthodox view, if the plaintiff is not in privity with the manufacturer there can be no breach of warranty.⁴ Florida seems to follow the "unorthodox" view.^{4a} Even assuming there is direct privity between the manufacturer and the airline vendee, the purchase contract may curtail or eliminate any claim for breach of warranty.⁵

In a recent case, *Smith v. Piper Air Craft Corporation*,⁶ the plaintiff in a wrongful death action alleged that Piper breached its warranty and was negligent in the construction of an aircraft. The court apparently overlooked the question of privity and permitted the breach of warranty claim even though the aircraft had been purchased from an intermediate dealer.⁷

Is the MacPherson Doctrine Applicable In a Suit by the Immediate Vendee

3. Because of the various relationships involved, and the technical nature of aircraft, this article will be divided into sections dealing with these questions.

4. *Page v. Cameron Iron Works, Inc.*, 155 F.Supp. 283 (S.D. Tex. 1957), hinged on a question of fact. 259 F.2d 420, 421, n. 1 (5th Cir. 1958); PROSSER, TORTS § 84 (2d ed. 1955); note, *Airplane Warranties*, 19 NOTRE DAME LAW 144 (1943). In *Prashker v. Beech Aircraft Corp.*, 1957 U.S. & Can. Av. 247 (D. Del. 1957), the district court held that since there was no privity there would be no cause of action for breach of warranty. The court of appeals sidestepped the question by finding no breach of implied warranty on the facts of the case. *Prashker v. Beech Aircraft Corp.*, 258 F.2d 602 (3rd Cir. 1958).

4a. Although the Florida courts have not decided any aviation cases involving this question, the result but not the reasoning seems clear in cases concerning: (electrical wiring) *Continental Copper and Steel Indus. Inc. v. "Red" Cornelius, Inc.*, 104 So.2d 40 (Fla. App. 1958); (agricultural seed) *Hoskins v. Jackson Grain Co.*, 63 So.2d 514 (Fla. 1953); (lawn furniture) *Matthews v. Lawnlite*, 88 So.2d 299 (Fla. 1956); (canned meat) *Blanton v. Cudahy Packing Co.*, 154 Fla. 872, 19 So.2d 313 (1944). The opinion in the *Matthews* case indicated that the court confused the implied warranty concept with the *MacPherson* doctrine.

5. *Northwest Airlines, Inc. v. Glenn L. Martin Co.*, 224 F.2d 120 (6th Cir. 1955), cert. denied, 350 U.S. 937 (1956). Northwest filed a further suit against Martin asking for indemnity for amounts paid in settling passenger claims. The decision in this case was confined to the timeliness of the suit under the Wisconsin Statute of Limitations. *Northwest Airlines, Inc. v. Glen L. Martin Co.*, 5 Av. Cas. 18069 (D. Md. 1958).

6. 18 F.R.D. 169 (M.D. Pa. 1955). This view received court affirmance by the same court in the later case of *Lyon v. Piper Aircraft Corp.*, 1958 U.S. & Can. Av. 12 (M.D. Pa. 1958).

7. The first reported aviation warranty case, *Sellers Motor Co. v. Champion Spark Plug Co.*, 150 Miss. 473, 116 So. 883 (1929), would appear after a cursory inspection to have disregarded the privity factor. However, the facts seemed to indicate that one of the plaintiffs purchased spark plugs from a hardware store salesman and the salesman of the manufacturer by relying upon their representations. The spark plugs were shipped directly to the plaintiff by the manufacturer with payment being made to the intermediate dealer. A written warranty or guaranty came with the plugs and it was upon this written warranty that the plaintiff relied. The court made no mention of the privity aspect, but held for the defendant upon the lack of evidence that the spark plugs failed causing the injury to the plaintiff and the aircraft.

*Against the Manufacturer When There Is "Cooperation"
In the Manufacturing Press?*

In *Northwest Airlines, Inc. v. Glenn L. Martin Company*,⁸ Northwest brought suit against Martin for negligent design and construction of the Martin "202" aircraft which had developed fatigue failures in the wing joints, causing the crash and total destruction of one aircraft and necessitating the re-building of twenty-four other aircraft. During the aircraft's construction Northwest had stationed one resident engineer, two or three of its inspectors and a group of pilots to "observe the day-by-day manufacture of the airplanes." Nevertheless, the court ruled that there was a complete absence of proof that Northwest's inspectors had any knowledge or appreciation of any risk of danger associated with the design, material, workmanship, or the testing of the faulty wing joints. It was therefore error for the court to submit questions of contributory negligence and assumption of the risk to the jury. It is submitted that the court ruled properly on the "volunteer" or "affirmative conduct"⁹ concept of tort law. It appears from *this* case that the airline vendee does not have a duty to inspect and that it may make a careless inspection and still recover against the manufacturer, provided that the manufacturer does not rely upon the inspection.¹⁰

*The Inapplicability of the MacPherson Doctrine In a Suit By the Ultimate
Vendee Against a Manufacturer of a Component Part of the
Aircraft When No "Accident" Occurs*

The *MacPherson* case and its progeny have confined the doctrine to accidents. Therefore an airline had no cause of action against an engine manufacturer (a remote vendor) for latent defects in the engines which did not cause an accident,¹¹ but simply necessitated expensive repairs to

8. 224 F.2d 120 (6th Cir. 1955).

9. PROSSER, TORTS § 38 (2d ed. 1955).

10. *Northwest Airlines, Inc. v. Glenn L. Martin Co.*, 224 F.2d 120, 127 (6th Cir. 1955).

There was no evidence that Martin did any action or refrained from taking any action in the design, manufacture, or testing of the critical wing splice in reliance upon Northwest's inspection. Where one undertakes an act which he has no duty to perform, and another reasonably relies upon that undertaking, the act must generally be performed with ordinary care That, however, is not this case. There was no evidence that Martin relied in any way upon the inspections made by Northwest, with respect to the airplanes generally or the wing joint in particular. That being so, we fail to see how the inspections which were made by Northwest contributed in any way to the damage it sustained. A negligent defendant is exculpated from liability to a defendant who has increased the risk of harm to himself over what the risk would have been had he exercised ordinary care. Here it is conceded that in the exercise of ordinary care Northwest need not have made any inspection of the airplanes at all. If Northwest had made no inspection it is obvious that the risk of danger in the wing joints would have been no greater and no less than it actually turned out to be. The fact that inspections were made in no way increased the risk of harm.

11. The defects allegedly caused the crash of one of the plaintiff's aircraft. However, this cause of action was not involved in the reported case, note 12 *infra*.

the engines. The airline was not without remedy because it had recourse against its immediate vendor, the airplane manufacturer, for breach of warranty. As the court stated:

If the ultimate user were allowed to sue the manufacturer in negligence merely because an article with latent defects turned out to be bad when used in "regular service" without any accident occurring, there would be nothing left of the citadel of privity and not much scope for the law of warranty¹²

Should The Doctrine Be Applicable In a Suit By the Ultimate Vendee Against Overhaulers and Repairmen?

The *MacPherson* case dealt with the liability of the manufacturer of a new article. The relatively few reported cases in aviation have extended this doctrine (or related English doctrines) to include overhaulers and repairmen. In the Canadian decision of *McCoy et al v. Stinson*,¹³ the defendant manufacturer of an aircraft later welded a "gusset" to a plate on the aircraft's wing. The aircraft later crashed, killing the pilot whose intestate sued. The court stated that the evidence failed to prove that the plate was weakened by the welding and that the evidence demonstrated that the welding was performed properly. The court determined that the defendant would not be guilty of negligence even if the welding had been improperly performed, since it did not lessen the plate's capacity to withstand a tension load. The court did not mention the *MacPherson* doctrine but rested its decision on the *McAlister*¹⁴ case which apparently is the English equivalent.

In the New Zealand case of *Maindonald v. Marlborough Aero Club and New Zealand Airways, Ltd.*,¹⁵ the defendant repairer overhauled an

12. *Trans-World Airlines, Inc. v. Curtiss-Wright*, 1 Misc. 2d 477, 148 N.Y.S.2d 284 (Sup. Ct. 1955). *aff'd.*, 2 A.D.2d 666, 153 N.Y.S.2d 546 (1955). See Thornton & McNiece, *Torts and Workmen's Compensation*, 31 N.Y.U. L. Rev. 1499 (1956) for a trenchant criticism of the court's view that an "accident" must be involved before liability arises.

13. *McCoy v. Stinson Aircraft Corp.*, 1940 U.S.Av. 84, 1942 U.S.Av. 154 (Ontario Sup. Ct. 1939).

14. The English rule of liability of the manufacturer seems to have had its genesis in the case of *McAlister (or Donoghue) v. Stevenson*, H.L. (Sc.) [1932] A.C. 562, which held the manufacturer of a bottle of ginger beer liable for injuries to a consumer when she discovered a snail in the bottle. Prior to her consumption of the liquid she was unable to detect the presence of the snail because the bottle was opaque. The House of Lords held that where the circumstances preclude any distributor or consumer from discovering the defect by an independent or intervening inspection, then the manufacturer has a duty to take reasonable care that the article is free from defects likely to cause injury to health. It is interesting to note that the various Lords who took part in the decision either approved the *MacPherson* rule or attempted to distinguish it. It would appear that any distinction is more verbal than real. The *McAlister* theory was later applied in *Herschtal v. Stewart & Ardern, Ltd.*, 119401 1 K.B. 155 which involved a used auto which had been supplied by the defendant to a company which in turn "hired it out" to the plaintiff. While being used the wheel came off injuring the plaintiff who recovered from the supplier because it did not and could not have reasonably anticipated that there would be any independent examination which would likely reveal the defect. For a complete review and analysis of the English view, see Heuston, *Donoghue v. Stevenson in Retrospect*, 20 MODERN L. REV. 1 (British 1957).

15. [1935] N.Z.L.R. 371.

aircraft for a flying club. A cotter key (which kept the elevator control lever in position) either came loose in flight or was never properly installed during repair causing the elevator controls to fail resulting in the crash of the aircraft and the death of the plaintiff's intestate. The aircraft had been inspected by government officials prior to flight and had been certified as airworthy. The court relieved the repairer of all liability, primarily because the plaintiff could not prove that the defendant was at fault, but in addition because there was thus "an opportunity of independent examination between the manufacturer and the consumer."¹⁶

In the first American decision the court predicated its decision squarely upon the *MacPherson* rule. An aircraft took off and immediately after leaving the ground a propeller blade snapped off. The vibration shook the engine loose and the remaining propeller blade cut the aileron cables; the plane went out of control, killing all the occupants. The defendant overhauler (who also was the original manufacturer) had reconditioned the propellers approximately three months prior to the crash, but had overlooked the presence of "tool marks" on the inner surface of the propeller hub which would increase the probability of a fatigue failure of the hub. The court ruled that since these tool marks could have been discovered during a reasonable examination and the defendant overhauler knew that these marks were a grave source of danger, and neither reported that fact nor the existence of the marks to the airline, the overhauler failed in its duty. The airline had a right to rely upon the overhauler's performance and could recover for the loss of the aircraft, together with the damages that it was forced to pay for the passengers' death.¹⁷ It is interesting to note that while the court based its decision upon *MacPherson*, it failed to realize that the doctrine had been slightly extended.

In the fourth decision it was decided that where the plaintiff purchased an aircraft¹⁸ from Beech Aircraft which was later returned for repair to Beech, and which subsequently crashed, the *MacPherson* rule applied to both manufacturers and repairmen.¹⁹

Is the Doctrine Applicable In Suits By Military and Civilian Passengers In Government Aircraft Versus the Manufacturer?

Prior to the passage of the Federal Tort Claims Act²⁰ the federal government was immune from suits by civilian passengers in government

16. The holding of the *McAllister* case was thus distinguished.

17. *American Airways, Inc. v. Ford Motor Co.*, 170 Misc. 721, 10 N.Y.S.2d 816 (Sup. Ct. 1939), *aff'd* without opinion, 258 App. Div. 957, 17 N.Y.S.2d 998 (1940), *aff'd mem.*, 284 N.Y. 807, 31 N.E.2d 925 (1940).

18. Whether the aircraft was new or used is not certain from the case.

19. *Vrooman v. Beech Aircraft Corp.*, 183 F.2d 479 (10th Cir. 1950).

20. 28 U.S.C. §§ 1346(b), 2674 (1948). § 1346(b);

The district courts . . . shall have exclusive jurisdiction of civil actions on claims against the United States, for money damages, accruing on and after January 1, 1945, for injury or loss of property, or personal injury or death caused by the

aircraft. The passenger's only recourse was against the negligent manufacturer of the aircraft. The Tort Claims Act has not changed the rule that a serviceman, while on duty, may not recover against the Government;²¹ his only recourse is against the manufacturer.

In the first suit²² involving a serviceman and a government aircraft, the court decided²³ that the plaintiff stated a case of action when she alleged that the defendant aircraft manufacturer had furnished drawings to the Navy which the Navy relied upon in the overhauling and modifying of Grumman aircraft. The drawings were allegedly defective in failing to reflect a contrivance necessary to maintain the pilot's seat in a fixed position; as a result, the plaintiff's intestate was ejected and killed. It should be recalled that the *MacPherson* case involved a tangible "thing," while here the 'thing' was a drawing. In addition, it is difficult to believe that the Navy would not subject the aircraft to independent inspection.²⁴

The second case²⁵ involved a seat which would not eject and a civilian aviation expert who, prior to his taking a demonstration ride in a government jet aircraft, executed a government form covenant not to sue.²⁶ The jet crashed killing the civilian. It was held that the civilian's intestate was barred from suing the Government unless the death "was the result of willful, wanton, or gross negligence on the part of the government, or any of its agents, officers or employees." However, the covenant not to sue did not release the aircraft manufacturer from liability for its negligent construction of the seat ejection mechanism. The court cited no authority for the liability of the manufacturer.

In *North American Aviation, Inc. v. Hughes*,²⁷ the manufacturer delivered a jet fighter to the Air Force at the factory. On the take-off the aircraft exploded, killing the military pilot. The court of appeals upheld a jury finding that the aircraft exploded because of a faulty electrical system, despite the forceful contention of the manufacturer that there

negligent or wrongful act or omission of any employee of the Government while acting within the scope of his office or employment, under circumstances where the United States, if a private person, would be liable to the claimant in accordance with the law of the place where the act or omission occurred.

§2674; "The United States shall be liable . . . in the same manner and to the same extent as a private individual under like circumstances, but shall not be liable for interest prior to judgment or for punitive damages."

21. *Feres v. United States*, 340 U.S. 135 (1950).

22. *Gladstone v. Grumman Aircraft Eng. Co.*, 254 App. Div. 871, 5 N.Y.S.2d 252 (1938).

23. In a memorandum decision.

24. It is to be recalled that Justice Cardozo stated in the *MacPherson* case, 27 N.Y. at 385, 111 N.E. at 1053; "If to the element of danger there is added knowledge that the thing will be used by persons other than the purchaser, and used without new tests, then, . . . the manufacturer of this thing of danger is under a duty to make it carefully . . ." (Emphasis added.)

25. *Friedman v. Lockheed Aircraft Corp.*, 138 F. Supp. 530 (E.D.N.Y. 1956).

26. This seems to be an attempt of the Government to escape the liabilities of the Federal Tort Claims Act.

27. 247 F.2d 517 (9th Cir. 1957), *cert. denied*, 355 U.S. 914 (1958).

was evidence that the pilot was relatively inexperienced in instrument flying.²⁸ Inasmuch as the evidence indicated that the aircraft was destroyed by a mid-air explosion, it is difficult to understand the relevancy of the evidence of the pilot's inexperience in instrument flying.

Should the MacPherson Principle Be Extended to Impose Liability On the Manufacturer-Sellers of Used Aircraft?

Although the *Ford Motor Company*,²⁹ *Vrooman*,³⁰ *McCoy*,³¹ and *DeVito*³² cases involved used aircraft, the decisions were based on subsequent negligent overhaul or modifications rather than on any defects in original design or construction. *Breen v. Conn*³³ apparently is the only case which involved the liability of a used aircraft seller which also happened to be the manufacturer. A Waco aircraft crashed killing all occupants. The plaintiff's intestate sued the pilot's estate and the Waco Company, alleging that the company sold an aircraft which was structurally weak. The allegations were that a previous accident had damaged the wing and that the wing was structurally designed so that frequent accidents involving its wings could be reasonably expected. The court stated:

This innovation (*MacPherson v. Buick*) in the law of torts applies to a new automobile and it likewise applies to the purchase of new airplanes. However, the rule cannot be applicable to the sale of a second-hand airplane under the allegations of the Plaintiff's petition.

The last sentence of this statement has been characterized by one writer as a dictum.³⁴ However, it is the view of the writer that this sentence necessarily referred to the allegations that the wing "was structurally of such a design as to be susceptible to flying accidents" and further "that the said company permitted this airplane, which was structurally weak and faultily designed, to be sold and used for the purpose of flying . . ." Under this interpretation, the *Breen* case is an outright refusal to extend the *MacPherson* doctrine to used aircraft. The doctrine has been extended to the ultimate purchaser of a used automobile and the purchaser of a used refrigerator.³⁵ If the ultimate purchaser can show that the proximate cause of his injury was due to the inherently defective design or construction of the aircraft (rather than any intervening cause) there does not seem to be any logical reason for denying him recovery.

28. The accident occurred under instrument flight conditions.

29. 170 Misc. 721, 10 N.Y.S.2d 816 (Sup. Ct. 1940).

30. 183 F.2d 479 (10th Cir. 1950).

31. 1940 U.S. Av. 84, 1942 U.S. Av. 154 (Ontario Sup. Ct. 1939).

32. 98 F. Supp. 88 (D.C. N.Y. 1951).

33. 30 Ohio L. Abs. 483 (1938).

34. Dominik, *Manufacturer's Liability In Aircraft Accidents*, 16 J. AIR L. & COM. 240 (1949).

35. *Beadles v. Servel, Inc.*, 344 Ill. App. 133, 100 N.E.2d 405 (1951); *Quackenbush v. Ford Motor Co.*, 167 App. Div. 433, 153 N.Y. Supp. 131 (1915).

Should the Peerless Glass Principle Be Utilized In Aviation?

In *Livesley v. Continental Motors Corporation*,³⁶ the plaintiff purchased a new Cessna aircraft from a dealer. Cessna installed an engine purchased from the Continental Motors Corporation which had purchased the connecting rods from the Atlas Company; the Atlas Company had purchased the steel from Bethlehem Steel Company. The engine failed in flight, causing the aircraft to crash. The plaintiff brought suit against the manufacturer of the engine, rather than the manufacturer of the aircraft. The court held that the apparent cause of the failure of the engine was a fatigue fracture of a connecting rod caused by "inclusion pits" of non-metallic substances. However, these inclusion pits could not have been discovered by "reasonable inspection" through the use of a magniflux machine, the standard device used in the aviation industry. Therefore, there was insufficient evidence to show negligence of the engine manufacturer. The court based its ruling squarely upon the *MacPherson* and the *Peerless Glass* cases.

In *Carter Carburetor Corporation v. Riley*,³⁷ the plaintiff purchased a Carter mechanical fuel pump from a dealer. The fuel pump failed in flight causing the aircraft to crash. The plaintiff alleged, and the evidence disclosed, that the pump was carelessly manufactured.³⁸ The court upheld a jury verdict against the manufacturer. The manufacturer's contentions were that the accident occurred in Alberta, Canada, and (as the defendant construed the law of Canada) the plaintiff failed to establish the essential factors necessary to entitle him to recover because he was a remote vendee. This defense was summarily brushed aside by the court.³⁹ It would appear that this case is a tacit affirmation of the *MacPherson* rather than the *Peerless* doctrine.

Should the Principle Be Extended to Strangers to the Sale, e.g., Passengers?

In *Lewis v. United Air Lines Transport Corporation*,⁴⁰ the executrix of a deceased passenger brought suit against the airline and the manu-

36. 331 Mich. 434, 49 N.W.2d 365 (1951).

37. 186 F.2d 148 (8th Cir. 1951).

38. The mating surfaces of the castings were carelessly machined so that they were uneven. The two screws that held the two sections of the pump together were not tight. The edge of the rubber composition circular diaphragm or gasket was not in place between the clamping surfaces; if the diaphragm were pulled in, there resulted an air leak in the fuel pressure system so that the gasoline supply to the engine failed. Further, the evidence showed that the pump was originally designed as an automobile fuel pump for a maximum pressure of five and one-half pounds with a pressure test resistance of twenty pounds. As an aviation pump the defendant knew it would be subjected to maximum operating pressures of approximately fifteen pounds and the usual safety factor would require a pressure test of forty to sixty pounds.

39. *Carter Carburetor Corp. v. Riley*, 186 F.2d 148, 150 (8th Cir. 1951): "We think we need not concern ourselves with the law of Alberta, Canada, nor, indeed, need we inquire whether the law of Canada is different from the applicable law of Minnesota (the state where the fuel pump was purchased). The court's instructions, not being excepted to by either party, became the law of the case and we must determine the question of the sufficiency of the evidence by the law as so announced."

40. 29 F. Supp. 112 (D. Conn. 1939).

facturer, the latter having sold a defective engine cylinder to the airline.⁴¹ The engine manufacturer implicated the Bethlehem Steel Company on a theory of breach of warranty and negligence in the sale of the forging which had been machined into the cylinder. This case has been cited for the proposition that even though the airline fails to inspect and is adjudged guilty of secondary negligence as to the passenger, it may recover its losses from a manufacturer who has been primarily negligent.⁴² It is submitted that the decision authorized impleading of Bethlehem Steel Company under the federal rules, but required that Bethlehem's plea of improper venue be sustained; therefore, Bethlehem was dropped as a third party defendant. The case did not mention negligence and liability, but related solely to questions of procedure. In the subsequent *Lewis*⁴³ case the federal court refused to sanction a declaratory action by the airline against the manufacturer petitioning for the cost of the lost aircraft together with all amounts that the airline "may be required or compelled to pay as damages for the death of the passengers." The manufacturer did not question its ultimate liability to the airline for damages which the airline eventually would have to pay to the estates of the deceased passengers. However, the court, for policy reasons, dismissed the claim because of the impossibility of obtaining jurisdiction over the "stranger-plaintiffs" (passengers) and defendants in one jurisdiction. The court stated that if some plaintiffs brought suit in one jurisdiction and won, and others sued in a different jurisdiction and lost, there might result a conflict which could not be properly reconciled.

In *Maynard v. Stinson Aircraft Corporation*⁴⁴ a passenger⁴⁵ recovered from the aircraft manufacturer for injuries she suffered when the aircraft caught fire on the ground. She alleged four acts of negligence of the manufacturer.⁴⁶ The judge charged the jury that the manufacturer had a duty of care to be measured by the "mythical ordinary individual" who, in 1934 when the aircraft was designed, was ordinarily skilled in the designing of aircraft and aircraft engines. The report of this case consists of the judge's charges to the jury which seem to be in accord with the "duty" concept enunciated in the *MacPherson* case.

41. This allegedly resulted in the crash of an aircraft and the death of the plaintiff's interstate.

42. Note, *Aircraft Manufacturer's Liability For Defects In Construction and Design*, 23 J. AIR L. & COM. 108 (1956).

43. 34 F. Supp. 124 (D. Conn. 1940).

44. 1 Av. Cas. 698 (Mich. Cir. Ct. 1937).

45. Whether the plaintiff was a passenger in a common carrier or in a private carrier was not indicated in the decision.

46. First that the exhaust stacks were not sufficiently high (only about one inch) above the fuselage; second, that the exhaust stacks were too close to the carburetor drain; third, that the carburetor drain was of such a design that fuel escaping from it would adhere to the bottom of the fuselage, where it was in danger of being ignited by exhaust gases; fourth, that this happened, or that there was a loss of gasoline from a leak inside the airplane in such a way that the loss of gasoline from the leak got through the skin of the fuselage and adhered to the bottom of the outside of the fuselage, and was ignited by the exhaust gases.

The two Canadian cases of *Galer v. Wings, Ltd.*⁴⁷ and *Nysted v. Wings, Ltd.*⁴⁸ did not directly involve the manufacturer as a party defendant. However, the responsibility of the manufacturer was drawn into the suit between the passengers and the airline. The two cases involved the same accident and came to diametrically opposite results.⁴⁹ Soon after the take off of an aircraft, the propeller blade snapped off; the resulting unequal vibration tore the engine loose from its mounting and the plane crashed, seriously injuring the occupants. In the *Galer* case the court held that the propeller blade failed because of an improper design by the manufacturer which caused a fatigue failure in the metal. The airline was held blameless because there was insufficient knowledge of fatigue and its development in the aviation industry at the time of the accident. The American manufacturer of the propeller was not joined and therefore was not bound by the decision. In the *Nysted* case, the court concluded that the airline was at fault in that it ordered an incomplete repair of the propeller prior to the accident; the airline had knowledge of the fact that the manufacturer had recommended that this type propeller be discontinued or only used on engines of much less horse-power, and prior vibration in the flight of the aircraft was sufficient warning to the airline of the possibility of fatigue failure of the propeller.

The classic case of *De Vito v. United Air Lines, Inc.*⁵⁰ completes the full mosaic in the development of the *MacPherson* principle. Fires of undetermined origin occurred in some of the airline's aircraft. All aircraft of this type (DC 6) were grounded and a modification panel was established under the direction of the manufacturer. The aircraft were modified in accordance with the drawings and specifications furnished by the manufacturer. Subsequently, one of the modified aircraft crashed, killing all occupants. The evidence indicated that the crash was caused by "annoxia" of the pilots occurring when they released carbon dioxide to extinguish a fire. The court determined that the airline and the manufacturer were liable to the estates of the deceased passengers as joint tortfeasors. However, the airline was authorized to recover from the manufacturer because it was "actively" negligent in not disclosing that test flights had shown dangerous accumulations of carbon dioxide in the cockpit and in not warning the airlines to use oxygen masks of the "one hundred percent" type when carbon dioxide was released. An analysis of this case discloses significant factual differences from the *MacPherson* case. Drawings and specifications were involved, not tangible things. The aircraft was used and liability was imposed against the manufacturer for negligence in supplying defective specifications used in the modification of the aircraft. In addition it would

47. 47 Man. Rep. 271, 3 W.W.R. 47 (1938).

48. 51 Man. Rep. 63, 3 D.L.R. 336 (1942).

49. It should be stated that the court in the *Nysted* case had the benefit of additional evidence not presented to the court in the *Galer* case.

50. 98 F. Supp. 88 (E.D.N.Y. 1951).

appear that the "negligence" of the manufacturer was virtually deliberate rather than inadvertent.

It might be supposed that Great Britain, having suffered a series of disastrous crashes involving the jet "Comet" airliner,⁵¹ and having a far-flung aerial transportation system, would have a well-decided rule of liability of the manufacturer. However, just the converse appears to be true. In *Shawcross and Beaumont, Air Law*⁵² it is stated:

A manufacturer who designs or constructs an aircraft negligently, with the result that an accident occurs, may, in certain circumstances, be liable for any damage or injury thereby caused, either to the owner . . . or to a third party, such as a passenger or pilot Claims against manufacturers arising from air disasters are most frequent in the U.S.A.

An examination of the numerous cases cited by the authors, discloses not one British Commonwealth aviation case squarely in accord with this statement.⁵³ The only relevant cases cited were, unfortunately, from the United States.⁵⁴

Unadjudicated Problems Arising Under The MacPherson Principle.

Will the *MacPherson* principle apply if the accident occurs in an area which does not recognize the principle? Under the usual conflicts of law rule, the place where the accident happens determines the right of recovery, rather than the place where the negligent act occurs.⁵⁵ Inasmuch as nearly all the states have adopted the *MacPherson* principle in some form,⁵⁶ no great problem should arise when an aircraft crashes within the territorial limits of the United States. If the aircraft crashes in

51. Gordon, *He Found Out Why The Comets Blew Up*, 227 No. 34 THE SAT. EVE. POST, at 28, (Feb. 19, 1955). It appears that some of the representatives of deceased passengers have been suing in American rather than in British courts. Whether this is because the majority of the passengers were American or that Americans are more contentious than the British is debatable. The decisions have all involved questions of service of process against the manufacturer De Havilland Aircraft Company without any determination on the merits. *Anderson v. British Overseas Air Corp.*, 144 F. Supp. 543 (S.D. N.Y. 1956); *State Street Trust Co. v. BOAC*, 144 F. Supp. 241 (S.D. N.Y. 1956).

52. SHAWCROSS & BEAUMONT, AIR LAW 521 (2d ed. 1951) and second cumulative supplement to second edition 521 (1955).

53. The New Zealand case of *Maindonald v. Marlborough Aero Club & New Zealand Airways, Ltd.*, [1935] N.Z.L.R. 371 cited by the authors dealt with the liability of the repairmen, see text in connection with note 15 *supra*. The *Maindonald* case did state that there is no difference in principle between the liability of the manufacturer of a new article and the repairman or overhauler of a used article.

54. Both McNAIR, THE LAW OF THE AIR (Preface to 2d. ed. 1953) and SHAWCROSS & BEAUMONT, AIR LAW 521 (2d ed. 1951) remark that American courts have decided many more aviation cases than have the British courts. It is submitted that a comparison of the volume of general case law between the two countries will disclose that this phenomenon is not limited to aviation.

55. GOODRICH, CONFLICT OF LAWS, §§ 89-91 (1938). RESTATEMENT, CONFLICTS §§ 378-382 (1934); *Smith v. Piper Aircraft Corp.*, 18 F.R.D. 169 (D. Pa. 1955) and see Note, *Conflict of Laws, Lex Locus Delicti Dicta*, 12 U. MIAMI L. REV. 244 (1958).

56. PROSSER, TORTS 500 (2d ed. 1955).

a foreign country which does not have a similar rule, then the manufacturer may be insulated from liability by fortuitous circumstances. If the accident occurs over the high seas, which is not under the jurisdiction of any country, the manufacturer may be relieved of liability.⁵⁷

Will the *MacPherson* principle apply when aircraft crash because of some negligence of the manufacturer and injure property and persons on the ground? The person on the ground who is injured or whose property is damaged can usually recover against the aircraft owner under the various theories of negligence, trespass, absolute liability, and *res ipsa loquitur*.⁵⁸ However, if the owner of the airplane can show that the fault lies with the manufacturer, or the plaintiff is faced with the prospect of suing an insolvent uninsured aircraft owner, can he recover directly against the manufacturer who is to blame? Unfortunately the author has been unable to find any aviation cases in point. The courts have definitely extended the liability of the manufacturer to injured strangers and their property in terrestrial⁵⁹ accidents and there does not seem to be any reason to create a dichotomy.

57. See Comment, *Death on the High Seas Act: Aviation Disaster Litigants confined to the Admiralty Forum*, 55 COLUM. L. REV. 907 (1955), and the subsequent cases of *Higa v. Transocean Airlines*, 230 F.2d 780 (9th Cir. 1955), *cert. denied*, 352 U.S. 802 (1956); *Noel v. Linea Aeropostal Venezolana*, 247 F.2d 677 (2d Cir. 1957), *cert. denied*, 355 U.S. 907 (1957); *Fernandez v. L.A.V.*, 156 F. Supp. 94 (S.D.N.Y. 1957); *Trihey v. Transocean Air Lines, Inc.*, 255 F.2d 824 (9th Cir. 1958), *cert. denied*, 27 U.S.L. WEEK 3102 (U.S. Oct. 14, 1958); *D'Alenon v. Pan American World Airways, Inc.*, 259 F.2d 493 (2d Cir. 1958).

In the *Trihey* case the court seemed to assume that the overhauler and the manufacturer would be liable if they were negligent. The trial court found no negligence and the court of appeals confined its attention to the applicability of the *res ipsa loquitur* rule and its procedural effects. In regard to the *lex loci* rule see Pickens, *Actions Arising Out of Airplane Mishaps*, 42 IOWA L. REV. 479, 482 (1957).

The case of *Noel v. Airponents, Inc.*, 27 U.S. L. WEEK, 2329 (D. N.J. 1959), was decided after this article was set in print. The defendant had "inspected and serviced" a Linea Aeropostal Venezolana Air Lines aircraft prior to its departure. It exploded in flight at a point approximately thirty miles off the coast of New Jersey with the result that all on board were killed. The plaintiff did not sue the airline, but brought suit against the defendant for its alleged negligence in the inspection and servicing. The district court held that the libel in admiralty which alleged "the accident was caused by the negligence of the agents and servants of Airponents, Incorporated, . . . who had inspected and serviced the aircraft prior to its departure" stated a cause of action under the Death on the High Seas Act, note 57 *supra*. The court, while admitting that the question presented was a "novel one in the field of aviation law," relied upon a statement in *Wilson v. Transocean Airlines*, 121 F. Supp. 85, 92 (N.D. Cal. 1954) as controlling; "a maritime tort is deemed to occur, not where the wrongful act or omission had its inception, but where the impact of the act or omission produces such injury as could give rise to a cause of action."

The decision seems somewhat questionable in its engrafting of admiralty law concepts into aviation law. See FIXEL, *THE LAW OF AVIATION* 16-17 (3d ed. 1948). It is submitted that using admiralty substantive law concepts because the accident occurred over the high seas and because the admiralty court has jurisdiction seems to be going beyond the intent of Congress. See comment, *Death on the High Seas Act*, note 57 *supra*. The court also failed to cite any authority for its tacit recognition of the liability of the "servicing" defendant.

58. See Eubank, *Land Damage Liability in Aircraft Cases*, 57 DICK. L. REV. 188 (1953) and Vold, *Strict Liability for Aircraft Crashes and Forced Landings on Ground Victims*, 5 HASTINGS L. J. 1 (1953).

59. PROSSER, *TORTS* 501 (2d ed. 1955).

Will an injured plaintiff be able to recover not only from the manufacturer but from the federal government which has exclusive jurisdiction over the inspection and approval of the manufacturer of aircraft and aircraft components? It has been suggested that since inspection and approval by the Civil Aeronautics Authority requires such a high degree of technical skill and judgment, the Authority's acts are discretionary in nature rather than ministerial. Under this theory the Government would not be liable.⁶⁰ Two recent cases indicate that the Government's immunity may soon be lost. In *Union Trust Company v. United States*⁶¹ the Government was held liable for the negligence of its control tower operator which resulted in the destruction of two aircraft and the loss of many lives. A comparison of the duties of control tower operators and inspectors will demonstrate that the amount of discretion and judgment exercised by both is not too dissimilar. In *Fields v. United States*,⁶² the plaintiff alleged that an airline repaired, rebuilt, overhauled and inspected one of its aircraft; that the Civil Aeronautics Administration controlled, inspected and supervised the work and that the aircraft crashed through the negligence of the C.A.A. killing the intestate. The decision mainly concerned the right of the Government to implead the airline as a third party defendant. The case did not state that the Government was liable but there seemed to be a tacit assumption of liability. It is submitted that treating the Government in the same category as a manufacturer is not a too extreme extension of the *MacPherson* rule.

Conclusion

It has been judicially recognized that today's aircraft are incredibly complicated, consisting of thousands of parts and components.⁶³ It is also fairly obvious that aircraft are subjected to stresses and strains that far exceed the stresses that automobiles are subjected to. It would seem, after a casual analysis, that perhaps the *MacPherson* rule should not be applicable to this new medium of transportation and manufacture which has to make constant improvements in order to meet competition and to

60. See Hotchkiss, *Aircraft Manufacturer's Liability and the Civil Aeronautics Act of 1938*, 16 GEO. WASH. L. REV. 469 (1948), and the Federal Tort Claims Act, 28 U.S.C. § 2680 (a) (1948): "The provisions of this chapter and section 1346(b) of this title shall not apply to (a) any claim based upon an act or omission of an employee of the Government, exercising due care, in the execution of a statute or regulation, whether or not such statute or regulation be valid, or based upon the exercise or performance or the failure to exercise or perform a discretionary function or duty on the part of a federal agency or an employee of the Government, whether or not the discretion involved be abused."

61. 221 F.2d 62 (D.C.Cir. 1955), *rev'd per curiam*, 350 U.S. 907 (1956), and see Note, *Discretionary Function Exception of Federal Tort Claims Act*, 12 U. Miami L. Rev. 247 (1958).

62. 5 Av. Cas. 17, 426 (E.D.N.Y. 1957); *But see* the sketchily reported case of *Lee v. United States*, 5 Av. Cas. 17857 (N.D. Tex. 1957), which *seemingly* is *contra*.

63. *North American Aviation, Inc. v. Hughes*, 247 F.2d 517 (9th Cir. 1957).

solve unforeseen aerodynamic problems as they arise. However, as a matter of social policy, it would appear that liability should be and has been placed upon the manufacturer who can best avoid the defects and who can include the cost of "due care" in the price of his product which is eventually paid for by the flying public and the Federal Government in the form of subsidies to the airlines.⁶⁴

64. See THOMAS, *ECONOMIC REGULATION OF SCHEDULED AIR TRANSPORT*, 128-146 (1951) and Justice Jackson's dissent in *Transcontinental & Western Airlines, Inc. v. Civil Aeronautics Board*, 336 U.S. 601, 608 (1949).