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Richard H. Jack

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ULTRALIGHT AIRCRAFT: A NEED FOR BETTER REGULATION THAN 14 C.F.R. § 103

RICHARD H. JACK

IN SEPTEMBER, 1983, Dick Rowley of Colorado Springs, Colorado, set a new altitude record for ultralight vehicles. His Mitchell U-2 Superwing climbed to 25,940 feet. He had cooperation from the Federal Aviation Administration's Denver ARTC "Center", (traffic control), which cleared him to 30,000 feet. Because Denver Center had trouble radar-imaging Rowley, Rowley installed cardboard radar reflectors within his craft's wings.¹

INTRODUCTION TO THE PROBLEM

On October 4, 1982, the Federal Aviation Agency ("FAA") promulgated a new regulation that defined all flying machines with certain weight and performance limits as an "ultralight vehicle."² This regulation exempts

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² 14 C.F.R. § 103.1 (1985). The definitional portion of the regulation reads as follows:

For the purposes of this part, an ultralight vehicle is a vehicle that:
(a) Is used or intended to be used for manned operation in the air by a single occupant; (b) Is used or intended to be used for recreation or sport purposes only; (c) Does not have any U.S. or foreign airworthiness certificate; and (d) If unpowered weighs less than 155 lbs.; or (e) If powered: (1) Weighs less than 254 pounds empty weight, excluding floats and safety devices intended for deployment in a potentially catastrophic situation; (2) Has a fuel capacity not exceeding 5 U.S. gallons; (3) Is not capable of more than 55 knots calibrated...
vehicles within the specified limits from regulations which apply to all other aircraft. It exempts ultralight vehicles from two important requirements: (1) that the operator be certified as a pilot by the FAA, and (2), that the vehicle be certified as airworthy. Each exemption constitutes a serious flaw in the regulation.

Ultralight vehicles represent a four-fold hazard when flown by an untrained pilot. They are a hazard to the pilot himself, to anyone or anything accompanying the pilot, to those on the ground, and to anything which happens to meet an ultralight in the air. This paper does not deal with the problems faced by the pilot. If a person voluntarily climbs into an ultralight and kills himself, a court would be likely to consider that he assumed the risk. The paper also does not deal with the problem of hazard to the passenger or cargo. The regulation encompasses neither vehicles that are used by more than one occupant nor vehicles used for commercial purposes such as carriage of cargo. The hazard to those on the ground is real enough, but the magnitude of harm and probability of occurrence are both relatively low. Except to the extent that harm to persons or property on the ground may result from an ultralight collision, the third hazard is ancillary to this paper. This article focuses on the fourth hazard - danger to other aircraft and their occupants. The presence of ultralights at high altitudes creates this danger, but the regulatory flaws magnify the hazard. The danger which ultralights pose to other aircraft results largely from pilot ignorance, a direct result of the regulatory sanction of untrained pilots.

In Part I, this article discusses the evolution of aviation, especially the development of ultralight vehicles and the

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airspeed at full power in level flight; and (4) Has a power-off stall speed which does not exceed 24 knots calibrated airspeed.

*Id.*


legislative history of civil aviation safety regulation. In Part II, it discusses the various remedies available to correct the problem, emphasizing judicial review. Finally, it offers some relatively simple suggestions to mitigate the worst of the hazards.

The catastrophic nature of an accident between an ultralight and another aircraft can be readily illustrated by a hypothetical "worst case." A pilot, ignorant of the Federal Aviation Regulations, and either lacking in common sense or induced by altitude or rapture, takes off from a local parking lot and flies his new ultralight over to "the airport." The airport could be any major field and the ultralight could be flying at night or in poor weather. Some small distance out from the field he encounters a twin-engined, commercial jet. He and his "toy" are ingested into one turbine engine, causing the engine to lose power or explode. The crippled jet crashes into the urban area which typically surrounds airports served by commercial aircraft.

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5 See infra notes 40-105 and accompanying text.
6 See infra notes 106-171 and accompanying text.
7 See infra notes 173-187 and accompanying text.
8 The Federal Aviation regulations are contained in title 14 of the Code of Federal Regulations.
9 Although an exploding or disintegrating engine could destroy control surfaces, causing catastrophe, a large commercial jet could probably be struck anywhere or lose one engine without causing it to crash. But this worst case is not mere speculation, for air disaster, due to loss of power from ingestion of lesser objects than an ultralight have caused havoc. The hail ingestion caused 1979 crash of a Delta Air Line Douglas DC-9 at Dallas, Georgia. The ingestion of seagulls caused a Gates Learjet-35 to crash on takeoff over a city dump at DeKalb-Peachtree Airport, Atlanta, Georgia, in 1973. See Sellfors v. DeKalb County, 278 S.E.2d 489 (1981). A recent report by the National Transportation Safety Board ("NTSB") on the ultralight problem notes that, "[o]ne concern about ultralight operations is the hazard they pose to other airspace users and to persons and property on the ground." NTSB Safety Study 85/01 (PB85-917001), Ultralight Vehicle Accidents, at 20 (1985) (hereinafter cited as NTSB Safety Study). Of the 177 ultralight vehicle accidents studied through September, 1984, only twenty per cent resulted in damage to property, mostly trees, crops, wires and poles, and, in two cases vehicles. NTSB Safety Study at 20.

The NTSB is an independent advisory agency within the Dept. of Transportation, controlled by 49 U.S.C. §§ 1901-1907 (1982). It draws conclusions regarding the probable cause of accidents and makes formal recommendations to prevent their reoccurrence to the Secretary of Transportation concerning regu-
This paper argues that in view of the history of aviation and the somewhat lagging development of aviation law, section 103 should be modified by the FAA to remove the flaws that could ultimately lead to the worst case. This paper suggests strongly that Congress and the states have intended air law to prevent or redistribute the consequences of precisely the type of hazards exacerbated by the flaws of section 103. This paper also suggests remedies available to interested parties should the FAA choose either not to acknowledge the existence of the problem, or to acknowledge the problem but elect not to modify section 103.

The preference for personal liberty over social regulation underlies the decision not to require minimum performance standards for these pilots and vehicles. This paper now examines the tension between these two objectives in the field of civil aviation.

II. EVOLUTION OF CIVIL AVIATION

A consideration of the background of man's expressed desire to fly is helpful in understanding the nature of the problem examined by this monograph. Man appears determined to overcome his surroundings and leave the face of the Earth. This bald premise underlies one side of the problem addressed here. The nature of a libertarian society permits its members to one degree or another to pursue their dreams, even to the point of folly. Permissiveness is particularly apparent when those who do not share the folly are not injured by another's pursuit.
of it; or when the pursuit satisfies certain perceived needs of the society, then the society tends to not only permit but encourage the folly.

In aviation, the Icarus complex has led many to break their figurative or literal necks, in pursuit of folly. Sociology has tolerated aviation fools for military and economic reasons, but it tends to step in when another's neck may be broken as well. Aviation law is the result. Aviation and aviation law have developed hand in hand.

The first recorded flight was made 200 years ago in 1783, by the Montgolfier Brothers of Paris. The first manned flight came three months later on November 21, 1783. A rapidly developing craze swept Europe as man made the Icarus complex come true and discovered the rapture of flight. The craze also resulted in the first air law statute. In 1784, in the city of Durham England, forbade the use of balloons over the city. Paris police required inspection of balloons as of April 23, 1784, issuing the first airworthiness certificate.

As with the technological developments of the early 19th century, aviation law developed from the application of existing common law to novel fact situations. The first reported aviation law decision in any country, Guille v.

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14 For example, Otto Lilienthal, a German glider designer, died in the crash of a glider in 1896.

15 Their unmanned balloon the "Globe" was set into free flight. Landing in a suburban area, it so terrified local farmers that they, believing it to be a demon, attacked it with muskets and pitchforks, and dragged the canvas bag behind a cart through the streets to assure all the demon was dead. The first air flight resulted in the first aviation tort.

16 Among the viewers was Benjamin Franklin. By the first of the following year Franklin had devised a military application for the novelty. Matte, supra note 13, at 21.

17 The Invention of Lighter-than-Air Craft in France - in One Astonishing Year, 1783, AIR & SPACE, May-June 1979, at 3.

18 1 C. SHAWCROSS & K. BEAUMONT, AIR LAW 1 (4th ed. 1977). If for no other reason, Paris required inspections because the balloons were driven by fire, and cities were flammable. Curiously, on the 200th anniversary of the first flight, a bicentennial celebration was held in Paris. A replica of "Globe" was sent aloft. Although the aviators were prepared for the problem, it too developed a small fire.
Swan\textsuperscript{19} is typical of the parallel development of technology and law, so much so as to be almost an unremarkable case.\textsuperscript{20} A fundamental rule of aviation law holds that those who set things into the air are liable when those things come down on the heads of others.\textsuperscript{21}

Strict liability is not the rule in all aircraft cases, but is particularly appropriate in cases involving "abnormal" aviation such as stunt flying and experimental aircraft.\textsuperscript{22} Aviation law is becoming, in turn, the root for space law. Liability for damages caused by debris returning from space is placed on the government responsible for placing it into space.\textsuperscript{23} When private parties place objects in space, the liability will surely follow when those objects return.\textsuperscript{24}

Aviation accidents enhance an individual's capacity for breaking another's neck for two primary reasons. First, the nature of the technology involves tremendous potential energies which manifest themselves into kinetic form

\textsuperscript{19} 19 Johns. 381 (N.Y. Sup. Ct. 1822).
\textsuperscript{20} Swan took his balloon up, got into trouble, and started yelling for help. A crowd followed in pursuit, and chased the balloon into Guille's vegetable garden. The balloon did relatively little damage, but the crowd trampled the garden flat. The court analogised from Scott v. Shepherd, 96 Eng. Rep. 525 (1773) and held that Swan, having set the destructive force — the crowd — in motion, was liable for damages the force caused. \textit{Guille}, 19 Johns. at 381. Precisely the same situation arose when the American balloon "Double Eagle II" landed in a French farm-yard in 1980.
\textsuperscript{21} W. PROSSER, supra note 3, at 516.
\textsuperscript{22} Id. Such cases utilize the causation doctrine established in Rylands v. Fletcher, L.R. 3 H.L. 330 (1868) (holding landowner strictly liable for damage caused to an adjacent property owner's coal mine when a reservoir constructed on the landowners land broke through its bottom and flooded the mine.)
\textsuperscript{23} Convention on International Liability for Damage Caused by Space Objects, \textit{opened for signature} Mar. 29, 1972, 24 U.S.T. 2389, T.I.A.S. No. 7762, 961 U.N.T.S. The treaty places liability on the nation responsible for launching the object, whether launched by that nation's government or by any parties therein. An international claims commission assesses and adjusts damages. France, a spacefaring nation, is not among the signatories.
without warning as to time or place, often in mysterious ways. Second, air accidents can involve large numbers of people who die or are maimed in lurid ways through absolutely no fault of their own. The staggering, random horror of a major air accident is a mere result of the technology which made aviation possible.

To prevent that horror, the United States has set up a large body of regulations, codified in part in Title 14 of the Code of Federal Regulations, establishing standards for the machines, their operators, and their operations. As changes in technology make the regulations obsolete, the rules may discourage progress. The FAA attempts to keep up with the technology, but the rule-making process itself bars rapid response to rapid change. In the context of ultralight vehicles, technology has moved rapidly ahead of the rules, presenting dangers not anticipated in the normal course of the rule-making process. Other notable technical advances in electronics, structural materials and fuel sources, will create more legal anachronisms.

A. Ultralight Technology

The ultralight is, in most respects, a reinvention of the airplane. One of the first alternatives to the all-metal, gas-hog, general aviation aircraft was Francis L. Rogallo's "Rogallo Wing," first used in 1951. The vehicle became popular in California in the early 1970's, largely because applicable regulations were lax, and it was cheap. It was simple enough: the flier merely strapped himself underneath a large, untethered kite/glider and ran off a cliff. The inventive types soon strapped a chainsaw engine and

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25 Assumption of the risk doctrine has been discredited for the commercial air traveller since the 1940's and never applied to those on the ground. For discussion of ultrahazardous nature of air travel see W. PROSSER, supra note 3, at § 78 n. 82.

26 According to the FAA, the considerations which led to promulgation of 14 CFR § 103 began eight years before final notice of the rule was published. The first publication by the FAA on the subject was (Advisory Circular) ("AC") Number 60-10 entitled Recommended Safety Parameters for Operation of Hang Gliders. This regulation was promulgated on May 16, 1974.

27 A second alternative is the homebuilt, experimental class aircraft, covered by
a small propeller to the hang glider, manufacturing the first modern ultralight. Of course, the competitive types used bigger engines, and the race that had begun in 1903 resumed.

The capacities of ultralight flying machines increased, as did the capacities of the unpowered hang gliders from which they descended. The FAA reports that ultralights are capable of sustained airspeeds exceeding 50 knots at altitudes above 10,000 feet. They are probably capable of a much higher performance. In addition to the greater capability, they are becoming increasingly difficult to detect by air traffic control radar. In another recent technological advance, a one flier has attached an engine and pilot's seat to the shrouds of a controllable parachute, such that the pilot and engine are suspended beneath the parachute but are capable of driving it forward. The entire device, called a "paraplane," weighs less than 150 lbs.

14 C.F.R. § 21.191(g) (1985). These craft must be certified by the FAA as to airworthiness, and the pilot must carry an appropriate Airman Certificate. Id.

These vehicles are distinct from the ultralight aircraft, and not the subject of this article.


29 Use of fiberglass or carbon fiber structural components instead of highly radar-reflective aluminum has contributed to this phenomenon. Soon even the engines may not be composed of metals. Ford Motor Co. and Polimoter, Inc. of New Jersey have developed a prototype automobile racing engine in which the engine block is composed of carbon-fiber-resin. 26 AOPA PILOT No. 11, 30. (Nov. 1983). This engine, using the resin now trademarked by Amoco Chemicals as "Torlon," was campaigned in a Lola racing car in the winter of 1985. The 168-lb. engine produces 318 horsepower at 9500 rpm in a 2-litre, four cylinder, dual overhead cam configuration. Torlon parts included connecting rods, intake valve stems, piston pins, skirts, timing gears, valve spring retainers and tappets. MECHANICAL ENGINEERING, Mar. 1985 at 89. Collateral developments at General Motors, Carborundum and Cummins Diesel Corporations of ceramic parts could replace even the few metallic internal components. Dizard, The Amazing Ceramic Engine Draws Closer, FORTUNE, July 25 1983, at 76. A combination of these two components would render an aircraft virtually invisible to radar.
and can be folded neatly into the trunk of a sportscar. The availability of such technologically advanced machines to the adventuresome members of a libertarian society has resulted in sales of approximately 20,000 ultralight devices in the United States alone.

A recent National Transportation Safety Board ("NTSB") Safety Study summarizes the engineering aspects of ultralight accidents in a sanitary litany of horror. Of 177 accidents occurring in the 18 month 1983-84 study period, 88 accidents resulted in 93 fatalities. The report assures that the lack of mandatory non-fatal accident results in the low figures for the number of accidents.

The report studied the factors contributing to the accidents. Of all the studied accidents, thirty-two per cent resulted from airframe failure due to overstress, poor maintenance, or poor design. Of the fatal accidents, forty-two per cent resulted from loss of control by the pilot. This rate compares with twenty-eight per cent for general aviation accidents. A third factor, overall operator experience, did not appear to be as serious a problem as lack of time at the controls of the particular machine. The machines appear to be very touchy, making it easy to become a victim of "improper handling techniques."

Ninety-three per cent of ultralight accidents did not occur in controlled airspace, and none in a Terminal Con-

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50 Marden, The Bird Men, NAT'L GEOGRAPHIC, Aug. 1983, at 198, 214. Current commercial and local governmental uses include aerial pesticide application and police observation. Id. at 214.
52 NTSB Safety Study, supra note 9, at 4.
53 Id. at 5. Some fatal accidents are reported only through police agencies.
54 Id.
55 Id. at 6.
56 Id.
57 Id. at 11.
trol Area or Stage III Terminal Radar Service Area,\(^{58}\) indicating that additional general pilot training would not alleviate the problem presented in this paper. However, there are some interesting “near miss” and “safety hazard” statistics reported by the National Aeronautics & Space Administration’s (“NASA”) Aviation Safety Reporting System (admittedly a limited and non-rigorous reporting system) to the NTSB. Over a six-year period thirty-nine reports concerning thirty-four incidents involving ultralights were filed. Of these, sixteen were reported since regulation began. Of the thirty-four reports, thirty involved near misses in midair. And of those thirty, thirteen involved transport category aircraft.\(^{59}\)

The NTSB’s conclusions do not directly address the thesis of this paper. The NTSB indicates that training and better engineering are necessary to protect the pilot from himself. However, this article focuses on protecting the public from the pilot, who may name his own poison as he might please.

B. Development of Aviation Law

Responding to a perceived need, governments developed a body of aviation law. In developing aviation common law, the various state legislatures acted in a piecemeal fashion until 1922, when the National Conference of Commissioners of Uniform State Laws approved the Uniform State Law for Aeronautics.\(^{40}\) In the fourteen years following approval of the Act, twenty-one states adopted it.\(^{41}\) Additional uniform laws were promulgated

\(^{58}\) These areas are specially controlled airspaces which characterize the high density traffic patterns near large cities.

\(^{59}\) NTSB Safety Study, supra note 9, at 22. The three reports reprinted by the NTSB study reveal the concerns faced by pilots who discover their lives threatened by someone they perceive as a thrill-seeking idiot.


\(^{41}\) Delaware, Hawaii, Michigan, Nevada, North Dakota, Tennessee, Utah, and Vermont adopted the Act in 1923. 1936 U.S. Av. Rep. 376. The other states that adopted the Act included Arizona, Idaho, Indiana, Maryland, Minnesota, Missouri, Montana, New Jersey, North Carolina, Rhode Island, South Carolina, South
by the Commission, however, the state acceptance rate declined. Additionally, some states enacted their own aviation statutes.

The federal government exercised no control over aviation until the outbreak of World War I in 1914, when its potential use as a weapon became apparent. On March 3, 1915, the Naval Appropriations Act became law with a rider which established the Advisory Committee for Aeronautics ("NACA"). This committee was charged with the "scientific study of problems of flight with a view to their practical solutions." The committee's primary function was the development of American military air power.

By the end of the World War I, NACA recommended the enactment of legislation controlling civil aviation, but Congress passed no legislation. In 1918, however, NACA persuaded the Post Office Department to set up an airmail service. The limitations on civil aviation became apparent through the problems encountered by this new service and by the financial problems encountered by entrepreneurs of new commercial airline companies. In North Dakota, and Wisconsin. Id. Several legislatures made minor revisions on the text, however, the original text can be found at 1928 U.S. Av. Rep. 472.

See, e.g., Uniform Air Licensing Act (1930) (8 states).

A digest to the various state laws is located at 1944 U.S. Av. Rep. 131.


Whitnah, supra note 44, at 8.

Id. at 9.

Air Mail service began in 1918, with Army pilots flying the mail. Id. at 13. In 1925, Congress enacted the Air Mail Act to encourage commercial aviators and authorize the Postmaster General to allow airmail service. Air Mail Act of 1925, Pub. L. No. 359, 43 Stat. 805 (1925). Orville Wright, in commenting on the need for the Air Commerce Act said:

The greatest present drawback to the use of aircraft for civil purposes, such as commerce, mail, travel and sport, is the lack of suitable airports and emergency landing fields. Money spent by the National Government in helping to provide these fields, on the equipping of the airports properly, in marking and lighting the airways, and providing radio or other means of directing the course and in furnishing meteorological reports to as many of the fields as is necessary, will be money well spent and will some day bring large rewards.


One example of an airline which operated without any governmental supervi-
1919, NACA drafted a bill which would have authorized the Department of Commerce to license pilots, inspect aircraft, and supervise airfield usage.\textsuperscript{50} Although President Wilson submitted the bill to Congress, no action was taken.\textsuperscript{51} In Europe, however, governments regulated and generously subsidized civil aviation.\textsuperscript{52} In 1919, the International Convention on Air Navigation met in Paris to set forth a body of rules, "recognizing the progress of aerial navigation. . . appreciating the necessity of an early agreement upon. . . rules. . . to encourage. . . peaceful intercourse."\textsuperscript{53} These rules were signed by each major power except the United States.

The first federal safety legislation proposed in the rapidly expanding field of post-World War I civil aviation was the Wadsworth Bill.\textsuperscript{54} By the time the House was ready to act, the Senate substituted the Bingham-Parker Bill for the Wadsworth Bill.\textsuperscript{55} The House and Senate ironed out their differences, and the resulting legislation became the Air Commerce Act of 1926.\textsuperscript{56}

The legislative history of the Air Commerce Act demonstrates that the Senate emphasized the business of flying while the House emphasized safety. The Senate Report stated:

Although Americans built the first airplanes capable of sustained flight and were the first to learn how to fly heav-

\textsuperscript{50} R. Burhardt, The Federal Aviation Administration 6 (1967).
\textsuperscript{51} Id.
\textsuperscript{52} D. Whitnah, supra note 44 at 15.
\textsuperscript{53} Air Navigation Convention, October 13, 1919, 226 Consolidated Treaty Series 246 (1919). The provisions of this convention include the requirement of the familiar "N" for American aircraft, the requirement of airworthiness certificates, airframe, powerplant and operations logbooks, navigation lights, rules of the air, right-traffic in airport traffic areas, ground signals, minimum altitudes, airport traffic areas, certification procedures for aircrews, including medical certificates, flight tests and examination for general aeronautical knowledge. Id. at 246-71.
\textsuperscript{54} S. 76, 67th Cong., 1st Sess. (1921).
\textsuperscript{55} S. 41, 69th Cong., 1st Sess. (1926).
\textsuperscript{56} Air Commerce Act of 1926, Pub. L. No. 254, 44 Stat. 568 (1926) ("to encourage and regulate the use of aircraft in commerce, and for other purposes").
ier-than-air machines and hold more world’s records than do citizens of any other nation, commercial aviation has not advanced as rapidly in the United States as had been hoped and expected.

Travelers to Europe find that it is possible to fly in comfort and at regular intervals between the principal capital cities. Insurance rates for passengers and freight when carried by airplane are far lower in Germany than in the United States. Insurance rates on valuables carried from Paris to London by air are very much less than by the usual methods of transportation. All the leading European countries have been willing to promote commercial aviation. We have done practically nothing. It is no secret that in England and France commercial aviation is safer than in the United States.

It is no secret that France and England are spending more money on aviation than we are. [emphasis added][57]

The emphasis on insurance rates and safety records continues in the report:

American insurance companies do not yet feel warranted in giving as low rates for freight and passengers when transported by air in the United States as they do in Europe. Evidently American commercial aviation has not made as satisfactory progress as it should have made. The principal reason appears to be a failure...of the United States to...encourage and regulate the use of aircraft in commerce.[58]

The report discusses the aviation advances made in Europe,[59] then proceeds with a discussion of the effects of unregulated flying in the United States.[60] Bingham’s re-

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[58] Id. at 1.
[59] Id. Particularly noted are advances in Germany, which the United States had just spent a considerable sum of money to help defeat. Id.
[60] Id. at 2, citing The Aeronautical Chamber of Commerce, 1925 Aircraft Year Book. The report notes that there were three hundred deaths and five hundred injuries in the post war years. In 1924 the U.S. Army logged 900,000 miles in its model airways system without a fatality. Id. at 2. Even the United States Post Office air mail service had a fatality rate of one per 463,000 miles, in what was a definitely risky business. Id. By contrast, in 1924, civilian aviation logged about
port continues, "One result of these frequent accidents has been a widespread fear of the hazards of the air which makes it difficult to secure passengers and virtually impossible to secure insurance."\textsuperscript{61}

What the report does not say is that because the American carriers could not obtain the twin markets of cargo and passengers, foreign carriers were beginning to appear in the United States.\textsuperscript{62} Many factors were obviously aggregating to prod Congress into action. But safety and the economic losses appear to take a higher profile than even the military aspects.\textsuperscript{63}

1,000,000 miles with seventy-five fatalities and ninety-one injured. \textit{Id.} Bingham notes that this is one fatality per 13,500 miles. \textit{Id.} As the report dryly points out, "the inference is obvious." \textit{Id.}

\textsuperscript{61} \textit{Id.} This is hardly understated. One contemporary report from a reputable publication noted that of 470 crashes resulting in 221 deaths from 1920-1923, inexperienced pilots or cheap and unsafe equipment caused ninety-one percent. \textit{Uncle Sam as Air Boss, The Nation,} Nov. 26, 1924, at 559.

\textsuperscript{62} The 1926 House Report, which proposes a new enabling clause, deals with this. \textit{H.R. Rep. No. 572, 69th Cong., 1st Sess.} (1926). The Secretary of Commerce, who was to administer the law, could exempt from the regulations of section 2 (dealing with inspection) aircraft registered in any foreign nation, but such unregulated aircraft could not engage in interstate commerce. They would have had to comply with American regulations, a small handicap for them, thus giving the Americans a slight edge in economic competition. There is some ambiguity about intentions and actions in the House report, possibly a result of tension between the need for a functional law and the need for politically correct statements for consumption by the electorate. Section 6 of the enabling clause allows for foreign operations in interstate commerce provided the aircraft and aircrews are regulated. But the "Outline of Provisions" in the House Report states flatly that "Foreign-owned aircraft are forbidden to engage in interstate commerce." \textit{Id.} at 9. Whether this is a slip-up in editing or merely a way for certain legislators to pass needed laws while maintaining appearances for their constituents (as if to say, "See, we voted pro-American to keep American jobs for Americans and those other people out.") is difficult to tell fifty-six years later. For an interesting commentary on the duality of the legislative process, being simultaneously concerned with law and social good and with political exigency, see \textit{R. Neely, How Courts Govern America} (1981).

\textsuperscript{63} Military considerations have always been important to aviation, as highlighted by Dr. Franklin's response to the Montgolfier balloon. \textit{See supra} note 16. The first combat use of an aircraft was a moored observation balloon used by the Republican French Army at the battle of Fleurus. \textit{Matte, supra} note 13, at 93. It is astonishing in retrospect how shortsighted Americans generally appeared to be as to the military uses, especially compared to European nations, even among militarists with technological backgrounds, such as Hudson Maxim (mechanical/chemical engineer). "Aviation makes a strong appeal to the imagination, and this fact. . . .has led to many strange predictions and weird conclusions about the
Reflectively, although Bingham and his followers believed they saw the future of aviation (and they probably did if compared to their colleagues who kept forestalling passage of regulation), in fact they had no realistic vision of its future growth. For example, in outlining which of destruction dirigibles and aeroplanes would be capable of doing by dropping bombs from the sky [including] destruction of warships...fortifications and large cities. The hopes of those who [believe] in such dire destruction [are misplaced]." H. Maxim, DEFENSELESS AMERICA 205, 206 (1915). Aside from the use of observation balloons by the Army Signal Corps and the handful of men who operated them, no one seemed aware of the potential even after World War I. In the prewar years from 1908-1913 the United States spent a total of $435,000 to build a force of 28 aircraft. By comparison: Germany, $28 million, 400 craft; France $22 million, 400 craft; Russia, $12 million, 300 craft; Italy, $8 million, 200 craft. Even Japan, Bulgaria and Greece had 80 craft each. R. BURLINGAME, GENERAL BILLY MITCHELL 61 (1952). That the Europeans recognized them as offensive war machines is demonstrated in the first Hague Peace Conference (1899), 187 Consolidated Treaty Series 456 (July 29) in which 28 nations solemnly agreed to not use balloons for gun platforms or bombardment purposes. The Second Hague Conference (1907), 205 Consolidated Treaty Series 403 (Oct. 18), extended the prohibition to aircraft.

Some Americans, notably Billy Mitchell, did foresee the future in a way senior military and legislative leaders, who followed Maxim's thinking, did not. In the opinion of U.S. Naval experts, the German Dreadnought "Ostfriesland" was unsinkable by aircraft, having survived a considerable pounding at the battle of Jutland by British battleships. A war prize to be sunk, the ship was turned over to Mitchell, along with two American battleships, U.S.S. Virginia and New Jersey, for target practice. On July 24, 1921, Mitchell sank the "Ostfriesland", in sixteen minutes, with bombs larger than the senior military had decided an airplane was capable of carrying. BURLINGAME, supra, at 1-12. The New Jersey and Virginia were sunk by Mitchell on September 25, 1923, the latter by a single, devastating bomb dropped from 3,000 feet. NAVAL HISTORICAL CENTER, 7 DICTIONARY OF AMERICAN NAVAL FIGHTING SHIPS 542 (1981). Not only did the leadership still refuse to acknowledge the advances in aviation and the failure of the United States to keep up with them, they also did not want to hear about it. When Mitchell pressed the issue of American military aviation incompetence before the public, the Congress, and the President's Aircraft Board (September 28, 1925) he was court-martialed by the Army for insubordination. His resignation was forced by a guilty verdict and a sentence on January 27, 1926 of suspension without pay for five years, BURLINGAME, supra, at 172-73. The episode shows how pitifully unaware American leadership was of aviation reality even at the time the Air Commerce Act was being enacted. Mitchell and air power were finally and permanently recognized in the United States on December 7, 1941 with the surprise attack by Japanese carrier based aircraft on the United States port at Pearl Harbor. This attack devastated the American Pacific fleet.

The ultralight vehicle has military possibilities too. As noted above, they are under consideration by the United States and foreign military forces for observation purposes, and are presently capable of carrying light machine guns and rockets. See supra note 30 and accompanying text.
the existing offices would be responsible for the various tasks necessary to implement the new Act, the Senate Report notes: "The Department of Commerce has offices in all our seaports where its Bureau of Navigation and its Steamboat Service carry on their work. These offices can readily be used without additional expense for necessary aviation inspectors who must provide for the examination of pilots and airplanes." and calls the new act a plan of "comparative simplicity."

C. Development of the Federal Aviation Act of 1958

The legal development instituted by the Air Commerce Act was not capable of coping with the developing technology and business of aviation. The Europeans, as in 1919, continued to lead the way in international legal development. The Aeronautics Branch of the Department of Commerce became snowed under with new responsibilities. In 1934 it became the Bureau of Air Commerce under the supervision of the Department of Commerce. At the same time Senator McCarran guided the Airmail Act of 1934 through Congress. Senator McCarran had pressed for, and in this act achieved, Presidential authority to appoint a commission of five members for the purpose of forming a unified aviation policy for the country. This commission was the Federal Aviation Commission. The commission's efforts resulted in the Civil Aeronautics Act of 1938 which had roughly the same purpose as the Air Commerce Act of 1926: development of commercial aviation with a high standard of safety. The Air Commerce Act made the commission independent of the commerce department. In June, 1940, the agency created by the Civil Aeronautics Act of 1938 was split into two agencies. Commerce and safety would be handled by the new

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64 S. Rep. No. 2, 69th Cong., 1st Sess. 7 (1923). Other changes were in the wind. The report notes that, "care has been taken to avoid constitutional entanglements and intrastate flying is left to the control of the states. Id. at 8.
Civil Aeronautics Board (CAB). The reorganization also created the Civil Aviation Administration (CAA), to which in 1948 the CAB delegated a number of rule-making powers, notably the power to investigate accidents involving aircraft under 12,500 lbs. gross weight\(^67\) - the size of a small cargo plane (such as the famous Douglas DC-3/C-47). The CAA was transferred to the Department of Commerce in 1950.\(^68\)

Despite the tinkering, aviation regulation was not keeping up with the technological developments in aviation. One of the prime areas of safety concern continued to be airspace allocation and a perceived need for improvements in radio navigation and air control system.\(^69\) Congress knew the airways were simply too crowded for the available controls to insure air safety. The Bureau of the Budget knew it, and, on May 4, 1955 appointed a committee to study the matter (The Harding Committee, or Aviation Facilities Study Group). The President knew it, and in February, 1956, appointed a Special Assistant for Aviation Facilities Planning to study the matter.\(^70\) But, once again, it took a disaster to spark real action in the federal government.

In 1926, economic pressure on the fledgling airlines and public fear of unsafe skies prompted federal regulation of aviation.\(^71\) In 1956, thirty years later, it was the Grand Canyon midair collision. Out of that disaster came

\(^69\) Most notably the TACAN-VOR/DME controversy. TACAN (Tactical Air Navigation) is a military guidance system, while the VOR (Very high frequency Omnidirectional Range)/DME (Distance Measuring Equipment, a ground-based transponder) had been developed around civil needs. The jet age placed new requirements on the military, and it was desirable to have a single system all could use. H.R. Rep. 2869, 85th Cong., 2d Sess. (1958). Another law indicating space allocation problems was the Federal Airport Act Pub. L. No. 377, 60 Stat. 170 (to relieve overcrowding of ground facilities).
\(^71\) See supra notes 55-59 and accompanying text.
the Federal Aviation Administration. Congress, "feeling the need for immediate action following the recent tragic air accidents," (the Grand Canyon midair was the most sensational but was not alone) received identical bills for the new agency.

With an understanding of the background leading to the creation of the agency, one can realize that it was no quirk that the preamble to the House Report states: "The principle purpose of this legislation is to establish a new Federal Agency with powers adequate to enable it to provide for the safe and efficient use of the navigable airspace by both civil and military operations."

The section of the legislative history dealing with Safety Rulemaking Authority goes a bit further, pointing out:

The problem of to whom and in what terms the Congress should delegate the safety rulemaking authority needed to carry out the purposes and intent of this legislation was one of the most difficult faced by the committee. . . . Rulemaking processes should not lag far behind advances in equipment and techniques.

Even in so-called visual flight rule flying [as in Grand Canyon], regulations are needed in the interest of safety, as shown by experience prior to passage of the Air Commerce Act of 1926.

How to insure the maximum possible safety and efficiency

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72 The accident has been thoroughly documented elsewhere, as many lurid events are. Of special interest to lawyers is the account of one participating plaintiff's attorney, Stuart Speiser. S. SPEISER, LAWSUIT 192-261 (1980). Two aircraft, a TWA Lockheed 1049A Constellation and a United Air Lines Douglas DC-7 arrived at the same place at the same time four miles above the Grand Canyon, in clear air and, arguably, under the control of the CAA Air Routes Traffic Control Center (ARTCC) at Salt Lake City. All aboard, 128 people, died. The wreckage fell in two areas 8 miles apart. Defense lawyers for the airlines initially denied that an accident had even occurred, and CAB reports confirming the nature of the crash were not permitted into evidence under federal statute. Id. at 197.


under proper regulations, impartially enforced, is one of the major problems in connection with this legislation.\textsuperscript{75}

The report concludes: "It is the intent of the legislation that the Administrator SHALL discharge his rulemaking powers in a fair and impartial manner to promote the public interest and to provide for the national defense."\textsuperscript{76}

The emphasis continues under the Title-by-Title Summary of General Powers: "Under this title the Administrator is required to prescribe air-traffic rules and regulations governing the flight of aircraft. . . . This . . . places the responsibility for the safe and efficient use of the navigable airspace. . . . in the hands of the Administrator."\textsuperscript{77}

Eventually, Congress backed away from its original forceful mandate. In a stroke of political mastery it inserted an escape clause capable of swallowing the entire act: "The Administrator is authorized to grant exemptions from any rule or regulation prescribed by him under this title if he finds that such exemption is in the public interest and, in addition, there is a general exemption from the Administrator's air-traffic control powers in case of a military emergency."\textsuperscript{78}

This is precisely what has been done under section 103. Ultralight flying machines and their pilots have been carefully exempted from much of the body of the Federal Aviation Regulations ("FAR").\textsuperscript{79}

Is this exemption consistent with the spirit of the Federal Aviation Act and its predecessors, and the legislative intent behind them? If it is not, what are the possible solutions available to those who may be either interested or damaged parties in seeing that a proper regulation is passed or redress is made available?

Having examined the general history of aviation law,

\textsuperscript{75} Id. at 3746-47.
\textsuperscript{76} Id.
\textsuperscript{77} Id.
\textsuperscript{78} Id.
\textsuperscript{79} The FARs comprise 14 C.F.R. §§ 1-199.31 (1985).
this paper now turns to the background of the FARs in general and 14 C.F.R. § 103 in particular.

D. Development of the FARS and Section 103

The Federal Aviation Act of 1958, as amended, is contained in title 49 of the United States Code. Safety Regulation of Civil Aeronautics, Subchapter VI of the Act, begins at section 1421. The general mandate issued by Congress is that the FAA “is empowered and it shall be [the Secretary of Transportation’s] duty to promote safety of flight of civil aircraft in air commerce by prescribing and revising from time to time,” such minimum standards for the design, materials and workmanship of airframes and powerplants, the issuing of airman certificates, and airworthiness certificates as the FAA “may find necessary to provide adequately for... safety in air commerce.”

The exemption clause of the original 1958 Act, capable of swallowing the entirety of Subchapter VI has been preserved. “The Secretary of Transportation from time to time may grant exemptions from the requirements of any rule or regulations prescribed under this title if he finds that such action would be in the public interest.”

The safety regulation powers delegated by Congress to the FAA are made more remarkable by the presence of a subdelegation clause giving the FAA the power to transfer its certification powers to private individuals provided only that they are “properly qualified,” or even to the su-

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81 Id. § 1421 (a) (1982).
82 Id. § 1422(a) (1982). Underinclusively referred to generally as “pilot’s licenses.” These actually included ratings for all aircrews, flight instructors, powerplant and airframe mechanics, flight controllers and other rated individuals. Id. § 1301(7) (1982)
83 Id. § 1423(c) (1982). These are inspection certificates that certify the capacity of aircraft to perform within certain discrete capability ranges. Roughly similar to automobile or marine inspections, they are in practice, quite exacting with certain notable exceptions, namely ultralight flying machines.
84 Id. § 1421(c) (1982).
85 Id.
supervised employees of such individuals, for the examination, inspection and testing necessary under Subchapter VI. This practice resulted in the development of various positions in which private citizens serve as FAA examiners. For example, Designated Flight Examiners are authorized to administer tests to pilots and issue certificates to them after a proper demonstration of aeronautical knowledge and skill, and collect fees for these services. Similarly, Designated Medical Examiners are qualified medical doctors who perform the flight physicals required of all flight crewmen. This practical system allows flight privileges to a far greater number of citizens than the FAA, with its limited budget, could possibly examine.

FAA regulations implementing the enabling Act's extensive requirements appear in Title 14, Code of Federal Regulations. They are extensive, and technically precise. The regulations include general definitions, which define, aircraft as a device that is used or intended to be used for flight in the air." Hot-air balloons are logically a subset of aircraft, and are so defined: "'Balloon' means a lighter-than-air aircraft that is not engine driven." Airplanes are also a distinct subset, (defined as an "engine-driven fixed wing aircraft heavier than air supported in flight by the dynamic reaction of the air against its wings"). Gliders are, roughly, airplanes which are not engine-driven. Ultralight flying machines which are powered hang gliders, would seem to be covered by this

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86 Id. § 1355(a) (1982).
87 The paper will return to this useful paradigm as one way out of the ultralight dilemma. See infra note 185 and accompanying text.
88 It is not the purpose of this article to go into the FARs as a body. A fairly representative portion is Part 23, Airworthiness Standards. The index to Part 23 14 C.F.R. § 23 (1985), shows the nature of the requirements which must to be met before any unexempted airplane may be issued an airworthiness certificate. The FAA requires a certificate before an unexempted airplane (i.e., any airplane except an ultralight) may be flown. Ultralight vehicles are exempt from Part 23.
90 Id.
91 Id.
92 Id. An increasing number of gliders use engines to gain altitude, but not to maintain altitude.
definition. This is not the case: they are, officially, not airplanes. They are, officially, "Ultralight Vehicles," and are regulated elsewhere.93

The FAA's failure to classify ultralights as airplanes also removes ultralight manufacture, service and marketing from the requirements of the FARs. 14 C.F.R. § 43 deals with the maintenance, rebuilding and alteration of "any aircraft having a U.S. airworthiness certificate"94 and "except as provided in this section no person may" do so.95 Persons who may do so are those manufacturers and repairmen certified by the FAA.96

Ultralight fliers seem intent on pursuing their sport despite the tremendous safety risks involved. The FAA has refused to address the problem, first by not recognizing it (in 1918) and then by down playing its importance (in 1956). The FAA seems to be saying, "if it isn't an airplane then we don't have to treat it like one." They do not even refer to it as an aircraft, although it is far more of an aircraft than a tethered hot-air advertising balloon.97 They have defined away the premise of the need to regulate.

This is not an attempt to heap blame on the FAA, for other constraining factors have been involved in the rule-making process, notably the tension induced by Executive Order 12291 of February 17, 1981.98 This is clear

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94 Id. § 43.1 (1985).
95 Id. § 43.3(a).
96 Id. § 43.3(b)-(h).
97 Aetna Ins. Co. v. Apollo Sleep Products, 164 Ga. App. 404 296 S.E.2d 281,(1982) (a hot air balloon with passenger gondola in flight, though only fifteen feet off the ground is "somewhere between" a hang glider and an airplane, and is, therefore, an aircraft). The 1985 NTSB Ultralight Accidents report, supra note 9, echoes this sentiment and notes nonsport use problems as well. The reporter states, "[t]he FAA's premise that ultralights need not be regulated because the activity is a sport is not totally consistent with its policy of regulating other aviation activities which can be considered sport flying." It notes gliders and manned free balloons as well as amateur-built aircraft must be inspected, and their pilots licensed. NTSB SAFETY REPORT supra note 9, at 27.
98 Exec. Order No. 12,291, 46 Fed. Reg. 13,193 (1981). Generally speaking, this order requires that all regulations be reviewed as to their economic impact on affected parties, and that the economic impact be kept minimally consistent with the purpose of the regulation.
from the Notice of Proposed Rulemaking (NPRM) that lead to 14 C.F.R. § 103, which states: "[t]he purpose of the rules is to provide maximum safety for all users while imposing the least amount of regulatory control consistent with maintaining flight safety. These objectives are consistent with, and achieve the purposes of, Executive Order 12291. . . ."

The original rulemaking group had recommended that existing regulations be amended by grouping ultralight vehicles with other species of airborne oddities in 14 C.F.R. § 101 (which covers moored balloons, unmanned free balloons, kites, and unmanned rockets) and to exempt them from or modify for them the requirements for nonmotorized hang gliders.99 Powered hang gliders would simply be considered aircraft for all purposes.100 They were considered beyond the scope of Advisory Circular No. 60-10 (hang glider safety parameters). Their operators would have to be licensed pilots, their strength and performance characteristics would be as rigorous as for other aircraft. Apparently the subsequent decision to ease off on the requirements for powered ultralights was in response to the Executive Order and to pressure from sporting and manufacturing groups. Ironically, and paradoxically, the pressure to not regulate (or at least to not regulate stringently) came at precisely the time when the real danger of a major disaster had become apparent.

The NPRM listed three recent examples of near disaster, and the Final Rule publication listed a fourth. On April 11, 1981, a Western Airlines Boeing 727 captain reported a near-miss with an ultralight near Phoenix. On March 24, 1981, at night, a Mitsubishi-2 (an executive-type twin engine aircraft) passed between two ultralights off the end of a runway at Winter Haven, FL. Neither ultralight was operating with lights. NASA Alert Bulletin ("AB") No. 79-86 described a commercial air carrier fly-

100 Id. at 38,473.
ing on downwind approach to Raleigh-Durham passing between two hang gliders. In May, 1981 a single-engine airplane had a near-miss with an ultralight in Instrument Flight Rules ("IFR")\textsuperscript{101} weather conditions at 7000 feet near Paso Robles, California.

The first of these particularly highlights the danger. All of these incidents occurred after the period (not later than the March 16, 1974 date of AC No. 60-10) when the FAA had requested voluntary compliance with generally the same standards now being raised to the level of regulation.\textsuperscript{102} These standards, or parameters, deal with safe construction techniques such as not taking shortcuts; with operator safety, such as not attempting to fly inverted in an ultralight; as well as basic regulatory considerations such as not approaching commercially-served airfields and not making low flights over sporting events and other public gatherings. Voluntary compliance had not worked in the past, yet that is precisely the system on which the FAA intends to rely now.

The FAA has chosen not to promulgate Federal Regulations regarding pilot certification, vehicle certification and vehicle registration, preferring that the ultralight community assume the initiative for development of these important safety programs. The ultralight community is expected to take positive action to develop these programs in a timely manner and gain FAA approval for their implementation. Should this approach fail to meet FAA safety objectives, further regulatory action will be necessary.\textsuperscript{103}

\textsuperscript{101} Instrument Flight Rules are special regulations applying to aircraft operated in clouds and limited visibility situations, which require advanced license ratings and additional instruments and radio controls on the aircraft operating in them.

\textsuperscript{102} Specifically, the FAA recommended that manufacturers implement quality control procedures for materials and construction, training procedures, adequate instructions for the assembly of the kits from which most of these aircraft are built by their owners; hang glider operators "become familiar" with relevant regulations; and associations and individuals "work closely" with the FAA.

\textsuperscript{103} 14 C.F.R. § 103 (1985). A particularly grim example is listed: A 35-year-old father of four gave his children, all under twelve years of age rides in his brand-new ultralight. Fortunately no children were aboard when the nose wire securing
Why the FAA believes voluntary compliance will be forthcoming for regulations when there was little voluntary compliance for the "Recommended Parameters" is unclear. The NTSB report overlooks this as well, but does offer an observation as to a root of the problem: "there is no easy way to get the parameter information out to the ultralight user because the machines are unregistered and thus there is no record of whom to tell when there is something important to tell." As compliance with safety regulation really serves the operator's own best interest (to prevent him from breaking his neck through stupidity), compliance with either a parameter or a regulation to stay clear of airports is in the best interest of the ultralight operator. If he is going to ignore the parameter then he is going to ignore the regulation, too.

III. REMEDIES

A. RESTATEMENT OF PROBLEM

The FAA has created a statute, and in doing so has cre-
ated a group of hazards, two of which affect members of the general public, and of which the public is not aware. The hazards result from section 103, which permits uncertified pilots to pursue sport flying in uninspected aircraft. The FAA requests that these people comply voluntarily with the FARs, but acknowledges that such compliance has been spotty in the past. Turbine ingestion of the pilot, engine and structural components of an ultralight by a commercial aircraft will probably produce catastrophic effects.

There are a number of possible solutions. Probably none of them can prevent catastrophe, but any of them might delay the inevitable. All of them have some social cost. This paper presents them here.

B. PRIVATE REMEDIES

These remedies are not the central thrust of this paper. Probably the most obvious of these is the tort liability of the pilot who creates a catastrophe. The problem is that hardly anyone has the type of assets required to cover the liability for such a disaster. A second tort pocket, also likely to run dry quickly, is the dealer. The dealer's liability is enhanced if in selling the ultralight it has failed to tell the pilot that there are hazards other than simply losing airspeed and striking the ground. A third potential defendant, also open to the plaintiff in contract since the repudiation of contract privity requirements, is that of the manufacturer. The manufacturer is in a good position to spread the economic risk through insurance, the cost of which is passed on to the pilot. But if the manufacturer has not obtained insurance, and if the damage is considerable, then the manufacturer may be found to also have a shallow pocket. If the manufacturer is to be the acknowledged spreader of risk, then the best way to ensure that

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the manufacturer will be found financially whole is through agency action.

The most undesirable aspect of the tort remedy is that it is not prospective in nature. People have to be damaged before the tort action is effective. The private tort action defendant is not only probably financially unable to deal with the amount of damage, the action itself is retrospective in nature. Fear of tort liability is not going to deter a pilot who is willing to fly an ultralight. But neither is the existence of a statute going to provide compensation when the inevitable accident occurs. It would, however, provide a stronger plaintiff's case if it can be shown the ultralight pilot was in violation of the law.

C. PUBLIC REMEDIES

There are three sources of public remedies: the Congress; the Executive Branch, here represented by agencies; and the Judiciary. This paper focuses on Judicial solutions, however, Congress and the Executive Branch could produce additional solutions. In fact, Congress and the Executive are arguably in the best position to act without great fanfare. However, Congress and the Executive are subject to political concerns other than the prevention of accidents, and generally fail to act until political pressure is applied. Congress’s delay in enacting both the Air Commerce Act and Federal Aviation Act, illustrates that potential catastrophe is of little concern. Both Congress and the Executive are aware of their inherent short-sightedness as it underlies delegation. The FAA attempts to act prospectively, but has fallen behind the advance of technology, perhaps through no fault other than budget constraints.

D. Congressional Remedies

The Congressional remedy is legislation. The demonstrated tendency, however, is to delay until something so outrageous occurs that the Congressional conscience and constituency pressure forces action.
One measure that has died, and perhaps should be reconsidered as a solution to this problem, was the proposed Air Travel Protection Act of 1977 (Anderson Bill).\textsuperscript{108} The bill was referred to committee and never returned to the floor. The Anderson bill was a form of “no-fault” insurance, aimed at the domestic commercial air traveller. The damages provision of the bill applied to carriers, aircraft and component part manufacturers, the federal government and any other person legally liable for an aircraft accident.\textsuperscript{109} It only had effect if five or more persons were killed or hospitalized in a single accident,\textsuperscript{110} or if damages reached a minimum limit of $2.5 million by any individual person, or $5 million aggregate; or $5000 or more by each of 50 or more persons provided such damages aggregated to more than $1 million.\textsuperscript{111}

This describes the catastrophic case. In essence, the Secretary of Transportation would issue an insurance certificate to the air carrier,\textsuperscript{112} who in turn would collect premium payments as part of the ticket price from the passenger.\textsuperscript{113}

The other side of the act would have been elimination of fault issues, waiver of defenses of contributory negligence, charitable immunity, governmental immunity, and the imposition of a 2-year statute of limitations on compensatory actions.\textsuperscript{114} Jurisdiction would lie in federal district courts, with venue open.\textsuperscript{115}

\textsuperscript{109} Id. § 1404 (4). Presumably usual proximate cause/consequential damages limits would be applied to determine what constituted a “single” accident.
\textsuperscript{110} Id. § 1401(4).
\textsuperscript{111} Id. § 1402(a).
\textsuperscript{115} An interesting discussion of this measure by a panel of aviation lawyers may be found in \textit{The American Association of Trial Lawyers, The Future of Aviation Tort Litigation} 10-23 (1978). The bill came on the heels of 555 deaths in the take-off collision of two Boeing 747s, one owned by Pan American, the other
This would be of no assistance at all to the domestic private air traveller, but the private traveller plaintiff probably has a better chance of recovering under a tort action, simply because he is not one of a large number of passengers. The defendant pocket is probably going to be deep enough to handle some damage. Most private flights involve a relatively small number of passengers.

Another way in which Congress could act would be to overrule the regulation passed by the FAA. It is unlikely to do so, for political reasons. Further, it may not be readily possible to do so if opposed by the FAA and the President, following I.N.S. v. Chadha. The Federal Aviation Act does not appear to contain such a clause, so at first it would not appear to be affected by Chadha. But the case does point out to the Executive branch, and the agencies, in stark light, that so long as they resist Congressional encroachment on existing power, it will take a two-thirds vote of Congress to overwhelm that resistance. Any concept of “inherent” power to review is certainly dead after Chadha, if indeed it ever existed.

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by KLM, in the fog at Tenerife, Canary Islands, on March 27, 1977. Again, tragedy before action by Congress.

103 S. Ct. 2766 (1983). Chadha, an alien, resisted deportation. An Immigration Law Judge (“ILJ”) acted to suspend the deportation proceedings. The House of Representatives by resolution, pursuant to Section 144(c)(2) of the Immigration and Nationality Act, 8 U.S.C. § 1252(S) (1982), vetoed the action of the ILJ. The Supreme Court held the veto-by-resolution clause of the Act unconstitutional. Neither house of Congress, nor the Executive, may delegate its legislative authority to a house of Congress. Bicameralism is essential. Justice White, dissenting, pointed out that such ruling guts nearly two hundred similar clauses in which, as he characterizes the action by the Congress, the legislature has merely reserved from the various Acts affected a right of review not rising to a threat to the separation of powers. 103 S. Ct. at 2792. The United States Constitution, of course, gives the power to Congress to override Executive branch regulation by majority vote in both houses, or a Presidential veto by two thirds majority in both houses. It may also overrule the Judiciary by the constitutional amendment process. In Chadha Congress had attempted to override Executive Branch regulation by majority vote of either house.

117 "Neither the House of Representatives nor the Senate contends that absent the veto provision in section 244(c)(2), either of them, or both of them acting together, could effectively require the Attorney General to [act one way] once the Attorney General, in the exercise of legislatively delegated authority, had [acted the other way]." 103 S.Ct. at 2785 (extensive footnote omitted). There does remain the informal control by Congress via the budget. This blurs the line be-
power to review agency action exists at all, the court continues, it exists in the courts, which, "can always 'ascertain whether the will of Congress has been obeyed.'" The Federal Aviation Act does not appear to have such a reservation of review clause, and is not among those cited by Justice White.

E. Executive Branch Remedies

This Executive Branch is undoubtedly the best equipped to correct the problem. It is here, after all, that the regulatory aspect of the problem originated (the other aspect being the technological advance). Hopefully this is precisely where solutions of a preventive nature will arise.

One executive agency which could act is the FAA itself. Since the FAA has already given the matter considerable thought and elected to exempt ultralight machines and their operators from FAA examination as to fitness, this paper will proceed without discussing how the FAA might resolve the problem. Regulatory suggestions which the FAA might wish to consider follow.119

An alternative agency which, arguably, has powers in this area is the FTC.120 (This paper gives no special atten-

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118 Id. at n.16, citing Yakus v. United States 321 U.S. 414, 425 (1944).
119 See infra note 175 and accompanying text. See supra note 105 and accompanying text for a discussion of NTSB recommendations. Note that the NTSB is merely an advisory agency with no rulemaking power beyond its own operational requirements. It can however, exert pressure on the executive branch. The NTSB is currently exerting pressure on the FAA concerning ultralights.
120 The FAA has determined that ultralight vehicles are not aircraft and never refers to them as such. This was done so that they would not be subject to regulations affecting aircraft except by specific reference within 14 C.F.R. § 103 (1985). If ultralights are not aircraft then they may still be a consumer product. In fact they are advertised and sold as such, in user-assembled kits, often as just one more product in a dry goods stores inventory. As the FTC has a general power to protect consumers from "substantial injury," it could require minimum standards for the product and for advertising and sales of the kits. Safety instructions, along with warnings could be included in assembly kits. The FTC could also require minimum standards for construction and quality controls in the kit manufacturing process, perhaps even licensing of the manufacturers. For a current, thorough review of the FTC's extraordinary power, see Lane, Schechter and the FTC: A Roving
tion to the Consumer Product Safety Commission. CPSC action would undoubtedly be as unwelcome by the FAA as FTC action for the same reasons discussed here. It is, however, an additional consideration for the Executive Branch.) The FAA, it is assumed, would strongly oppose any action by the FTC on the matter of ultralight aircraft. The legislative history of the FAA and the Air Commerce and Federal Aviation Acts gives this position considerable support. The fragmentation of authority over the airways up until the 1958 Act was the major cause of the problems leading up to the Act. Federal preemption of authority from the states is specific.\textsuperscript{121} There was also included a repealer clause for inconsistent law.\textsuperscript{122} Areas otherwise reserved to the FTC are specifically assigned to the CAB as they relate to aviation.\textsuperscript{123}

But the regulations do not say that the FAA shall have design control over non-aircraft. The FAA has gone far out of its way to insure that ultralight vehicles are not considered aircraft (thus exempting them from, e.g., registration requirements under 49 U.S.C. § 1401(c)). It could be argued that having exempted ultralights from aircraft status, the FAA cannot suddenly shift its position and claim control over their manufacturing and packaging under the claim that they are, indeed, aircraft. But the FAA response would be that the exemption clause of 49 U.S.C.


\textsuperscript{122} Where the policies of the Energy Policy and Conservation Act, 42 U.S.C. § 6201 (1982), came into conflict with decision making by the FAA it was held that the former should supplement, not preempt, the latter. Ohio/Indiana Points Nonstop Service Investig. (1971), CAB Adv. Dig., 25, (February, 1978).

\textsuperscript{123} See 49 U.S.C. § 1302(a)(7) (1982). The prevention of unfair, deceptive, predatory or anticompetitive practices in air transportation is assigned to the CAB. Under sunset provisions this will be reassigned.
§ 1421(e) preempts any purported FTC power to step in merely because the FAA has chosen to not require compliance of a narrow category of vehicles.

F. Judicial Remedies

Assuming that Congress and the Executive Branch will not act to alleviate the hazard created by 14 C.F.R. § 103, there remain potential judicial remedies for the failure of the statute. These are the least desirable, largely due to the necessity for fault-finding in legal action.

Courts function in two ways, prospectively and retrospectively. In the prospective mode their key tools have been the mandamus and injunction writs. Injunction, the staying by the court of a proposed action, is inapplicable to the problem under consideration. In the post-hoc, retrospective mode, several tools are available, notably (for the purposes here) the redistribution of damages through the tort action. This paper will focus on mandamus and tort action, the former to force action and the latter to adjust damages should no FAA action be taken.

1. Mandamus

It is important to consider initially whether the remedy of mandamus is being requested in order to correct agency inaction or undesirable action. The difference is one of nonfeasance versus malfeasance. The action of the FAA might be characterized either way. It could be argued that the FAA action is malfeasance due to the positive steps taken to create a regulation exemption. On the other hand, the situation could be perceived as agency refusal to regulate an identified hazard within its congressionally stipulated area of responsibility and thus be characterized as nonfeasance.

If one argues nonfeasance, a useful analytical matrix is available. Assuming that the FAA inaction is the problem here, then the courts will wish to decline to review for

194 See, e.g., Note, Judicial Review of Administration Inaction, 83 Colum. L. Rev. 627
four traditional reasons: lack of clear congressional intent; judicial inability to analyze the problem of the case; presumptive availability of political controls; and justiciability failure.

The first three objections by the court are debunked for this case. The history of air law generally, and federal safety law in particular, makes it plain that Congress does not wish this type of hazard to exist. Judicial inability is a make-weight argument and gloss for rejecting a case the court simply does not want to hear. This paper acknowledges that political controls are preferred but often fail to function in a timely way. Justiciability, however, remains a key problem and is present in both the inaction and faulty action cases.

a. The Problem of Justiciability

Three barriers to one seeking judicial review of section 103 compose the problem of justiciability: finality of agency decision, commitment by Congress to agency discretion, and standing. The first of these is satisfied by the issuance of the final regulation by the FAA, after following appropriate rulemaking procedures. Finality was reached when the final rule went into effect on October 4, 1982. The second, required under section 10 of the Administrative Procedure Act, prevents courts from reviewing agency action "committed” to agency discretion unless that discretion has been abused.

(1983). This is a thorough and thoughtful article, extremely important reading for anyone challenging an agency.

127 Id. § 706(2)(a). In analyzing whether there is a commitment to agency discretion and whether there has been an abuse of that discretion, the federal courts have looked to the nature of the regulation under challenge and the nature of the enabling act. See, e.g., Kliendienst v. Mandel, 408 U.S. 763 (1972) (no judicial intervention on decision of Attorney General to decline waiver of statutory exclusion of alien); Hahn v. Gottlieb, 430 F.2d 1243 (1st Cir. 1979) (courts are ill-equipped to superintend economic and managerial decisions of the Federal Housing Administration with respect to rent increases for federally subsidized housing); United States ex rel. Schonbrum v. Commanding Officer, 403 F.2d 37 (2d Cir. 1968) (judicial review of correctness of discretionary refusal to grant hardship ex-
The third justiciability requirement, standing, presents more of a problem. Standing has not been granted by the statute itself. There are two barriers within the standing issue itself: Constitutional and "prudential" limitations. Under Article III of the Constitution, plaintiffs as a group are limited to those who can show "injury in fact." This may be economic, quasi-economic, or literal. The Administrative Procedure Act has carved out a hole in the relatively harsh Constitutional barrier through section 702, which provides for review in cases where the plaintiff is "suffering a legal wrong...or is adversely affected or aggrieved." The Supreme Court has shown a willingness to allow plaintiffs to fall within the "zone of interest of the statute" and thus have standing to seek review of their claims.

Assuming such standing can be shown, the court will review the complaint. But it will still refrain, for prudential reasons, from interference with certain types of agency action and inaction. This paper now examines the boundaries of the judicial limitation.

b. Judicial Review of Agency Abuse of Discretion

The capacity of the courts to intervene in the face of agency delay and inaction is somewhat more problematic. See also Citizens to Preserve Overton Park v. Volpe, 401 U.S. 402 (1971) (Such exceptions will be viewed, "very narrowly."). In the situation of 14 C.F.R. § 103, there is, in view of the legislative history of the Act and the agency history of strict and thorough regulation of airmen and aircraft, certainly enough "law to apply."


129 Cf. Sierra Club v. Morton, 405 U.S. 727 (1972). (Sierra club has no standing to sue for environmental damage since there is no individual injury).


131 Camp, 397 U.S. at 153-57. The court will examine the Act to see if the plaintiff is within the class of persons protected by the statute, and the purposes of the statute. Thus a plaintiff in an action concerning 14 C.F.R. § 103, (1985) would have to be someone vulnerable to a harm from which the Act was designed to protect. Such a person might be another pilot, regular passenger, or shipper in air commerce.
than their capacity in the face of abuse of discretion.\textsuperscript{132} Mere slowness of the agency is usually not cause for judicial intervention, unless the delay becomes outrageous.\textsuperscript{133} Even if the court is inclined to order an agency to act, the order will probably be limited, not dictating what decision the agency will make. Rather, the court will merely order the agency to decide something one way or the other. Particularly clear on this point is the 1983 case of *Public Citizen Health Research Group v. Auchter*.\textsuperscript{134} The trial court framed the issue as whether the Secretary of Labor's decision, based on the record before him, was arbitrary and capricious, and thus abuse of discretion. In arriving at its holding the court first examined the OSHA enabling legislation under which "the Secretary of Labor is required to issue an emergency temporary standard regulating industrial exposure to a toxic substance if he finds that employees are placed in 'grave danger' from exposure . . . and that such a standard is 'necessary' to protect the employees."\textsuperscript{135} The court next acknowledged that "Congress has shouldered the courts with the responsibility of overturning agency action which is found to be arbitrary, capricious, an abuse of discretion or otherwise not in accordance with law," under 5 U.S.C. § 706 (2)(A).\textsuperscript{136} The court stated further:

This standard of review contemplates a searching and thorough investigation, however, administrative determinations are necessarily accorded substantial deference in

\textsuperscript{132} B. Schwartz, Administrative Law 613 (1976).


\textsuperscript{134} 554 F. Supp. 242 (D.D.C.), rev'd, 702 F.2d 1150 (D.C. Cir. 1983). The Occupational Health and Safety Administration ("OSHA") had conducted a long series of studies on the effects of ethylene oxide, a sterilant and process chemical, in the work place, and had set a worker exposure maximum. New studies presented by the plaintiff indicated a higher risk than the defendant OSHA had previously recognized indicating, plaintiff argued, that a lower maximum acceptable exposure level should be immediately promulgated by OSHA through the extraordinary remedy of the Emergency Standard Order. Defendant OSHA disagreed on the emergency nature of the situation and declined to issue the emergency standard.

\textsuperscript{135} 554 F. Supp. at 244, citing 39 U.S.C. § 655 (c) (1982).

\textsuperscript{136} 554 F. Supp. at 245.
recognition of an agency's expertise and competence in the areas it regulates. Courts will not substitute their judgment for that of the agency.

The standard of review is a narrow one requiring the court to determine whether the agency acted within the scope of its authority, whether the challenged decision was "based on a consideration of the relevant factors and whether there has been a clear error of judgment." *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 415-416 (1971) ("the agency must articulate a 'rational connection between the facts found and the choice made' "). . . . In *Overton Park* the Court "interpreted the arbitrary and capricious test to require a 'substantial inquiry' subjecting the agency's action to a 'thorough, probing, in-depth review.'" 137

The United States Court of Appeals for the District of Columbia Circuit agreed with the standard of review used by the district court,138 but reversed the judgment of the court on its application of that standard to the facts of the case.

The trial court found a level of danger so compelling as to substitute its judgment for that of the agency as to the issuing of the emergency order. The appellate court did not feel the situation was so grave as to warrant the drastic measure sought by the plaintiff, but found the situation sufficiently unsettling to order expedited rule-making proceedings.139 140 The court suggests a standard by which agency delays should be measured before a court should intervene with an order expediting rule-making:

Delays [by an agency] that might be altogether reasonable in the sphere of economic regulation are less tolerable when human lives are at stake. See, e.g., 587 F.2d 329, 334 (C.A. 6 1978); *Environmental Defense Fund v. Hardin*, 428 F.2d 1093, 1099 (D.C. Cir. 1970)." The risk of

137 Id.
139 Id. at 1158.
140 Id. at 1157.
human life need not be a certainty to justify expedition. As in Hardin, 'if petitioners are right,' in their claim that ethelene oxide presents a serious hazard for a significant number of workers, then 'even a temporary refusal [to act] results in irreparable injury on a massive scale.' 428 F.2d at 1099.\textsuperscript{141}

The court goes on to carve out some exception areas to this standard. "We would hesitate . . . if such a command would seriously disrupt other rulemakings of higher or competing priority."\textsuperscript{142} But it finds no such barrier on the facts. And, it states, "We cannot 'compel solutions where none exist,' but we 'must act to make certain that what can be done is done.'"\textsuperscript{143} However, the court is careful in only ordering the agency to act, not ordering what the agency must decide. On the contrary, the appellate court chastised the involvement of the District Court in the evaluation of scientific evidence:

In light of the mixed fact/policy judgment Congress empowered OSHA to make on uncertain evidence, we cannot say, as the district court did, that the decision not to issue an ETS [Emergency Temporary Standard] lacked support in the record. . . . We are not positioned to say that the expert Agency acted impermissibly in this regard. . . . [U]nable to venture even a guess. . . .we must defer to the [agency] determination that the evidence is inadequate [to necessitate issuance of] an emergency standard.\textsuperscript{144}

The court is attempting to balance the polarity between its own burden of carrying on a thorough, probing, in-depth review, and its deference to the expertise of the agency. "The fact that the interests at stake are not merely economic interests in a license or a rate structure, but personal interests in life and health,"\textsuperscript{145} and not merely of the workers themselves but, here in the face of a

\textsuperscript{141} Id. at 1157, n. 26.
\textsuperscript{142} Id. at 1158.
\textsuperscript{143} Id. at 1158, quoting American Broadcasting Co. v. F.C.C., 191 F.2d 492 (D.C. Cir. 1951).
\textsuperscript{144} 702 F.2d at 1156.
\textsuperscript{145} Id.
carcinogenic and mutagenic compound, their unborn young, seems to be the trigger for court action. It does so hesitantly, and only orders action take place, but does not attempt to write the rule for the agency.

In *Atlantic & Gulf Stevedores, Inc. v. Donovan*, the United States Court of Appeals for the 5th Circuit stated that all that is involved is the power to compel the agency to proceed, "a command to hear and adjudicate, not a command to tell him how it is to be decided." Thus the FAA can be argued to have fairly unlimited discretion, based on a record, to act as it expertly decides. But it may not, and does not in all cases, have the discretion to not act at all.

In the case of section 103, the agency has acted. The FAA has made a rule. And it is not so venal as to write a rule saying only that "ultralight vehicles are hereby not regulated," rather that they are not subject to all the regulations to which "aircraft" are subjected. The FAA has dodged the complaint that they have failed to act at all. Thus it may be fairly said that the remedy of 5 U.S.C. § 706(2), mandamus, is not going to be available to compel the FAA to promulgate regulation of the ultralight, unless the court is persuaded that a danger greater than that danger posed to workers by ethelene oxide is being presented to a fairly large number of people, although how many may be required is not clear.

2. *Tort*

As an alternative to the remedy of mandamus, and assuming that the worst or some lesser case has occurred,

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146 *Id.* at 1158.
147 *Atlantic & Gulf Stevedores, Inc. v. Donovan*, 274 F.2d 794 (5th Cir. 1960).
148 *Id.* at 798.
149 *The worst case, ultralight ingestion leading to flameout over an urban area may not be the most remote. Aircraft tend to congregate in two general areas: along airways, particularly at navigation aids which are remote from urban areas; and near airports. The ignorant ultralight flier would be more attracted to the latter which he can see, than he would be to the former, the existence of which he would likely be unaware.*
then there remains the problem of apportionment of damages. This paper has addressed the private tort remedy above, and indicated why it is likely to be less than satisfactory for the families and estates of the victims. There remains the potential for tort action against the government.

Historically, looking towards the government in tort is an honorable tradition in the law. The government is often seen as the last insurer of the people. Winning such an action is another matter. The defendant sovereign has always made it difficult for the plaintiff, under the doctrine of sovereign immunity. In the United States, many states have lowered the immunity bar, some rather completely.\textsuperscript{150} The Federal government, of course, has lowered the bar in spots, but not completely, through the Federal Torts Claim Act ("FTCA").\textsuperscript{151}

Whether a function is committed to agency discretion, a limitation growing out of separation of powers which, when found to exist makes judicial review less desirable in the eyes of the courts without absolutely precluding it, or not is a fuzzy line which has been tested repeatedly. In \textit{Downs v. United States},\textsuperscript{152} the court discussed the legislative background of the FTCA, and described its basic purpose as to relieve Congress of the burden of processing private relief bills. Although the record of the legislation leading to the FTCA referred to examples of, driving a car, as the type of judgment by an agent for which compensation might be had, the Supreme Court in \textit{Dalehite v. United

\textsuperscript{150} See, e.g., Campbell v. Indiana, 259 Ind. 284, 284 N.E. 2d 733 (1972).

\textsuperscript{151} 28 U.S.C. §§ 1346, 2671-2680 (1982). As to the social desirability of the sovereign immunity doctrine, Prosser said, "Just how this feudal and monarchistic doctrine ever got itself translated into the law of the new and belligerently democratic republic... is... a bit hard to understand." W. Prosser, supra note 3, § 131. The FTCA is shaped as a rule of general immunity with noted exceptions. The statutory exceptions to FTCA are at 28 U.S.C. § 2680 (1982). Of interest here is section 2680(a): "[the Act shall not exclude] any claim based upon an act or omission of an employee of the Government, exercising due care, in the execution of... a regulation... based upon the exercise or performance or failure to perform a discretionary function..." 28 U.S.C. § 2680(a).

\textsuperscript{152} 522 F.2d 990 (6th Cir. 1975).
States specifically rejected such a notion. As the Downs court observed, "The [Dalehite] 4-3, majority opinion concluded that immunized discretion includes determinations made by executives or administrators in establishing plans, specifications or schedules of operations. Where there is room for policy judgment and decision, there is discretion. Later opinions have suggested a more restrictive view of the exception without setting forth clear guideposts for decision." The Dalehite opinion, then, despite the strength of the dissent and lack of full court, has set the tone for "discretion," and the later opinions have been even more conservative. This type of thinking by the court would seem to make the drawn-out rulemaking that went into section 103 fit cleanly into the discretionary, immune, category of government actions. Fortunately, that may not be entirely the case, as is discussed below.

It is also well to bear in mind that proximate cause limitations begin to appear when discussing possible governmental tort liability. The duty, if there indeed is one, is from the government to third parties. With or without controls placed on the flying of these machines, there remains the distinct intervening negligence of the the pilot. As is mentioned below, pilot negligence can obviate government duty. In addition, there are other possible inter-

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154 Downs, 522 F.2d at 996.
155 In Dalehite, 8500 claimants asked $200 million in damages, when negligence in handling and packaging of nitrate fertilizer caused a ship to explode, causing the Texas City disaster. The majority declared the government was not liable since the cause of the disaster was the consequence of a cabinet-level discretionary function decision to aid Europe. Justice Jackson vigorously dissented. "The government insists "that each act or omission upon which the charge of negligence is predicated — the decisions as to discontinuing the investigation of hazards, bagging at high temperature, [choice] of paper bagging material, absence of labeling and warning — [each] involved [the] conscious weighing of expediency against caution and was therefore within the immunity for discretionary acts provided by the Tort Claims Act." Dalehite, 346 U.S. at 57. Jackson concluded, "Surely a statute so long debated was meant to embrace more than traffic accidents. If not, the ancient and discredited doctrine that 'The King can do no wrong,' has not been uprooted; it has merely been amended to read, 'The King can only do little wrongs.' " Id. at 60.
vening actors including the manufacturers and organizations which have undertaken (with the blessing of the FAA and in reliance of which, in part, the regulation was passed in the form it finally took) to inform the ultralight-using public of the dangers to themselves and to others. If there is a duty to the passengers, shippers, owners and crews of the "worst case" commercial jet accident, it is grounded in reliance by the public on the government's undertaking to control the airway, which public reliance is always a tenuous theory for a case.

The are two classes of aviation torts which involve the government as the putative defendant: those in which the government has acted and those in which the government has failed to act. Which of the two categories is relevant depends on whether the court characterizes the promulgation of section 103 as an act (passing a regulation) or a failure to act (failure to execute Congressional will as expressed in the enabling act). As between the two, negligence in performance is the more common, and is addressed first.

In a recent case, similar in structure to the hypothesized case under discussion, summary judgment against the plaintiff, dismissing the complaint, was affirmed on appeal. In *Garbarino Cessna v. United States*, a four seat general aviation craft crashed on takeoff and the pilot died. The plaintiff claimed, in addition to negligent performance by air traffic control, that the government had tortiously failed to prescribe sufficient safety regulations to

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157 These manufacturers and organizations include, among others, the United States Hang Gliding Association, the Experimental Aircraft Association, General Aviation Manufacturers Association and the Aircraft Owners and Pilots Association.
158 See, e.g. Indian Towing Co. v. United States, 350 U.S. 61 (1955). (failure of those in charge of a lighthouse to check the electrical system was "operational" and involved no discretion). The public was able to put its faith in the government, but liability arose for the operational failure, rather than the decision to maintain or not maintain a lighthouse. If the government is going to act, it must act properly at the operational level, but it need not so act at the executive level).
159 666 F.2d. 1061 (6th Cir. 1981).
160 *Id.* at 1062.
assure the crashworthiness of the aircraft.\textsuperscript{161} The court, after discussing the background of both the Federal Aviation and Federal Torts Claims Acts, was convinced that the FAA had considered and had acted to promulgate sufficient regulation.\textsuperscript{162} "The [FTCA discretionary acts] exception does bar claims that the United States is liable for the failure of its officials 'to impose a more strict set of air safety regulations,\textit{Miller v. United States}, 522 F.2d 386,387 (6th Cir. 1975), or for the failure of FAA to promulgate rules and regulations which promote the safety of hang gliders. \textit{Fielder v. United States}, 423 F. Supp. 77 (C.D. Cal. 1976)."\textsuperscript{163}

The court did not stop there. It said, "We further conclude that the discretionary function exception also bars that portion of the claim based on the decision of the FAA to delegate inspection duties to an inspection department of the manufacturer. \ldots \textit{[T]}here are sound policy considerations for not extending the Government's liability to situations involving the alleged negligent issuance of [airworthiness certificates]. \ldots \textit{[In effect it would]} make the Government a joint insurer of all activity subject to safety inspection."\textsuperscript{164} The court then cited with approval the case of \textit{Clemente v. United States},\textsuperscript{165} in which the court said, "We do not believe that the expanded role of the federal government in the safety area through such legislation as OSHA indicates an intent of Congress to make the United States a joint insurer of all activity subject to inspection under that statute or others."\textsuperscript{166}

\textit{Garbarino} is important to the present matter for two reasons. Not only does it seem to block characterization of negligent performance as a nondiscretionary function, it characterizes safety regulation rulemaking as discretion-

\begin{flushright}
\textsuperscript{161} \textit{Id.} at 1063. \\
\textsuperscript{162} \textit{Id.} at 1065. \\
\textsuperscript{163} \textit{Id.} at 1066. \\
\textsuperscript{164} \textit{Id.} \\
\textsuperscript{165} 567 F.2d 1140 (1st Cir. 1977), \textit{cert. denied}, 435 U.S. 1066 (1978). \\
\textsuperscript{166} \textit{Clemente}, 567 F.2d at 1151.
\end{flushright}
It also plainly reaffirms the power of the FAA to delegate its power without respondeat superior recourse.\textsuperscript{166} Garbarino is in accord with Auchter.\textsuperscript{169}

Whether or not it is desirable to have the government act as insurer of, as opposed to aid to, aviation is a jurisprudential and political science question. One author\textsuperscript{170} has explored the question of when governments have a duty to give protection to citizens threatened by harm to personal interests, with a focus on power relationships. Power and law, some would argue, are as two sides of an object: neither exists without the other, and if one side fails to function, yet the other is still available.

In the case of ultralight aircraft hazards to others, the tort liability of the government, for now, is clearly nonexistent at law. The FAA has no duty enforceable at law to make whole those the ignorant pilot of an ultralight might injure. Whether it has a moral duty is beyond the scope of this paper, although the point is debatable.

The best remedy a court is going to be able to give is an issuance of mandamus to license the pilots. But this extraordinary writ, not used lightly, is rarely issued to specify what, precisely, the agency must do.\textsuperscript{171} The writ could not tell the FAA to do more than it already has done.

It would seem then, that the best path to relief, if not through the Executive nor the Judiciary, remains through the legislature, both houses acting together, or even more likely, through the political persuasion process.

\begin{footnotes}
\item[167] Garbarino, 666 F.2d at 1065.
\item[166] Id. at 1066.
\item[169] See supra note 134 and accompanying text, where failure to promulgate a safety regulation was held an abuse of discretion. Here, arguably, the FAA has not failed to promulgate, rather failed to promulgate in accord with the spirit of its 1958 enabling act.
\item[171] Kerr v. United States District Court, 426 U.S. 394 (1976). The court said, "The remedy of mandamus is a drastic one, used only in extraordinary circumstances." Id. at 402. It is only available if a petitioner can establish that he has, "a clear and present right" to relief and that the duties of the respondent are ministerial, plainly defined and peremptory. Albert v. United States District Court, 283 F.2d 61, 62 (6th Cir. 1960).
\end{footnotes}
IV. CONCLUSION AND SUGGESTION

There is a relatively simple system which the FAA\textsuperscript{172} in its discretion could implement which would remove most of the hazard presented by section 103.\textsuperscript{173} Two nations have already adopted this proposed system, licensing the source of the problem, the pilot, in such a way that he will act in a sense of self-preservation and in doing so will also preserve the lives of others.

Canada and Great Britain have adopted this system. In Canada civil aviation is controlled by the Air Regulations and Aeronautics Act. The present Amendment provides separate definitions for hang gliders and "ultra-light aeroplanes."\textsuperscript{174} The latter are a somewhat broader class of machines than those fitting 14 C.F.R. § 103, being described by wing loading factor and launch weight, but not by numbers of occupants nor performance characteristics.

\textsuperscript{172} This proceeds on the assumption that the state's capacity to control aviation has been utterly preempted by the Congress. Some recent cases have held this to be true. Where a municipality attempted to close a federally funded airport at night, it being a nuisance in the eyes of the local citizens, the court held that the city could not close a public airport, even though it was not required to make any ground services (such as fueling facilities) available to air traffic. The municipality controlled the terminals, but the FAA controlled the runways and airspace. United States v. New York, 552 F.Supp. 255 (N.D.N.Y. 1982). Analogies to marine usage are interesting, since access to the air is guaranteed, but limited. Access to waterways is similarly guaranteed, but limited. But not all waterways are controlled by the federal government and its responsible agencies such as, for example, the Corps of Engineers (navigable waterways) and National Park Service (designated park areas.).

\textsuperscript{173} There are also some relatively more complicated ways, such as requirements of manufacturer insurance, or the Air Transport Protection Act. See supra note 107-115 and accompanying text. Not only are they more complicated, and expensive, they are retrospective. The NTSB Safety Study, supra note 9, also suggests a system which this paper feels is too restrictive of social libertarian needs: classify the ultralights as airplanes and the pilots as certificated airmen. But that fails to consider the monetary costs of such status, particularly airworthiness certification, which would prohibit many would-be fliers from owning ultralights. Regulation of ultralight airworthiness focuses on protection of the pilot from his own assumption of risk and contributory negligence. The danger society should forestall, this paper argues, is the danger to itself, not to the individual pilot. Light aircraft represent a far greater physical hazard to others, passengers for example, than do ultralights, and thus society has a legitimate interest in the airworthiness of light aircraft.

\textsuperscript{174} Sec. 101(1). For clarification purposes, Canadian and British spellings are used in this section of this paper.
The Canadian ultra-light craft can be allowed higher capacities, because the operator must be licensed. The hang glider is exempt from registration. Ultra-light aeroplanes were also, until April, 1983.\(^ {175}\) None of the craft are required to have airworthiness certificates.\(^ {176}\) But after July 1, 1983, operators (pilots) of all aircraft, including ultra-light aeroplanes, are required to hold a "valid and subsisting personnel license." Hang glider pilots are exempt from license requirements.\(^ {177}\)

In Great Britain, a similar scheme is implemented by the Civil Aviation Act of 1982, and Statutory Instrument No. 1965. Ultralights are classed as aircraft, but as a mechanically-driven aeroplane (Self-launching motor glider).\(^ {178}\) They must be registered\(^ {179}\) and the pilot must be licensed\(^ {180}\) even for flying a glider\(^ {181}\) but the aircraft itself need not be subject to the rigorous airworthiness certification process, provided it is used for fairly narrow (sport) purposes.\(^ {182}\) The gross take-off weights are somewhat heavier than those allowed by 14 C.F.R. § 103, up to 150kg (330 lbs.) \(^ {183}\)

It would be enough, this paper argues, to require the pilot to have a simple, mail-in written examination,\(^ {184}\) or to submit himself, and perhaps his ultralight too, for examination by a Designated Examiner or concerned private organization, that would force him to consciously recognize not only the dangers of the sky to himself, but the danger he represents to others. Further, it would not be

\(^{175}\) Amend. 36, secs. 200, 200.1 (Jan, 1983).
\(^{176}\) Amend. 35, sec. 210 (Nov., 1982).
\(^{177}\) Amend. 37, secs. 400.1, 400 (May, 1983).
\(^{179}\) Id. Part 1, § 3.
\(^{180}\) Id. Part 2, § 6.
\(^{181}\) Id.
\(^{182}\) Id. § 8.
\(^{183}\) NTSB Report supra note 9, at 31. The report also examined regulations in Australia and Federal Republic of Germany and evidently found a range of regulations similar to the degree observed by this paper.
\(^{184}\) This would include such subjects as the national airspace system, simple weather analysis, basic flight rules, basic aerodynamics and special hazards such as wake turbulence and mountain waves.
too much to require manufacturers to utilize some sort of radar-reflective construction (such as aluminized mylar wing panels) which would assist air traffic control in spotting the ultralight and thus be able to warn other pilots of the presence, if not intent, of the craft. Such a regulation would be well within the constraint guidelines of Executive Order No. 12,291 urging consideration of the expense and counter-libertarian aspects of federal regulation. Such regulation would encourage the technological advance of aviation, permit the libertarian fool to break his own neck, but forestall the day when he will break his neighbor’s neck as well.

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186 If the FAA does not want to do this, the capacity and apparent willingness of the FTC to regulate the safety of consumer goods, which these vehicles arguably are, remains an alternative source of regulation. Understandably, in view of the disastrous results of earlier multi-agency control of aviation, it would be better to keep all aviation regulation under one agency, and that should be, by all logic, the FAA.