THE CASE FOR FEDERAL PREEMPTION OF THE NEGLIGENCE STANDARD OF CARE FOR AIRCRAFT MAINTENANCE

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INTRODUCTION

A key issue in aviation negligence lawsuits is whether federal law preempts state tort law duties.[1] The Federal Aviation Administration issues regulations that govern aviation safety including aircraft design, maintenance, and operation.[2] Justice Jackson once described the extent of these regulations: "Federal control is intensive and exclusive. Planes do not wander about in the sky like vagrant clouds. They move only by federal permission, subject to federal inspection, in the hands of federally certified personnel and under an intricate system of federal commands."[3] Federal regulations can establish the standard of care for negligence—displacing state law, such as the reasonable person standard[4]—based on field preemption.[5] Derived from the Supremacy Clause, field preemption occurs when the regulations are "so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it."[6] In a preempted field, a breach of duty requires a violation of a regulation.[7]

There is a widening circuit court split on the scope of federal preemption in the field of aviation safety. The Third Circuit originally issued the influential holding in *Abdullah*—adopted by the Second, Sixth, Ninth, and Tenth Circuits[8]—that federal regulations broadly preempt the "entire field of aviation safety."[9] But

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1. Dane B. Jaques & Matthew J. Clark, *Litigating the Aviation Maintenance Case*, *in* LITIGATING THE AVIATION CASE 149, 150 (Andrew J. Harakas ed., 4th ed. 2017).

2. *Safety First*, U.S. DEP'T OF TRANSP., https://www.transportation.gov/briefing-room/safety first/federal-aviation-administration (May 2, 2018).

3. Nw. Airlines v. Minnesota, 322 U.S. 292, 303 (1944) (Jackson, J., concurring).

4. GEOFFREY C. RAPP, TORT LAW IN FOCUS 126 (2020).

5. Jaques & Clark, *supra* note 1, at 150.

6. Burbank v. Lockheed Air Terminal, Inc., 411 U.S. 624, 633 (1973); *see* US Airways, Inc. v. O'Donnell, 627 F.3d 1318, 1324 (10th Cir. 2010).

7. Abdullah v. Am. Airlines, Inc., 181 F.3d 363, 371 (3d. Cir. 1999).

8. Montalvo v. Spirit Airlines, 508 F.3d 464, 468 (9th Cir. 2007); Greene v. B.F. Goodrich Avionics Sys., Inc., 409 F.3d 784, 795 (6th Cir. 2005); *O'Donnell*, 627 F.3d at 1327; Goodspeed Airport LLC v. E. Haddam Inland Wetlands & Watercourses Comm'n, 634 F.3d 206, 210 (2d Cir. 2011).

9. *Abdullah*, 181 F.3d at 365.

more recently in *Sikkelee*, the Third Circuit divided aviation safety into two categories: (1) in-air operation that is preempted and (2) design that is not.[10] The Second Circuit has made no such division, holding that both design and operation are preempted.[11] The First and Fifth Circuits have taken a narrower approach to preemption that focuses only on a particular field within aviation safety.[12] And standing alone is the Eleventh Circuit, holding there is no preemption.[13] This split remains unresolved as the Supreme Court recently missed an opportunity to clarify the scope of preemption when it denied certiorari to *Sikkelee* in 2020.[14]

Circuit courts have established precedents in the fields of aircraft design and operation, but no circuit court has yet addressed the closely related field right between them—aircraft maintenance. In recent years, the prevalence of lawsuits against maintenance providers has increased dramatically.[15] And today, maintenance providers "stand alongside defendant operators and manufacturers as one of the 'usual suspects' in aviation accident litigation."[16] It has now become important to analyze preemption in the field of aircraft maintenance.

The standard of care in the field of aircraft maintenance should be preempted because federal regulations are sufficiently pervasive to show Congress's intent to occupy the field exclusively. The regulations control the required maintenance for each aircraft; the step-by-step methods, techniques, and practices that must be used; and the certification of aircraft mechanics.[17] The industry is also continuously monitored with additional regulations, such as Airworthiness Directives, issued whenever an unsafe condition arises.[18] Congress intended the Federal Aviation Administration to regulate aircraft maintenance exclusively—a federal standard of care ensures it can do so.

Section I provides an overview of the federal government's regulation of aviation from the historical days to the Federal Aviation Administration today. Section II explains the current circuit court split on field preemption of the standard of care in aviation safety. Section III makes the case for preemption of the standard of care in the field of aircraft maintenance specifically. And Section IV discusses the application of a federal standard of care in practice.

I. HISTORICAL REGULATION, CREATION OF THE FEDERAL AVIATION ADMINISTRATION, AND TODAY'S FEDERAL AVIATION REGULATIONS

A. Historical Regulation and a Nod to Charlie Taylor—the First Aircraft

10. Sikkelee v. Precision Airmotive Corp., 822 F.3d 680, 689 (3d Cir. 2016).

11. Fawemimo v. Am. Airlines, Inc., 751 F. App'x 16, 17 (2d Cir. 2018); Jones v. Goodrich Corp., 422 F. Supp. 3d 518, 524 (D. Conn. 2019), *rev'd on other grounds*, 86 F.4th 1010 (2d Cir. 2023).

12. French v. Pan Am Express, Inc., 869 F.2d 1, 6-7 (1st Cir. 1989); Witty v. Delta Air Lines, Inc., 366 F.3d 380, 385 (5th Cir. 2004).

13. Pub. Health Tr. of Dade Cnty., Fla. v. Lake Aircraft, Inc., 992 F.2d 291, 295 (11th Cir. 1993).

14. *See* Avco Corp. v. Sikkelee, 140 S. Ct. 860 (2020).

15. Jaques & Clark, *supra* note 1, at 149.

16. *Id.*

17. 14 C.F.R. § 43.13, 43.3, 65.

18. *Id.* § 39.5.

Mechanic

In 1903, the Wright Flyer "leapt into the air and onto the pages of history,"[19] and Orville and Wilbur Wright were credited with inventing the first airplane.[20] But a third contributor, Charlie Taylor—the first aircraft mechanic—is less known and deserves some of the spotlight.[21] Charlie worked for the Wright Brothers and performed their airplane maintenance.[22] Starting from a solid block, he machined a custom thirteen-horsepower engine that transformed the Wright Glider into the Wright Flyer.[23] Later, in 1911, Charlie was chief mechanic for the first U.S. coast-to-coast flight.[24] Charlie followed a Wright EX airplane from New York to California with a train car used as a rolling workshop.[25] This "hangar" car was filled with several sets of wings, a large supply of components, and spare parts.[26] With frequent mechanical failures, an engine explosion, and a serious crash, the plane had to be rebuilt so many times that almost nothing of the original plane remained.[27] Charlie was able to successfully complete all repairs until the pilot climbed aboard one last time—albeit on crutches—and finally reached the Pacific Ocean.[28]

Early aviation was dangerous and fatal accidents were routine,[29] prompting Congress to quickly respond to this new industry with a series of legislative enactments.[30] In 1926, the Air Commerce Act created the Aeronautics Branch of the Department of Commerce—the predecessor of today's Federal Aviation Administration—and gave it the responsibility for establishing airways and traffic rules, licensing pilots, and certifying aircraft.[31] All aircraft were required to be inspected for airworthiness.[32] While safety improved, high-profile accidents in the 1930s, including the death of popular University of Notre Dame football coach

19. Wallaesa v. FAA, 824 F.3d 1071, 1078 (D.C. Cir. 2016).

20. *The Wright Brothers*, NAT'L AIR & SPACE MUSEUM, https://airandspace.si.edu/explore/stories/wright-brothers (last visited Oct. 3, 2024).

21. *Charles E. Taylor*, NAT'L PARK SERV., https://www.nps.gov/people/charles-e-taylor.htm (Mar. 30, 2021).

22. *Id.*

23. *Charles E. Taylor*, NAT'L AIR & SPACE MUSEUM, https://airandspace.si.edu/support/wall-of-honor/charles-e-taylor (last visited Oct. 3, 2024).

24. *Wright EX Vin Fiz*, SMITHSONIAN, https://www.si.edu/object/wright-ex-vin-fiz%3Anasm_A19340060000 (last visited Oct. 3, 2024).

25. *Id.*; *Barron Hilton Pioneers of Flight Gallery*, NAT'L AIR & SPACE MUSEUM, https://pioneersofflight.si.edu/content/vin-fiz-hanger-car (last visited Oct. 3, 2024).

26. *Wright EX Vin Fiz*, *supra* note 24.

27. *Id.*

28. *Id.*

29. *A Brief History of the FAA*, U.S. DEP'T OF TRANSP., FED. AVIATION ADMIN., https://www.faa.gov/about/history/brief_history (Nov. 15, 2021).

30. *Id.*; *Air Mail and the Birth of Commercial Aviation*, NAT'L AIR & SPACE MUSEUM (Dec. 9, 2021), https://airandspace.si.edu/stories/editorial/air-mail-and-birth-commercial-aviation.

31. *Air Mail and the Birth of Commercial Aviation*, *supra* note 30.

32. *The Air Commerce Act of 1926*, AVSTOP.COM AVIATION ONLINE MAG., http://avstop.com/history/needregulations/act1926.htm (last visited Oct. 3, 2024).

Knute Rockne, elicited public calls for even greater federal oversight.[33] In 1938, the Civil Aeronautics Act created the Civil Aviation Authority, which was split in 1940 into the Civil Aeronautics Administration and Civil Aeronautics Board.[34] The Civil Aeronautics Administration was responsible for airways, air traffic control, airman, aircraft certification, and safety enforcement, and the Civil Aeronautics Board was responsible for accident investigation, safety rulemaking, and economic regulation.[35] Following the development of jet engines during WWII, commercial jet airliners took off in the 1950s.[36] With speeds increasing from 180 miles per hour to 480 miles per hour and air traffic doubling, the risk of collisions culminated in Congress's adoption of the Federal Aviation Act. [37]

B. The Federal Aviation Administration and the Promulgation of Federal Aviation Regulations for Aircraft Design, Maintenance, and Operation

Congress passed the Federal Aviation Act ("FAAct") in 1958, creating an independent Federal Aviation Agency responsible for regulating all civil aviation safety.[38] In 1967, this agency was reorganized within the newly created Department of Transportation and given its current name—Federal Aviation Administration ("FAA").[39] Congress directed the FAA to "develop plans and policy for the use of the navigable airspace and assign by regulation or order the use of the airspace necessary to ensure the safety of aircraft and the efficient use of airspace."[40] The FAA issues the Federal Aviation Regulations ("FARs"), which are recorded in 14 C.F.R. Parts 1-199 with subchapters including Aircraft, Airmen, Airspace, Air Traffic, Air Carriers and Operators, Airports, and others.[41] The regulations comprehensively cover airspace and aircraft safety—including how aircraft are designed, maintained, and operated.[42]

The FAA regulates aircraft design under Part 21 through three forms of certification: a type certificate, production certificate, and airworthiness certificate.[43] Aircraft design must comply with the extensive airworthiness standards for each category of aircraft.[44] A type certificate is issued to a manufacturer when the FAA finds the design of an aircraft meets the FAA's safety standards.[45] A production certificate is then issued when the FAA finds the manufacturer's quality system will produce duplicate aircraft that conform to the type certificate.[46] The

33. *A Brief History of the FAA*, *supra* note 29.
34. *Id.*
35. *Id.*
36. *Id.*
37. *Id.*
38. *Id.*
39. *Id.*
40. 49 U.S.C. § 40103(b)(1) (2024).
41. 14 C.F.R. §§ 1-199.
42. *Safety First*, *supra* note 2.
43. 49 U.S.C. § 44704 (2024); 14 C.F.R. § 21.
44. 14 C.F.R. §§ 23-36.
45. 49 U.S.C. § 44704(a) (2024); 14 C.F.R. §§ 21.11-.55.
46. 49 U.S.C. § 44704(c) (2024); 14 C.F.R. §§ 21.131-.150.

FAA then issues an Airworthiness Certificate to each individual aircraft that conforms to its type certificate and is safe for operation.[47]

Aircraft maintenance is regulated to ensure aircraft remain airworthy while in operation.[48] Under Part 43, the FAA regulates the "methods, techniques, and practices" used when performing maintenance.[49] The FAA limits who is authorized to perform maintenance and return aircraft to service by requiring a certificate as a mechanic, repair station, or operator.[50] Mechanics are certificated under Part 65,[51] repair stations are certificated under Part 145,[52] and operators have additional maintenance rules under Parts 91, 121, and 135.[53] And under Part 39, the FAA issues mandatory Airworthiness Directives whenever "an unsafe condition exists."[54]

The regulations for aircraft operation vary based on the kind of operation. General pilot and flight rules are in Part 91.[55] Commercial operators are regulated under Part 135 for on-demand (charter) operations[56] and under Part 121 for scheduled airline service.[57] There are regulations for the qualifications, training, and testing for pilots and crew.[58] And pilot certificates specify certain ratings based on aircraft type and the use of certain instruments.[59]

The FAA utilizes numerous field and regional offices to ensure compliance with its FARs through inspections and enforcement.[60] With an approximate annual budget of $24 billion and 45,000 employees,[61] the FAA safely manages more than 50,000 flights every day.[62] In carrying out its mission "to provide the safest, most efficient aerospace system in the world,"[63] the FAA is a robust regulator that has continued to grow along with the industry.

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47. 49 U.S.C. § 44704(c) (2024); 14 C.F.R. §§ 21.171-.199.
48. *Safety First*, *supra* note 2.
49. 14 C.F.R. § 43.13.
50. *Id.* § 43.3.
51. *Id.* § 65.
52. *Id.* § 145.
53. *Id.* §§ 91.410-.499, 121.361-.380, 135.411-.443.
54. *Id.* § 39.5.
55. *Id.* § 91.
56. *Id.* § 135.
57. *Id.* § 121.
58. *Id.* §§ 61, 63, 67.
59. *Id.* § 61.
60. *Offices*, U.S. DEP'T OF TRANSP., FED. AVIATION ADMIN., https://www.faa.gov/about/office_org (Dec. 7, 2023).
61. U.S. DEP'T OF TRANSP., FED. AVIATION ADMIN., BUDGET ESTIMATES FISCAL YEAR 2024, BUDGET EXHIBIT TABLES 1, 10, https://www.transportation.gov/sites/dot.gov/files/2023-03/FAA_FY_2024_President_Budget_508.pdf (Mar. 13, 2023).
62. *Safety First*, *supra* note 2.
63. *About FAA*, U.S. DEP'T OF TRANSP., FED. AVIATION ADMIN., https://www.faa.gov/about (Oct. 27, 2023).

C. A Primer on the Varieties of Preemption Under the Federal Aviation Act

The pervasiveness of the FARs makes the concept of federalism—the constitutional relationship between state and federal laws—critical in the context of aviation.[64] Pursuant to the Supremacy Clause, "Congress has the power to enact statutes that preempt state law"[65] where preemption means to preclude the use of state law.[66] Congressional intent is the "touchstone in every preemption case," and intent can be indicated "through a statute's express language or through its structure and purpose."[67] Preemption in aviation takes a variety of forms (often within the same case), and it has been characterized as a "somewhat Byzantine area of law."[68] For that reason, the varieties of preemption under the FAAct are summarized here to provide context, and ultimately clarify, the focus of this Comment—implied field preemption of the standard of care.

There are three types of preemption: express preemption, conflict preemption, and field preemption.[69] Express preemption "occurs when the language of a federal statute includes an express congressional intent to preempt state law."[70] Conflict and field preemption—having no express statutory provision—are both implied forms of preemption.[71] Conflict preemption occurs when compliance with both federal and state laws is a "physical impossibility" or when the state law is an "obstacle to the accomplishment and execution of the full purposes and objectives of Congress."[72] Field preemption occurs when Congress intended the federal government to regulate a field exclusively. [73] This intent "may be inferred from a scheme of federal regulation so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it."[74] And when Congress "expresses an intent to occupy an entire field, States are foreclosed from adopting any regulation in that area, regardless of whether that action is consistent with federal standards."[75]

A further distinction is whether there is complete preemption or only preemption of the applicable standard of care.[76] Complete preemption applies to

64. TIMOTHY M. RAVICH, INTRODUCTION TO AVIATION LAW, 211-12 (1st ed. 2019).

65. US Airways, Inc. v. O'Donnell, 627 F.3d 1318, 1324 (10th Cir. 2010).

66. Jeffrey J. Ellis, *Preemption of State and Local Aviation Law*, *in* LITIGATING THE AVIATION CASE 55, 55 (Andrew J. Harakas ed., 4th ed. 2017).

67. *O'Donnell*, 627 F.3d at 1324 (quoting Altria Grp., Inc. v. Good, 555 U.S. 70, 76 (2008)).

68. Day v. Skywest Airlines, 45 F.4th 1181, 1191 (10th Cir. 2022) (quoting Devon Energy Prod. Co. v. Mosaic Potash Carlsbad, Inc., 693 F.3d 1195, 1203 n.4 (10th Cir. 2012)).

69. *O'Donnell*, 627 F.3d at 1324; *see* RAVICH, *supra* note 64, at 212.

70. *O'Donnell*, 627 F.3d at 1324; *see* RAVICH, *supra* note 64, at 212.

71. RAVICH, *supra* note 64, at 212.

72. *Id.* at 212-13; *O'Donnell*, 627 F.3d at 1324.

73. *O'Donnell*, 627 F.3d at 1324; *see* RAVICH, *supra* note 64, at 212-13.

74. *O'Donnell*, 627 F.3d at 1324; *see* Burbank v. Lockheed Air Terminal, Inc., 411 U.S. 624, 633 (1973); *see* RAVICH, *supra* note 64, at 213.

75. Sikkelee v. Precision Airmotive Corp., 822 F.3d 680, 688 (3d Cir. 2016).

76. Alexander T. Simpson, *Standard of Care vs. Claim Preemption Under the Federal Aviation Act*, 27 AIR & SPACE L. 4, 4 (2014).

an entire claim—both state substantive law as well as a state cause of action.[77] But when there is preemption under the FAAct, courts find that it only preempts the standard of care.[78] This is based on the FAAct's Savings Clause: "A remedy under this part is in addition to any other remedies provided by law."[79] In other words, a negligence claim can proceed with a federal standard of care applied to the element of duty, and state law applied to the other elements of breach, causation, and damages.[80]

This Comment focuses on field preemption of the standard of care for negligence, particularly in the field of aircraft maintenance. This type of preemption is relevant in practice as the most common use of federal preemption in aviation tort litigation is to supply the applicable standard of care.[81] Although much has been written about preemption in aviation, it is largely focused on the fields of aircraft design and operation, likely based on the prevalence of lawsuits against manufacturers and airlines. But aircraft are not just designed and operated—they are also maintained. Much like Charlie Taylor, the Wright Brothers' less known mechanic, this Comment spotlights the less discussed but critically important field of aircraft maintenance.

II. FEDERAL PREEMPTION OF THE STANDARD OF CARE IN THE FIELD OF AIRCRAFT SAFETY: A CIRCUIT SPLIT WITH FOUR APPROACHES

The Supreme Court addressed field preemption under the FAAct in *Burbank* in 1973, and a circuit split eventually followed.[82] In *Burbank*, the Court considered whether FAA regulations preempted a local noise control law that prohibited jets from taking off at night.[83] The Court explained that the "Federal Aviation Act requires a delicate balance between safety and efficiency" and that the "interdependence of these factors requires a uniform and exclusive system of federal regulation if the congressional objectives underlying the Federal Aviation Act are to be fulfilled."[84] The Court concluded that there was implied field preemption based on "the pervasive nature of the scheme of federal regulation of aircraft noise."[85] Although the dissent disagreed that this particular noise ordinance should be preempted, the dissent agreed with the majority that "[t]he paramount substantive concerns of Congress were to regulate federally all aspects of air safety."[86]

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77. *Id.*

78. *Id.*

79. Abdullah v. Am. Airlines, Inc., 181 F.3d 363, 374 (3d Cir. 1999) (citing 49 U.S.C. § 40120(c)).

80. Simpson, *supra* note 76, at 4.; Jack Milligan, *Bet on the Field: Why Field Preemption Should Apply to the Federal Aviation Act*, 85 J. AIR L. & COM. 507, 513 (2020).

81. Ellis, *supra* note 66, at 55.

82. *See* Burbank v. Lockheed Air Terminal, Inc., 411 U.S. 624 (1973).

83. *Id.* at 625-26.

84. *Id.* at 638-39.

85. *Id.* at 633.

86. *Id.* at 644 (Rehnquist, J., dissenting); *see* Jeffrey Ellis & Vincent C. Lesch, *The Future of Federal Preemption in Aviation*, THE BRIEF, Spring 2016, at 32, 37.

Today's circuit court split on field preemption in aviation safety is due—in part—to whether *Burbank* is viewed with a focus on its narrow holding in the field of aircraft noise or its broad finding of congressional intent to regulate all of air safety. Currently, four general approaches to field preemption have developed: (1) broad preemption over the entire field of aviation safety; (2) broad preemption that includes aircraft operation but not design; (3) preemption of only a narrower field within aviation safety; and (4) no preemption.

A. The Broad Approach to Preemption Over the Entire Field of Aviation Safety—with a Secondary Split on Design

1. The Original Broad Approach from Abdullah *in the Third Circuit and Its Adoption by Second, Sixth, Ninth, and Tenth Circuits*

In 1999, the Third Circuit's influential holding in *Abdullah*—that federal aviation regulations preempt the standard of care for "the entire field of aviation safety"[87]—signaled the emergence of a circuit split that continues today. In *Abdullah*, plaintiffs were passengers that sustained injuries during severe turbulence from a storm.[88] They sued American Airlines for negligence on the part of the pilot and crew for failing to take reasonable precautions to avoid the turbulence and give warnings to the passengers.[89] The relevant issue was whether the FARs preempted the standard of care for pilots and crew.[90]

The Third Circuit explained that "implied federal preemption may be found where federal regulation of a field is pervasive" or "where state regulation of the field would interfere with congressional objectives."[91] The court noted a starting presumption against preemption.[92] But the FAA had "implemented a comprehensive system of rules and regulations, which promotes flight safety by regulating pilot certification, pilot pre-flight duties, pilot flight responsibilities, and flight rules."[93] And "Congress found the creation of a single, uniform system of regulation vital to increasing air safety."[94] Referencing *Burbank*, the court explained that "[t]he [FAAct] was intended to consolidate in one agency in the Executive Branch the control over aviation that had previously been diffused within that branch. The paramount substantive concerns of Congress were to regulate federally all aspects of air safety."[95] The FARs "established complete and thorough safety standards… that are not subject to supplementation."[96] Ultimately,

87. Abdullah v. Am. Airlines, Inc., 181 F.3d 363, 365 (3d Cir. 1999).
88. *Id.*
89. *Id.*
90. *Id.* at 366.
91. *Id.* at 367.
92. *Id.* at 366.
93. *Id.* at 369.
94. *Id.* at 368 (quoting Burbank v. Lockheed Air Terminal, Inc., 411 U.S. 624, 639 (1973)).
95. *Id.* at 369 (quoting *Burbank*, 411 U.S. at 644 (Rehnquist, J., dissenting)).
96. *Id.* at 367.

the Third Circuit held there was "implied federal preemption of the entire field of aviation safety."[97]

Further, the Third Circuit observed that the FARs for aircraft operation included both specific provisions and, in case there is no specific provision, a general standard that "no person may operate an aircraft in a careless or reckless manner so as to endanger the life or property of another."[98] Therefore, the court instructed that "in determining the standards of care in an aviation negligence action, a court must refer not only to specific regulations but also the overall concept that aircraft may not be operated in a careless or reckless manner."[99] And the role of expert testimony was to help the jury to understand whether that standard from the FARs was violated.[100]

The court also rejected the idea that because Congress prescribed the FAA to provide "minimum standards" to promote safety, state standards could be applied to "raise the level of air safety as a supplement to the federal regulations."[101] Although there are "no gaps in the federal standards to fill with a state common law standard… [t]he lack of conflict between federal standards and state law is irrelevant."[102] And that "if Congress has preempted a field—whether it be expressly or by implication—state laws attempting to regulate within that field are 'will be invalidated no matter how well they comport with substantive federal polices'"[103] Evidence on the standard of care must be limited to the federal standard of care, and the jury instruction must conform to the federal aviation safety standards.[104]

Following *Abdullah*, the Third Circuit's broad field preemption holding was adopted by the Second[105], Sixth[106], Ninth[107], and Tenth[108] Circuits. The Sixth Circuit in *Greene* "agree[d] with the Third Circuit's reasoning in *Abdullah* that federal law establishes the standards of care in the field of aviation safety and thus preempts the field from state regulation."[109] In *Greene*, a plaintiff from a helicopter accident alleged a failure of a duty to warn about a manufacturing defect in a vertical gyroscope (navigation instrument).[110] Plaintiff offered an expert witness's opinion that the manufacturer should have a central database to track malfunctions.[111] Plaintiff "did not allege any violations of federal law with respect to the

97. *Id.* at 365.
98. *Id.* at 371 (quoting 14 C.F.R. § 91.13(a)).
99. *Id.*
100. *Id.* at 372.
101. *Id.* at 373-74 (citing 49 U.S.C. § 44701 (2024)).
102. *Id.* at 374.
103. *Id.* (citation omitted).
104. *Id.* at 376.
105. Goodspeed Airport LLC v. E. Haddam Inland Wetlands & Watercourses Comm'n, 634 F.3d 206, 210 (2d Cir. 2011).
106. Greene v. B.F. Goodrich Avionics Sys., Inc., 409 F.3d 784, 795 (6th Cir. 2005).
107. Montalvo v. Spirit Airlines, 508 F.3d 464, 468 (9th Cir. 2007).
108. US Airways v. O'Donnell, 627 F.3d 1318, 1327 (10th Cir. 2010).
109. *Greene*, 409 F.3d at 795.
110. *Id.* at 794.
111. *Id.*

failure to warn claim."[112] And the FAA did not require such a database.[113] The court instructed the lower court to enter summary judgment for the defendant manufacturer and dismiss the case.[114]

The Ninth Circuit in *Montalvo* "adopt[ed] the Third Circuit's broad, historical approach to hold that federal law generally establishes the applicable standards of care in the field of aviation safety."[115] In *Montalvo*, the court affirmed the dismissal of a failure to warn claim "[b]ecause there are no federal regulations requiring the Airlines to warn about the risks of [deep vein thrombosis]."[116] Unlike the Third Circuit, the Ninth Circuit did not begin with a presumption against preemption: "In this case, however, we are addressing an area of law that has long been dominated by federal interests. As we have observed, regulation of this country's airspace has 'a history of significant federal presence.'"[117] The court observed "a number of specific federal regulations govern the warnings and instructions which must be given to airline passengers."[118] The court concluded that the "comprehensiveness of these regulations demonstrates that the [FAA] has exercised [its] authority to regulate aviation safety to the exclusion of the states."[119]

The Tenth Circuit in *O'Donnell* also adopted this broad approach. In *O'Donnell*, the court found that New Mexico's regulations for alcoholic beverage service were preempted by the FARs.[120] The court stated that "[o]ther circuits have similarly concluded that Congress intended federal law to occupy the entire field of aviation safety exclusively."[121] Quoting *Montalvo*, the court noted that "the field of aviation safety 'has long been dominated by federal interests.'"[122] And that "the presumption against preemption does not apply in this case."[123]

The Third Circuit's original broad approach to preemption from *Abdullah* was so influential it was expressly adopted the Second, Sixth, Ninth, and Tenth Circuits. Although this broad approach remains, the circuit courts have further developed their precedents over time. With the prevalence of lawsuits against manufacturers and airlines, circuit courts have developed a secondary split in their approach to preemption in the field of aircraft design.

2. Drawing a Line at Design: The Third Circuit Holds That Aircraft Design Is

112. *Id.*
113. *Id.*
114. *Id.* at 795.
115. Montalvo v. Spirit Airlines, 508 F.3d 464, 468 (9th Cir. 2007).
116. *Id.*
117. *Id.* at 471 (quoting Skysign Int'l v. City & Cty. of Honolulu, 276 F.3d 1109, 1116 (9th Cir. 2002)).
118. *Id.* at 473.
119. *Id.*
120. US Airways, Inc. v. O'Donnell, 627 F.3d 1318, 1322 (10th Cir. 2010).
121. *Id.* at 1327 (citing Abdullah v. Am. Airlines, Inc., 181 F.3d 363, 376 (3d Cir. 1999)).
122. *Id.* at 1325 (quoting *Montalvo*, 508 F.3d at 471).
123. *Id.* at 1325.

Not Preempted

In 2016 in *Sikkelee*, the Third Circuit clarified that the broad holding in *Abdullah*—preemption of the standard of care over the entire field of aviation safety—does not extend to products liability claims for aircraft design.[124] Following a fatal accident in a Cessna 172, plaintiff alleged the airplane lost power and crashed as a result of the defect in the engine's carburetor.[125] Finding preemption in aircraft design, the district court determined the FAA's issuance of a type certificate for the engine design meant the federal standard of care was met as a matter of law.[126] But the Third Circuit disagreed.[127] The Third Circuit drew a line that limited the preempted field to aircraft operations ("in-air operations" and "operations associated with flight").[128] The court applied a presumption against preemption based on its history of applying state law to products liability cases in aviation,[129] and then reasoned that there were "three fundamental differences" between the regulations for aircraft operation and those for design.[130]

The first difference was that the FARs for "operations on their face 'prescribe[] rules governing the operation of aircraft.'"[131] In other words, the FARs for operation themselves directly state that they "prescribe rules" for the operation of aircraft.[132] In contrast, the FARs for aircraft design "prescribe procedural requirements."[133] To lawfully manufacture an aircraft, manufacturers must demonstrate compliance with the FARs to receive a type certificate, production certificate, and airworthiness certificate.[134] The court reasoned that the regulations for design were "framed in terms of standards to acquire FAA approvals and certificates."[135] Rather than standards governing design, these regulations were considered baseline "minimum standards."[136]

Second, the court determined that the FARs for aircraft design were not a "comprehensive system of rules and regulations."[137] The court provided examples of regulations, including that a lubrication system "must function properly in the flight altitudes and atmospheric conditions in which the aircraft is expected to operate."[138] And a fuel system "must be designed and constructed to supply *an appropriate mixture* of fuel to the cylinders throughout the complete operating

124. Sikkelee v. Precision Airmotive Corp., 822 F.3d 680, 683 (3d Cir. 2016).
125. *Id.* at 685.
126. *Id.* at 686.
127. *Id.* at 709.
128. *Id.* at 689.
129. *Id.* at 690-92.
130. *Id.* at 694.
131. *Id.*; 14 C.F.R. § 91.1.
132. 14 C.F.R. § 91.1.
133. *Sikkelee*, 822 F.3d at 694; 14 C.F.R. § 21.1.
134. *Sikkelee*, 822 F.3d at 694.
135. *Id.*
136. *Id.*; 49 U.S.C. § 44701(a)(1) (2024).
137. *Sikkelee*, 822 F.3d at 694.
138. *Id.*; 14 C.F.R. § 33.71(a).

range of the engine under all flight and atmospheric conditions."[139] The court observed that the "highly technical and part-specific nature of these regulations makes them exceedingly difficult to translate into a standard of care that could be applied."[140]

Third, the court explained how the FARs at issue in *Abdullah* for aircraft operations provided a comprehensive standard of care that was practical to apply.[141] The FARs for operation have specific regulations for "regulating pilot certification, pilot pre-flight duties, pilot flight responsibilities, and flight rules."[142] The FARs also provide a general standard that a person must not "operate an aircraft in a careless or reckless manner so as to endanger the life or property of another" for conduct without a specific regulation.[143] The court found these standards could be applied to evaluate conduct "not specifically prescribed by the regulations" and were "practical to incorporate as a federal standard of care."[144]

The Third Circuit's reasoning in *Sikkelee* has had some influence outside of the Third Circuit as well. The Washington Supreme Court within the Ninth Circuit in *Estate of Becker* adopted the Third Circuit's categorical approach to design: "The Third Circuit recently found that the federal aviation regulations do not preempt the state product liability of an aviation systems manufacturer because they are not so pervasive as to indicate congressional intent to preempt state law. We follow the Third Circuit…."[145] This holding was also based on the Ninth Circuit's decision in *Martin* that found that a defective design claim regarding a Dornier airplane's stairs was not preempted because the area of airstairs was not pervasively regulated.[146] Also, for a design defect claim regarding a component on a Twin Commander airplane, the Texas Southern District Court within the Fifth Circuit found "the rationale of the well-considered opinion[] in *Sikkelee*… to be convincing. The court concur[red] that the federal statutory and regulatory scheme on aviation does not preempt the field of products liability."[147] The Third Circuit's holding in *Sikkelee* clarified that its broad approach to preemption in the field of aviation safety does not include aircraft design, and this has had some influence in other circuits.

3. The Broadest Preemption Approach: The Second Circuit Holds That Preemption of the Entire Field of Aviation Includes Aircraft Design

In *Goodspeed*, the Second Circuit adopted the Third Circuit's original broad preemption approach, "join[ing its] sister circuits"[148] in holding there was preemp-

139. *Sikkelee*, 822 F.3d at 695; 14 C.F.R. § 33.35(a).
140. *Sikkelee*, 822 F.3d at 695.
141. *Id.*
142. *Id.* at 694 (quoting Abdullah v. Am. Airlines, Inc., 181 F.3d 363, 371 (3d Cir. 1999)).
143. *Id.* at 695 (quoting 14 C.F.R. § 91.13(a)).
144. *Id.*
145. Est. of Becker v. Avco Corp., 387 P.3d 1066, 1067 (Wash. 2017).
146. Martin v. Midwest Express Holdings, Inc., 555 F.3d 806, 812 (9th Cir. 2009).
147. Davidson v. Fairchild Controls Corp., 2016 WL 5539982, at *8 (S.D. Tex. 2016).
148. Goodspeed Airport LLC v. E. Haddam Inland Wetlands & Watercourses Comm'n, 634 F.3d 206, 210 (2d Cir. 2011).

tion of the "entire field of aviation safety."[149] The court noted "[t]here is a rebuttable presumption against preemption of the states' exercise of their historic police power to regulate safety matters."[150] The court then used a two-part test. After determining preemption of the field of air safety, the specific laws at issue were evaluated to determine whether they "interfere with federal laws and regulations sufficiently to fall within the scope of the preempted field."[151]

In contrast to the Third Circuit, the Second Circuit has held there is preemption of the standard of care in the field of aircraft design. In *Fawemimo*, plaintiff sued American Airlines for common law negligence, challenging the design of the monitors and seats after she hit her head while boarding the aircraft.[152] American Airlines provided evidence that the design of the monitors and seats were approved by the FAA.[153] Because plaintiff's negligence claims were based on common law standard of care, they were barred by implied preemption.[154] Moreover, while discussing *Sikkelee* and *Fawemimo*, the district court in *Jones* explained that "the Second Circuit has not distinguished between in-air operations on the one hand and design and manufacture on the other. Absent such a distinction, aircraft engine component design falls squarely within the 'entire field of air safety.'"[155] By retaining aircraft design within the meaning of "the entire field of aviation safety," the Second Circuit exemplifies the broadest approach to preemption.

B. The Narrow Approach to Preemption Focused on Particular Fields Within Aviation Safety: First and Fifth Circuits

The First Circuit has found field preemption but only over particular, narrower fields that fall within aviation safety. In *French*, plaintiff was a pilot that was fired after Pan Am required drug testing in accordance with the FARs following suspicion of marijuana use.[156] Plaintiff argued that drug testing was performed in violation of Rhode Island state law.[157] The court reviewed the FARs related to pilot qualifications, which included medical standards and regulations specifically for drugs and alcohol.[158] The court compared the scope of holding of *Burbank*, where the Supreme Court held there was preemption in the field of aircraft noise, to the issue of pilot qualification. Defining the field narrowly as the "field of pilot regulation," the court found that the field of pilot regulation related to air safety was preempted based on "the pervasiveness of the relevant federal

149. *Id.* at 212.
150. *Id.* at 210.
151. *Id.* at 211.
152. Fawemimo v. Am. Airlines, Inc., 751 F. App'x 16, 17 (2d Cir. 2018).
153. *Id.* at 19.
154. *Id.* at 19-20.
155. Jones v. Goodrich Corp., 422 F. Supp. 3d 518, 524 (D. Conn. 2019), *rev'd on other grounds* 86 F.4th 1010 (2d Cir. 2023).
156. French v. Pan Am Express, Inc., 869 F.2d 1, 1-2 (1st Cir. 1989).
157. *Id.*
158. *Id.* at 4.

regulation, the dominance of the federal interest, and the legislative goal of establishing a single, uniform system of control over air."[159]

The Fifth Circuit has taken a similar narrow approach to preemption. In *Witty*, the Fifth Circuit addressed a plaintiff's claim against Delta Airlines for negligence for failing to warn about the risk of deep vein thrombosis.[160] Like the Ninth Circuit in *Montalvo*, the Fifth Circuit found the airline could not be liable for a failure to warn because the claim was not based on a violation of a federal regulation.[161] But unlike the broad holding of the Ninth Circuit over the entire field of aviation safety, the Fifth Circuit held only that "passenger safety warnings and instructions" were preempted, and the court noted its intent to "decide this case narrowly."[162]

C. No Preemption in the Field of Aviation Safety: The Eleventh Circuit Stands Alone

The Eleventh Circuit—"standing alone"[163]—holds that the federal standard of care does not preempt state standards in aviation safety.[164] In 1993 in *Public Health*, the Eleventh Circuit applied the principle of *expression unius est exclusion alterius* where the inclusion of the express preemption provisions in the FAAct (related to the Airline Deregulation Act) implied that other matters are not preempted.[165] This same reasoning was rejected by the Tenth Circuit.[166] And the Eleventh Circuit's holding has been questioned by trial courts obligated to adhere to it.[167] Although, at least one trial court in the Eleventh Circuit has found preemption in aviation safety.[168]

D. The Widening Circuit Split Continues as the Supreme Court Denied Certiorari to Sikkelee *from the Third Circuit in 2020*

In 2020, the Supreme Court denied certiorari in the Third Circuit's *Sikkelee* (for the second time), missing an opportunity to resolve the competing circuit approaches to preemption in aviation safety.[169] The Solicitor General examined *Sikkelee* and determined the Third Circuit erred when it did not find preemption

159. *Id.* at 6-7.

160. Witty v. Delta Air Lines, Inc., 366 F.3d 380, 381-82 (5th Cir. 2004).

161. *Id.* at 385.

162. *Id.*

163. Gillespie v. Delta Air Lines, Inc., 2019 WL 13318691, at *4 (S.D. Iowa 2019).

164. Pub. Health Tr. of Dade Cnty., Fla v. Lake Aircraft, Inc., 992 F.2d 291, 295 (11th Cir. 1993).

165. *Id.* at 294.

166. US Airways, Inc. v. O'Donnell, 627 F.3d 1318, 1326 (10th Cir. 2010).

167. *See* Ballenger v. Sikorsky Aircraft Corp., 2011 WL 5245209, at *2 (M.D. Ala. 2011) ("This court agrees that, if the Eleventh Circuit were confronted with this issue as a question of first impression today, it may decide in favor of preemption."); *see* North v. Precision Airmotive Corp., 2011 WL 679932, at *5 (M.D. Fla. 2011) ("Public Health Trust remains good law…. If the question were presented today, the Eleventh Circuit might very well reach a different conclusion.").

168. Carvajal v. Am. Airlines, Inc., 2011 WL 13273367, at *4 (S.D. Fla. 2011) (finding "the FAA clearly creates field preemption specifically for safety-related claims").

169. Avco Corp. v. Sikkelee, 140 S. Ct. 860 (2020).

over aircraft design.[170] Like the Second Circuit, the Solicitor General advocated for a broad approach to preemption in the field of aviation safety that includes aircraft design.[171] Despite concluding that *Sikkelee* was wrongly decided, the Solicitor General recommended the Supreme Court deny certiorari to allow further record development and to wait for lower courts to address preemption issues in the major accident litigation from the Boeing 737 MAX crashes of 2018 and 2019.[172]

III. THE CASE FOR FEDERAL PREEMPTION OF THE STANDARD OF CARE IN THE FIELD OF AIRCRAFT MAINTENANCE

The circuit split on preemption in aviation safety has largely developed from cases in the fields of aircraft design or operation, and no circuit court has yet addressed the closely related field right between them—aircraft maintenance. Operators flying aircraft are also responsible for maintaining their aircraft, and typically must do so using the manufacturer's instructions and parts. The prevalence of lawsuits against manufacturers and airlines has furthered the development of case law on issues of design and operation. But lawsuits against maintenance providers have increased dramatically.[173] And today, maintenance providers "stand alongside defendant operators and manufacturers as one of the 'usual suspects' in aviation accident litigation."[174] It has now become important to put a spotlight on preemption in the less discussed field of aircraft maintenance.

The standard of care in the field of aircraft maintenance should be preempted by the FARs because (1) a starting presumption against preemption does not apply, (2) maintenance is pervasively regulated, and (3) they expressly prescribe rules that form a comprehensive system that can be used to evaluate conduct as a standard of care.

A. There Should Not Be a Presumption Against Preemption Because There Is a Long History of Federal Regulation in Aviation and No Comparable State Regulation

A presumption against preemption should not apply in the context of aviation safety including aircraft maintenance. There can be a presumption that "the historic police powers of the states" are not preempted by the FAAct when Congress legislates "in a field which the States have traditionally occupied."[175] But that presumption is "not triggered… in an area where there has been a history of significant federal presence."[176]

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170. Brief for the United States as Amicus Curiae at 20, Avco Corp. v. Sikkelee, 140 S. Ct. 860 (2020) (No. 18-1140).

171. *Id.*

172. *Id.* at 22.

173. Jaques & Clark, *supra* note 1, at 149.

174. *Id.*

175. City of Burbank v. Lockheed Air Terminal, Inc., 411 U.S. 624, 633 (1973).

176. United States v. Locke, 529 U.S. 89, 108 (2000).

Congress has legislated in aviation safety from the early days of the industry. In 1926, the Air Commerce Act created the Aeronautics Branch—the predecessor of today's Federal Aviation Administration—and gave it the responsibility for establishing airways and traffic rules, licensing pilots, and certifying aircraft.[177] Aircraft were required to be inspected for airworthiness.[178] Based on this longstanding history of federal regulation, circuit courts have rejected the presumption against preemption. The First Circuit expressly rejected the presumption against preemption based on "Congress's significant—and undisputed—presence in the field of air transportation."[179] Similarly, the Ninth Circuit observed that "regulation of this country's airspace has 'a history of significant federal presence.'"[180] And the Tenth Circuit, citing the Ninth Circuit, concluded that "the field of aviation safety 'has long been dominated by federal interests.'[181] Thus, the presumption against preemption should not apply in aviation."[182]

The Third Circuit has applied a presumption against preemption. Although *Abdullah* began by mentioning this presumption,[183] the Third Circuit ultimately "held that the congressional history of the 1958 Act and the Supreme Court's interpretation of that act *overcame* a presumption against a finding of preemption."[184] In *Sikkelee*, however, the Third Circuit reasoned at length that the presumption against preemption applied in the context of aviation products liability[185] and relied on the presumption to find that aircraft design defect claims were not preempted.[186] The Third Circuit points to the application of state common law to early aviation tort claims to support that this area of law was traditionally occupied by the states.[187] But common law was used because of the absence of regulations.[188] The absence of state regulations suggests there was no intent by state legislatures to occupy the field of aviation safety. While the Third Circuit traces the history of aviation by citing numerous pieces of major federal legislation, it fails to mention any competing state legislation whatsoever.[189] And states did not regulate aviation safety traditionally. State courts merely defaulted to common law to adjudicate disputes in the new, emerging aviation industry until federal regulations developed.

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177. *Air Mail and the Birth of Commercial Aviation*, *supra* note 30.

178. *The Air Commerce Act of 1926*, *supra* note 32.

179. United Parcel Serv., Inc. v. Flores-Galarza, 318 F.3d 323, 336 (1st Cir. 2003); Ellis, *supra* note 66, at 71.

180. Montalvo v. Spirit Airlines, 508 F.3d 464, 471 (9th Cir. 2007) (quoting Skysign Int'l v. City & Cnty. of Honolulu, 276 F.3d 1109, 1116 (9th Cir. 2002)).

181. US Airways, Inc. v. O'Donnell, 627 F.3d 1318, 1325 (10th Cir. 2010) (quoting *Montalvo*, 508 F.3d at 471).

182. *O'Donnell*, 627 F.3d at 1325.

183. Abdullah v. Am. Airlines, Inc., 181 F.3d 363, 366 (3d Cir. 1999).

184. Ellis, *supra* note 66, at 71; *Abdullah*, 181 F.3d at 367.

185. Sikkelee v. Precision Airmotive Corp., 822 F.3d 680, 690-92 (3d Cir. 2016).

186. *Id.* at 695.

187. *Id.* at 691.

188. *Id.*

189. *Id.* at 690-92.

From the earliest days of aviation, there has been a significant federal presence, beginning with the Aeronautics Branch in 1926 and extending to today's FAA. There are no comparable state regulations or agencies—and there never have been. Therefore, the presumption against preemption should not apply to aviation safety including aircraft maintenance.

B. The FARs for Aircraft Maintenance Are Pervasive, Governing What Maintenance Must Be Performed, Who Can Perform It, and How It Must Be Performed Step-by-Step

The FARs form a comprehensive system of rules that are sufficiently pervasive for federal preemption in the field of aircraft maintenance. Field preemption occurs when a federal regulatory scheme is "so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it."[190]

The FARs for aircraft maintenance work together to form a comprehensive regulatory scheme. First, operators must follow an inspection or maintenance program, which details what maintenance is required and when (time interval) it must be performed.[191] The FARs regulate operators with safety standards that match the nature of their operations including Part 91 for general aviation (non-commercial), Part 135 for on-demand charter, and Part 121 for scheduled airline service.[192] Second, Part 43 requires how maintenance must be performed—and certified on record—in accordance with the manufacturer's maintenance manual or other methods, techniques, and practices acceptable to the FAA.[193] Third, the FARs regulate who can provide maintenance. Maintenance must be performed or directly supervised by aircraft mechanics certificated under Part 65 or organizations with regulated quality control systems such as Repair Stations under Part 145.[194] And finally, the FAA provides updated and ongoing regulation if any unexpected safety issues develop. The FAA continuously gathers aircraft safety data through reporting requirements for Service Difficulty Reports and issues regulatory Airworthiness Directives under Part 39 to correct any unsafe conditions.[195]

Additionally, the pervasive regulatory power of the FARs extends beyond the words of the FARs themselves because the requirement to use a manufacturer's maintenance manual (or other acceptable data) is incorporated by regulation. Under Part 43.13(a), "maintenance… on an aircraft… shall use the methods, techniques, and practices prescribed in the current manufacturer's maintenance manual."[196] Maintenance manuals provide the complete instructions—in an easy-to-follow, step-by-step format—for maintenance of all systems and components

190. US Airways, Inc. v. O'Donnell, 627 F.3d 1318, 1325 (10th Cir. 2010); *see* City of Burbank v. Lockheed Air Terminal, Inc., 411 U.S. 624, 633 (1973); *see also* RAVICH, *supra* note 64, at 213.

191. 14 C.F.R. §§ 91.405-.409.

192. *Id.* §§ 91.401, 121.1, 135.1.

193. *Id.* §§ 43.9-.13.

194. *Id.* §§ 43.3-.7, 65.71-.107, 145.

195. *Id.* §§ 39.1-.13, 91.1415, 121.703, 135.415, 145.221.

196. *Id.* § 43.13(a).

on the aircraft.[197] By incorporating maintenance manuals, the FARs regulate every step of aircraft maintenance in such detail that there is no room for states to supplement. The pervasiveness of the FARs is sufficient to show the congressional intent to exclusively occupy the field of aircraft maintenance, preempting state law with a federal standard of care.

Within circuits that have taken a broad approach to preemption over the entire field of aviation safety, trial courts may readily accept preemption in aircraft maintenance. In *Agape Flights*, Agape operated Cessna Grand Caravan that crashed into the ocean near the Bahamas.[198] Agape sued Covington Aircraft Engines, a Part 145 Repair Station, for claims including negligent engine maintenance.[199] In determining that a federal standard of care applied, the trial court explained the Tenth Circuit's holding in *O'Donnell* that "federal regulation occupies the field of aviation safety,"[200] and that the FAA has issued "regulations regarding maintenance and preventative maintenance of aircraft."[201] The court stated that "[u]nder 14 C.F.R. § 43.13(a), service providers such as Covington are required to perform maintenance and preventative maintenance according to 'methods, techniques, and practices prescribed in the current manufacturer's maintenance manual.'"[202] Similarly, in *Southwell*, the trial court adhered to the Third Circuit's broad preemption holding in *Abdullah*, finding that "federal law preempts the common law standard of care in negligence cases involving aircraft inspection and maintenance."[203]

But trial courts in circuits with broad preemption precedents have also ruled against proponents of preemption in aircraft maintenance. In *Binci*, a passenger sued Alaska Airlines for negligent maintenance after they were allegedly injured when the seat in front of them reclined rapidly past its typical limit.[204] The trial court in the Ninth Circuit found plaintiff's negligence claim was not preempted because Alaska had "not identified a pervasive regulatory scheme regarding airline passenger seats and their maintenance."[205] Similarly in *Olivia*, a passenger sued Spirit Airlines for negligent maintenance after the seat in front of them with a 500 pound passenger came out of the seat track and injured their foot.[206] The trial court in the Sixth Circuit observed that Spirit simply "notes that the FAA regulates the airline industry through FARs" but found Spirit's argument for preemption

197. U.S. DEP'T OF TRANSP., FED. AVIATION ADMIN., AVIATION MAINTENANCE TECHNICIAN HANDBOOK–GENERAL 10-3 (2023), https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/amtg_handbook.pdf [hereinafter TECHNICIAN HANDBOOK]; U.S. DEP'T OF TRANSP., FED. AVIATION ADMIN., ADVISORY CIRCULAR NO. 20-77B 1 (2016), https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_20-77B.pdf [hereinafter ADVISORY CIRCULAR].

198. Agape Flights, Inc. v. Covington Aircraft Engines, Inc., 2012 WL 2792452, at *2 (E.D. Okla. 2012).

199. *Id.*

200. *Id.* at *6 (quoting US Airways, Inc. v. O'Donnell, 627 F.3d 1318, 1326 (10th Cir. 2010)).

201. *Id.*

202. *Id.*; 14 C.F.R. § 43.13(a).

203. Henry *ex rel.* Southwell v. Gov't of V.I., 2010 WL 11718867, at *2 (V.I. 2010).

204. Binci v. Alaska Airlines, Inc., 2022 WL 3715223, at *1 (D. Or. 2022).

205. *Id.* at *4.

206. Olivia v. Airbus Ams., Inc., 2021 WL 1195968, at *1-2 (N.D. Ohio 2021).

"confusing[]" and "unclear."[207] In addition to relying on an out of circuit district court, Spirit had also apparently agreed that a state standard of care applied.[208] The court concluded Spirit had "wholly failed to explain why federal preemption potentially applies to the facts and circumstances of this suit."[209]

A trial court in the Fifth Circuit—which takes a narrow approach to preemption—declined to find preemption but provided the court's clear expectations of a preemption argument.[210] In *DW Volbleu*, two operators of Honda Jet airplanes sued the manufacturer, Honda Aircraft, for failure to notify of the maintenance requirement to run the engines fifteen minutes every ninety days.[211] Honda argued the claims were preempted by the FARs and "reference[d] regulations on various aviation safety topics."[212] But the scope of Honda's preemption argument was unclear to the court.[213] And the court stated Honda did "not address with specificity which regulations form the regulatory scheme that is so pervasive as to preempt either the entire field of aviation safety, or, alternatively, which statutes and/or regulations are so pervasive as to preempt the field of aircraft engine maintenance."[214] The court instructed Honda to "identify the *specific* statutes and the *specific* regulatory provisions that it avers makes up the regulatory scheme *so pervasive* as to establish such preemption."[215]

Although the trial court cases of *Binci*, *Olivia*, and *DW Volbleu* did not find preemption of aircraft maintenance, these cases hardly touched the merits. Instead, the courts rejected these arguments because the proponents failed to adequately identify the FARs in the first place. More regulatory information was needed from the proponents before the court could consider the issues. Whether the court takes a broad or narrow approach to preemption in aviation safety, the FARs for aircraft maintenance should be identified with enough specificity to demonstrate a pervasive regulatory scheme. Although some trial court outcomes have been inconsistent, the FARs for maintenance are pervasive and provide a comprehensive regulatory scheme that is sufficient to preempt the federal standard of care in the field of aircraft maintenance.

C. The Nature of FARs for Maintenance Is Appropriate for Preemption Because They Expressly Prescribe Rules That Form a Comprehensive System That Can Be Used to Evaluate Conduct as a Standard of Care

Following the reasoning in *Sikkelee*, maintenance regulations should be preempted because of their similar nature to operation regulations. The Third Circuit in *Sikkelee* reasoned that there were "three fundamental differences"

207. *Id.* at *16.
208. *Id.*
209. *Id.*
210. DW Volbleu, LLC v. Honda Aircraft Co., 2022 WL 17979769, at *3 (E.D. Tex. 2022).
211. *Id.* at *1.
212. *Id.* at *3.
213. *Id.*
214. *Id.*
215. *Id.*

supporting federal preemption for federal regulations of aircraft operation but not design.[216] The Third Circuit explained that the regulations for operations (1) prescribe rules on their face, (2) provide a comprehensive system of rules and regulations, and (3) provided a standard that could evaluate conduct not specifically prescribed by regulations.[217] This reasoning applies similarly to regulations for maintenance.

First, like regulations for operation, regulations for maintenance prescribe rules on their face. Part 91 for operations begins by stating that "this part prescribes rules governing the operation of aircraft within the Unites States…."[218] And Part 43 for maintenance—in precisely mirroring language—states that "this part prescribes rules governing the maintenance… of any aircraft having a U.S. airworthiness certificate."[219] On their face, regulations for both operation and maintenance show a congressional intent to exclusively occupy these fields.

Second, the regulations for maintenance form a comprehensive system of rules and regulations like regulations for operation. The Third Circuit found operation regulations to be a comprehensive system where they regulated "pilot certification, pilot pre-flight duties, pilot flight responsibilities, and flight rules."[220] Certification is similarly structured for both pilots under Part 61 and mechanics under Part 65.[221] Pilots and mechanics are both considered "airmen" and have certification requirements for training, knowledge, experience, skill testing, and ratings.[222] The Part 120 drug and alcohol testing program applies to both pilots and mechanics alike.[223] Also, both pilots and mechanics are responsible for the airworthiness and safety of the aircraft. Mechanics are responsible for performing maintenance and certifying that the aircraft is safe for flight and approved for return to service.[224] Responsibility then transfers from the mechanic to the pilot. The pilot is "responsible for determining whether that aircraft is in condition for safe flight."[225] Pilots perform a pre-flight inspection that generally includes reviewing the logbooks and other airworthiness documentation; checking the aircraft's wings, landing gear, fuselage, and empennage for damage; and checking the function of the flight controls and engine.[226]

Third, maintenance regulations form a comprehensive standard of care that can be used to evaluate conduct not specifically prescribed by the regulations. Part 43.13(a) requires aircraft maintenance to be performed using the manufacturer's

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216. Sikkelee v. Precision Airmotive Corp., 822 F.3d 680, 694 (3d Cir. 2016).

217. *Id.* at 694-95.

218. 14 C.F.R. § 91.1(a).

219. *Id.* § 43.1(a).

220. *Sikkelee*, 822 F.3d at 694 (quoting Abdullah v. Am. Airlines, Inc., 181 F.3d 363, 369 (3d Cir. 1999)).

221. 14 C.F.R. §§ 61, 65.

222. *Id.*

223. *Id.* § 120.105.

224. *Id.* §§ 43.5-.15.

225. *Id.* § 91.7.

226. Ray Heyde, *How to Pre-Flight an Airplane*, AIRCRAFT OWNERS & PILOTS ASS'N, https://www.aopa.org/training-and-safety/students/presolo/skills/how-to-pre-flight-an-airplane (last visited Oct. 3, 2024).

maintenance manual, [227] and these manuals provide easy-to-follow, step-by-step maintenance instructions.[228] By incorporating manuals into the regulations, the use of the standard of care can be expanded to evaluate conduct beyond the prescribed regulations themselves, pervasively covering aircraft maintenance in a comprehensive and detailed manner. Maintenance outside of FAA approved or acceptable data is simply not allowed—if there is a need for additional maintenance instructions, they must be developed and FAA approved. The easy-to-follow format of a maintenance manual is understandable to a jury and can be applied to evaluate conduct as a standard of care.

Further, the general standard for operations ("that a person must not 'operate an aircraft in a careless or reckless manner so as to endanger the life or property of another'"[229]) was logical cover the unpredictable nature of aircraft operation: wind, storms, traffic, route changes, maneuvers, technical issues, delays, etc. But maintenance is performed in a predictable environment—on the ground—where immediate, "on the fly" decisions are unnecessary. And although it is referred to less often than Part 43.13(a), Part 43.13(b) provides that maintenance shall be performed in such "a manner and use materials of such a quality, that the condition of the aircraft… worked on will be at least equal to its original or properly altered condition (with regard to aerodynamic function, structural strength, resistance to vibration and deterioration, and other qualities affecting airworthiness)."[230] This additional general standard provides guidance in the very rare event that the specifics of the maintenance are not provided in a manufacturer's manual.

Trial court reasoning has supported the similarity between the fields of aircraft maintenance and pilot qualifications (operation) as they are both closely related to aviation safety.[231] In *Skydive*, plaintiff sued Maine Aviation for negligent maintenance after the aircraft was damaged during landing.[232] The trial court reviewed the First Circuit's holding in *French* that federal regulations preempted the field of pilot qualification where it was "hard to imagine an area of regulation that is more closely related to air safety than pilot qualification."[233] The trial court then compared the similarities between pilot qualifications and maintenance standards:

> Now if safety is the only touchstone, surely the issue of airplane maintenance standards is a strong competitor to pilot suitability for this type of analysis. As with pilot qualifications, the FAA Administrator has the authority and has devoted substantial regulatory attention to maintenance, preventive maintenance, rebuilding and alteration. 14 C.F.R. pt. 43. There are rules for recordkeeping, qualifying as a mechanic, use of parts and, specifically, performance standards. See, e.g., id. § 43.13.

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227. 14 C.F.R. § 43.13(a).

228. ADVISORY CIRCULAR, *supra* note 197, at 1.

229. Sikkelee v. Precision Airmotive Corp., 822 F.3d 680, 695 (3d Cir. 2016) (citing 14 C.F.R. § 91.13(a)).

230. 14 C.F.R. § 43.13(b).

231. Skydive Factory, Inc. v. Me. Aviation Corp., 268 F. Supp. 2d 61, 64 (D. Me. 2003).

232. *Id.* at 62.

233. *Id.* at 63-64 (quoting French v. Pan Am Express, Inc., 869 F.2d 1, 5 (1st Cir. 1989)).

> French's concern for uniformity as an important reason for preemption in the area of pilot qualification also can easily be extended to inspecting and maintaining airplanes in flight.[234]

The trial court in *Southwell* even considered the possibility that maintenance could qualify as operation.[235] Following the crash of a Piper airplane, plaintiff sued the mechanic who performed a prior inspection.[236] The trial court observed that the definition of "operation" includes not just "navigation" but also "causing or authorizing the operation of aircraft."[237] And certificated mechanics, including those with a rating for "inspection authorization," are the ones who are authorized to "approve an aircraft… for return to service."[238] This reasoning shows the close relationship—and even possible overlap—of the fields of operation and maintenance.

D. The FARs for Aircraft Maintenance Should Preempt the Standard of Care Because They Pervasively and Comprehensively Regulate Every Step of Maintenance and Can Be Applied to Evaluate Conduct as a Standard of Care

The FARs for aircraft maintenance should preempt the standard of care. Courts should avoid a starting presumption against preemption in aviation safety because the federal government has regulated from the early days of aviation, with no competing set of state standards. The FARs for maintenance are sufficiently pervasive for preemption because their scope of regulation includes aircraft inspection and maintenance programs, the performance of maintenance according to the manufacturers' manuals, mechanic certification, and the ongoing regulatory correction of unsafe conditions. Moreover, the maintenance regulations expressly prescribe rules that form a comprehensive system that is appropriate for evaluating conduct as a standard of care.

IV. THE APPLICATION OF A FEDERAL STANDARD OF CARE IN PRACTICE

Once the federal standard of care in aircraft maintenance is set by the FARs, there are three practical applications to a lawsuit. First, a claim for negligence requires a violation of a FAR. Second, the standard of care is set by following the procedures in the applicable maintenance manual. And third, the standard of care includes additional maintenance when there is a regulatory requirement such as an Airworthiness Directive. The following cases demonstrate the practical application of a federal standard of care in aircraft maintenance negligence lawsuits.

A. A Federal Standard of Care Requires a Claim to Include a Violation of a

234. *Id.* at 64.
235. Henry *ex rel.* Southwell v. Gov't of V.I., 2010 WL 11718867, at *2 (Super. Ct. V.I. 2010).
236. *Id.* at *1.
237. *Id.* at *2; 49 U.S.C. § 40102(a)(35) (2024); *see also* 14 C.F.R. § 1.1.
238. *Henry,* 2010 WL 11718867, at *2; 14 C.F.R. § 43.7(b).

Federal Aviation Regulation

Under a federal standard of care, a claim for negligence must include a violation of a FAR. The Third Circuit's influential opinion in *Abdullah,* holding that the entire field of aviation safety was preempted, instructed courts to refer to "specific regulations" for aviation negligence.[239] Following *Abdullah*, "plaintiffs found that their negligence claims were subject to dismissal for failure to cite in their complaints the specific aviation law establishing the appropriate standard of care."[240] In *Landis*, a passenger was injured when the landing gear collapsed while taxiing in Pittsburgh, and she sued US Airways for negligence related to the pre-flight landing gear inspection.[241] But plaintiff cited only Part 91.101, which merely states that "[t]his subpart prescribes flight rules governing the operation of aircraft."[242] The trial court in the Third Circuit dismissed the claim, finding that the cited regulation "does not, in and of itself, set forth what those rules are or the appropriate standard of care."[243]

Similarly in *Barnett*, two passengers sued the operator, Novictor Aviation, and the pilot for injuries sustained in a helicopter crash during an air tour in Hawaii.[244] Numerous claims were alleged, including the "failure to supply a safe and airworthy aircraft."[245] The trial court in the Ninth Circuit stated that "[p]laintiffs will be required to tether each of their allegations to a federal standard of care in state court."[246] And further, "[p]laintiffs *must* provide the federal standard of care applicable to each claim… but they *shall not* substitute the applicable FAA standards of care with any alternative state law standards of care."[247] Likewise in *Burgess*, Novictor was sued again for a subsequent helicopter crash.[248] Plaintiffs made general claims that included negligence related to maintenance, inspection, and repair.[249] The trial court rejected plaintiffs' argument that a state standard of care should apply to aviation safety when the FARs are silent.[250] The trial court explained that "[a]llowing state law to provide standards of care on any aviation safety topics (even those not directly addressed by the FARs) would impermissibly create 'a fragmented patchwork of aviation safety standards under state law, thereby undermining the legislative goal of ensuring uniformity over aviation safety regulation.'"[251]

B. A Federal Standard of Care Is Set by the Use of Maintenance Manuals (or

239. Abdullah v. Am. Airlines, Inc., 181 F.3d 363, 371 (3d Cir. 1999).
240. *Henry*, 2010 WL 11718867, at *2.
241. Landis v. U.S. Airways, Inc., 2008 WL 728369, at *1 (W.D. Pa. 2008).
242. *Id.* at *3.
243. *Id.* at *4.
244. Barnett v. Cass, 522 F. Supp. 3d 780, 782-83 (D. Haw. 2021).
245. *Id.* at 783.
246. *Id.* at 787.
247. *Id.*
248. Burgess v. Novictor Aviation LLC, 2021 WL 3510679, at *1 (D. Haw. 2021).
249. *Id.*
250. *Id.* at *4.
251. *Id.* (quoting Ventress v. Japan Airlines, 747 F.3d 716, 722 (9th Cir. 2014)).

Other FAA Acceptable Data), Not Expert Testimony About Other Standards

Under a federal standard of care, compliance with the manufacturer's maintenance manual procedures can show the standard of care was met as a matter of law. In *Agape Flights*, Agape operated Cessna Grand Caravan that crashed into the ocean near the Bahamas.[252] Agape sued Covington Aircraft Engines, a Part 145 Repair Station, for claims including negligent maintenance of an engine fuel pump.[253] Agape's investigation led it to conclude an in-flight power loss was caused by severely worn splines on the drive shaft of the engine fuel pump.[254] When Covington installed the engine on Agape's aircraft, the fuel pump had accumulated 504 hours in service since overhaul.[255] The manufacturer's maintenance manual requires a fuel pump spline inspection every 600 hours.[256] Therefore, "[a]t the time Covington installed the Engine on Agape's Aircraft, the Engine and Fuel Pump had been overhauled, inspected, and certified in compliance with all applicable FAA regulations."[257] After five weeks of operation when the fuel pump reached about 600 hours in service, Agape performed the required spline inspection per the maintenance manual and no unusual wear was observed.[258] The crash occurred thirty-three flight hours later.[259]

Agape argued Convington was negligent for not performing a fuel pump inspection before the engine was installed on Agape's aircraft.[260] Although Agape's expert witness agreed no inspection was due at that time, the expert testified that they themselves would still require an inspection even though the FAA does not.[261] The trial court in the Tenth Circuit—which has broad preemption in the field of aviation safety—cited Part 43.13(a) as providing the standard of care.[262] The trial court determined "service providers such as Covington are required to perform maintenance… according to 'methods, techniques, and practices prescribed in the current manufacturer's maintenance manual.'"[263] And "Agape is attempting to impose on Convington an inspection requirement not mandated by the [manufacturer's maintenance] manual and, consequently, one not mandated under the FAA."[264] Because Convington complied with "all FAA inspection requirements for the fuel pump," the trial court concluded Convington

252. Agape Flights, Inc. v. Covington Aircraft Engines, Inc., 2012 WL 2792452, at *2 (E.D. Okla. 2012).
253. *Id.*
254. *Id.*
255. *Id.* at *3.
256. *Id.*
257. *Id.*
258. *Id.*
259. *Id.*
260. *Id.* at *7.
261. *Id.*
262. *Id.* at *6.
263. *Id.* (quoting 14 C.F.R. § 43.13(a)).
264. *Id.*

"satisfied the applicable standard of care and is entitled to judgment as a matter of law."[265]

C. A Federal Standard of Care Is Set by Additional Maintenance Publications That Are Regulatory, Not Advisory

Under a federal standard of care, FAA Advisory Circulars do not set the standard of care because they are not regulatory. The FAA issues Advisory Circulars to provide advisory material to the aviation community and guidance for complying with regulations.[266] In *Zurich*, a passenger was injured when a Beech Bonanza airplane crashed shortly after takeoff due to an engine failure.[267] Plaintiff sued Silver Sage Aviation and the pilot, alleging plaintiff's seat belt broke due to negligent inspection and maintenance.[268] The seatbelt was inspected two weeks prior with no defects found.[269] Plaintiff provided specific FARs for the standard of care requiring the seatbelts to be in a "safe, operable and airworthy condition."[270] Plaintiff further argued Advisory Circular 91-65 created a mandatory seatbelt inspection.[271] But the trial court in the Ninth Circuit explained that an Advisory Circular may be used to "give meaning to" a regulation but is "not binding standing alone."[272] The trial court clarified that "neither the FAR nor the Ninth Circuit contemplates that things of guidance—like expert testimony and Advisory Circulars—standing alone can provide a standard of care."[273] The court held that the FARs themselves set the standard of care, and that whether the seatbelt was actually maintained in accordance with the FARs was an issue of fact for the jury.[274]

Under a federal standard of care, the duty to perform additional maintenance (e.g., the installation of updated parts) is determined by a regulatory requirement such as an Airworthiness Directive. In *Dinucci*, defendant owned a 1930 Brunner-Winkle Bird airplane[275] (a type of biplane once owned by Charles Lindbergh).[276] This vintage airplane requires "hand propping" to start the engine, and plaintiff was injured while hand propping when the propeller struck his arm.[277] Although defendant had installed a new engine on the aircraft for reliability, he did not also

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265. *Id.* at *7.

266. TECHNICIAN HANDBOOK, *supra* note 197, at 2-26.

267. Zurich Am. Ins. Co. v. Silver Sage Aviation, 2018 WL 4469012, at *1 (D. Nev. 2018).

268. *Id.* at *6.

269. *Id.*

270. *Id.*

271. *Id.* at *5 n.11.

272. *Id.*

273. *Id.* at *5 n.7; *see* Martin v. Midwest Express Holdings, Inc., 555 F.3d 806, 811 (9th Cir. 2009).

274. *Zurich Am. Ins. Co.*, 2018 WL 4469012 at *6.

275. Dinucci v. Clifford, 2023 WL 3847140, at *1 (E.D.N.Y. 2023).

276. *Brunner Winkle Bird*, CRADLE OF AVIATION MUSEUM, https://www.cradleofaviation.org/history/exhibits/exhibit-galleries/the_golden_age/brunner_winkle_bird.html (last visited Oct. 3, 2024).

277. *Dinucci*, 2023 WL 3847140 at *2.

install an electric starter that would have eliminated the need to hand prop.[278] Plaintiff sued for negligence for failing to install the electric starter for safety.[279] The trial court in the Second Circuit determined that there was preemption because the claim fell "squarely within the scope of the FAA as… 'design or operation' of aircraft.'"[280] Because there was no "Airworthiness Directive issued by the FAA with respect to the Bird concerning the engine," the trial court reasoned that "[a]lthough the Bird could have hypothetically received an electric starter, plaintiff has not shown that defendant was under any obligation to install one."[281]

D. A Federal Standard of Care May Require a Determination of the Specific Field Within the Larger Field of Aviation Safety—and Courts Should Consider the Field of Maintenance

Returning to the issue of preemption in the vintage airplane case, *Dinucci*, the trial court found the claim fell "squarely" within the fields of both design and operation.[282] But defendant's choice to not install a part on an airplane does not appear to fit into the field of design. Design applies to a manufacturer that designed and engineered the actual part itself with an FAA-issued type certificate for that design. And although plaintiff's injury occurred during operation while hand propping, there is no allegation it was hand propped in a negligent manner. To the extent that not installing an electric starter was defendant's choice—as an owner and operator—the claim is closer to operation than design. But plaintiff's claim does not appear to fit into either the field of design or the field of operation. Rather, it falls squarely into the field of aircraft maintenance. By definition, maintenance includes "the replacement of parts."[283] And it would be a mechanic that would replace and install an electric starter on an engine and then approve the engine to return to service under the Part 43 regulations for maintenance.[284]

The specific aviation field that the claim falls within matters because—depending on the circuit court's approach—it can be dispositive for a finding of preemption. Because the Second Circuit takes the broadest preemption approach over the entire field of aviation that includes both design and operation, there would be preemption for the claim in *Dinucci* regardless of which specific field it fell into.[285] But, for example, under the Third Circuit's approach, there would be preemption if the claim fell within operation but not if it fell within design.[286] Further, as a hypothetical question, would the Third Circuit find preemption if, as the trial court in *Dinucci* determined, the claim fell within *both* the field of design

278. *Id.* at *1.
279. *Id.* at *6.
280. *Id.* at *4.
281. *Id.* at *6.
282. *Id.* at *4.
283. 14 C.F.R. § 1.1.
284. 14 C.F.R. § 43.
285. *See supra* Section II.A.3.
286. *See supra* Section II.A.2.

and the field of operation? And what if the claim fell within a third field—the field of aircraft maintenance?

V. CONCLUSION

In conclusion, the FARs for aircraft maintenance should preempt the standard of care. Courts should avoid a starting presumption against preemption because of the long history of federal regulation of aviation safety. The FARs for maintenance are sufficiently pervasive for preemption because their scope of regulation includes aircraft inspection and maintenance programs, the performance of maintenance according to manufacturers' manuals, mechanic certification, and the ongoing regulatory correction of unsafe conditions. Further, the nature of maintenance regulations is like those of operation (preempted in the Third Circuit) where they regulate maintenance on their face, provide a comprehensive standard of care through incorporation of maintenance manuals, and are understandable and appropriate to use to evaluate conduct as a standard of care.

Once preemption is established, there are practical effects in a negligence lawsuit. A claim for negligence requires a violation of a FAR, the standard of care is set by following the procedures in the applicable maintenance manual, and the standard of care includes additional maintenance when there is a regulatory requirement such as an Airworthiness Directive. Aviation litigation is often complex, and a federal standard of care helps to clarify the scope of litigation. Ultimately, the Federal Aviation Regulations were intended by Congress to do just that—regulate. A federal standard of care ensures that they can do so.