No. 17-3006

IN THE UNITED STATES COURT OF APPEALS
FOR THE THIRD CIRCUIT

JILL SIKKELEE, Individually and as Personal Representative of the Estate of David Sikkelee, Deceased,
Appellant,

v.

PRECISION AIRMOTIVE CORPORATION; PRECISION AIRMOTIVE LLC, individually and as Successor-in-Interest to Precision Airmotive Corporation; BURNS INTERNATIONAL SERVICES CORPORATION, individually and as Successor-in-Interest to Borg-Warner Corporation, and Marvel-Schebler, a Division of Borg-Warner Corporation; TEXTRON LYCOMING RECIPROCATING ENGINE DIVISION, a Division of AVCO Corporation; AVCO CORPORATION; KELLY AEROSPACE, INC., individually and Joint Venturer and as Successor-in-Interest; KELLY AEROSPACE POWER SYSTEMS, INC., individually and as Joint Venturer and Successor-in-Interest, also known as Electrosystems, Inc., also known as Confuel, Inc.; ELECTROSYSTEMS, INC., individually and as Joint Venturer and as Successor-in-Interest, also known as Consolidated Fuel Systems, Inc., also known as Confuel, Inc.; CONSOLIDATED FUEL SYSTEMS, INC., also known as Confuel, Inc.

On Appeal from the United States District Court
for the Middle District of Pennsylvania (No. 4:07-cv-00886-MWB)

REPLY BRIEF

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INTRODUCTION

A reasonable jury could find that Lycoming designed, manufactured, and sold a defective aircraft engine. The engine was defective because its carburetor could not withstand normal engine vibration. JA541; JA1662. For years before the accident in this case, Lycoming knew that this design was failure-prone, especially on Cessna 172 aircraft. The Federal Aviation Administration (FAA) admonished Lycoming to correct the problem, JA557; JA579, and Lycoming's own carburetor manufacturer urged it to consider design changes, JA581-83. But Lycoming did not cure the defect. Instead, it issued inadequate service instructions that aggravated the problem. JA567; JA548-49, JA554; JA608-09; JA468; JA499; JA533-34. When the engine in this case was overhauled, the repair station, Kelly Aerospace, followed Lycoming's instructions and service bulletins, implementing the defective design. JA517; JA571, JA575; JA1304-05. The carburetor then failed because of its design defect, causing the crash that killed David Sikkelee. JA449-52, JA472-74; JA536, JA541, JA543. While Kelly shares some of the blame for that crash, Lycoming—as the type certificate holder, which had the most knowledge about this latent product defect—is the more culpable party. Neither state nor federal law entitles Lycoming to summary judgment on these facts.

ARGUMENT

I. Lycoming Is Not Entitled To Summary Judgment Under Pennsylvania Law.

We assert claims based on strict liability, negligence, and failure to report defects to the FAA. We address Lycoming's responses to these in turn.

A. Lycoming Is Strictly Liable for Defects in Its Engine Design.

Lycoming is strictly liable because it manufactured and sold a defective engine, and defects in that engine caused Sikkelee's injuries.

1. The Engine Was Defective When It Left Lycoming's Possession.

A reasonable jury could conclude that the Lycoming O-320-D2C engine in the accident aircraft was defective when it left Lycoming's possession. Our evidence shows that the attachment system used to hold the MA-4SPA carburetor together fails under normal engine vibration. JA541; JA1662. As explained in the opening brief (at 43-46), under either the consumer expectations test or the risk-utility test adopted by the Pennsylvania Supreme Court in *Tincher v. Omega Flex, Inc.*, 104 A.3d 328 (Pa. 2014), a reasonable jury could find this design defective. Lycoming has admitted that this design feature was on the engine that "left the Lycoming plant in 1969," JA941, so the first element of strict liability is satisfied.

a. Lycoming argues that its role as the designer and manufacturer of the engine is irrelevant because it was not "the seller or manufacturer or even the designer of the replacement carburetor." Lycoming Br. 25 & n.6. Essentially, Lycoming argues

(without expressly arguing) that the replacement carburetor, and not the engine, is the relevant "product" under state law.

That's wrong because even though a carburetor is a "product," it is also a component of a larger "product": Lycoming's engine. *See* JA560 (engine type certificate data sheet identifies the carburetor); JA443 (testimony of Marian Folk that the carburetor is a "component of the engine" and that the "O-320 engine" will not "operate without a carburetor"); *see also* Lycoming Br. 46 n.11 (relying on the argument that "the purportedly defective attachment system was 'part of the O-320 engine type design'") (citation omitted).

This matters because a manufacturer is liable for defects in any of its product's component parts, even if those components are themselves also products. *See D'Antona v. Hampton Grinding Wheel Co.*, 310 A.2d 307, 309-10 (Pa. Super. Ct. 1973) (holding that the manufacturer of a machine could be liable when a malfunction occurred in "a component part manufactured by someone else"). Because the carburetor is part of Lycoming's engine product, and because the defect in the carburetor design renders the engine as a whole defective, Lycoming as the engine manufacturer is liable for the carburetor defect.

b. Lycoming asserts that there is no evidence that the engine was defective in 1969. Lycoming Br. 25-26. But it does not contest the opening brief's discussion of

the *Tincher* tests, nor dispute that the challenged design feature was on the engine in 1969.

Instead of discussing the *Tincher* tests or the evidence, Lycoming quotes the district court's pre-*Tincher* 2012 holding, which stated in conclusory fashion that we had not identified any evidence that the engine was defective under federal standards of care in 1969. Lycoming Br. 25-26. But the engine in 1969 incorporated the lock tab washer design. And there is ample evidence from which a jury could conclude that this design was defective under state standards of care—including multiple expert reports explaining how the defect occurs and how it caused the crash in this case, as well as acknowledgments from the FAA, from Precision Airmotive, and from Lycoming itself that the body-to-bowl attachment system in MA-4SPA carburetors loosens due to engine vibration. JA534-43; JA462; JA497-98 (expert reports); JA557 (FAA memo); JA581-83 (Precision letters); JA548-49 (Lycoming employee acknowledging "problem"); JA1662 (internal e-mail admitting susceptibility of design to normal engine vibration). In light of this evidence, the district court's summary judgment decision was wrong in 2012, and is clearly wrong now under *Tincher*. "[I]f anything in the [Pennsylvania] Supreme Court's *Tincher* decision is clear, it is that now only the fact-finder—in this case, the jury—may determine whether a product is defective." *Tincher v. Omega Flex, Inc.*, 180 A.3d 386, 401 (Pa. Super. Ct. 2018).

Lycoming also cites (at 26) an alleged concession by counsel that the engine was not defective in 1969. We anticipated this, explaining that the statement was not a waiver, and further explaining that changes in controlling law (including the shift from federal to state standards of care, and *Tincher*'s new emphasis on the role of the jury in determining design defects) rendered any putative concession irrelevant. Opening Br. 41 n.9. Lycoming does not refute these arguments. Moreover, Lycoming never asserted waiver below, and even now it is unclear whether it is making a waiver argument—but if so, the Court should reject that argument as forfeited and unpersuasive.

In sum, a reasonable jury could have determined that the engine was defective when it left Lycoming's possession.

2. Any Changes to the Engine Were Insubstantial or Foreseeable.

Lycoming argues (at 28-30) that it is absolved because the engine was substantially modified in an unforeseeable way. This argument fails.

First, commentary to the Pennsylvania Suggested Standard Civil Jury Instructions states that this defense should never arise in a case alleging a defect in the original design. Opening Br. 47 (citing Pa. Suggested Standard Civil Jury Instructions § 16.120 subcomm. note). Lycoming argues (at 30-31 n.8) that this instruction does not specifically address a case in which the defendant does not make or sell the allegedly defective part. But it does not have to: the point is that when the

plaintiff shows that a defect in the original product's design caused the injury, there is no need to instruct the jury about the possibility that the defect arose later. That is true whether the defendant or a third party manufactures the replacement component. Lycoming's only other argument is that the appropriateness of the instruction is being litigated in light of *Tincher*. But Lycoming's cited case (*Tincher* on remand) is about a different jury instruction (the pre-*Tincher* instruction relating to the definition of a product defect). Because Lycoming has no compelling answer to the commentary to the "substantial change" instruction—which reflects learned opinions about Pennsylvania law—the Court should reject Lycoming's defense outright.

Assuming *arguendo* that the defense might apply in a design defect case, it still fails. Lycoming must prove that the engine underwent a "highly extraordinary" transformation, *Corbett v. Weisband*, 551 A.2d 1059, 1073 (Pa. Super. Ct. 1988), that altered its "very nature," Pa. Suggested Standard Civil Jury Instructions § 16.120 subcomm. note. On the other hand, "an attempt to put the product back in working order, the way it had been before the original equipment supplied by defendant broke," would not constitute a substantial change under Pennsylvania law. *Gonzalez v. Thomas Built Buses, Inc.*, 934 F. Supp. 2d 747, 754 (M.D. Pa. 2013). Lycoming also acknowledges (at 28) that in addition to proving that a substantial

change occurred, Lycoming must further show that the change was unforeseeable. *See Davis v. Berwind Corp.*, 690 A.2d 186, 190 (Pa. 1997).

Pennsylvania courts have emphasized that these issues—"substantial change" and "foreseeability"—are jury questions. *See, e.g.*, *Minick v. MTD Prods. Inc.*, 75 Pa. D. & C.4th 225, 233 (Pa. Ct. Com. Pl. 2005) (citing *Eck v. Powermatic Houdaille*, 527 A.2d 1012 (Pa. Super. Ct. 1987); *Thompson v. Motch & Merryweather Mach. Co.*, 516 A.2d 1226 (Pa. Super. Ct. 1986); *D'Antona*, 310 A.2d at 310). Federal courts interpreting Pennsylvania law agree. *See Merriweather v. E.W. Bliss Co.*, 636 F.2d 42, 46 (3d Cir. 1980); *Dennis v. Ford Motor Co.*, 471 F.2d 733, 735 (3d Cir. 1973); *Gonzalez*, 934 F. Supp. 2d at 754. If the importance or foreseeability of a modification is debatable, summary judgment is inappropriate.

Here, the overhaul of the carburetor by a third party was neither substantial nor unforeseeable. It was not substantial because Lycoming has conceded that the replacement carburetor had "exactly the same" design as the original. JA941. And it was foreseeable because engine overhauls (including carburetor overhauls) are undertaken periodically, using manuals issued by Lycoming and Precision, JA522; JA547—which is what Kelly did when it installed an MA-4SPA carburetor that used Lycoming's lock tab washer attachment method, JA571; JA777-79. The use of aftermarket parts manufacturer approval (PMA) parts was also not substantial, as these parts had the same form, fit, and function as the original manufacturer's parts,

JA1137—and their usage is common in the industry, *i.e.*, foreseeable. Lycoming briefly gestures (at 30) at other facts, including that the engine was kept in storage and installed on a new aircraft, and that the replacement carburetor was assembled using parts from different manufacturers—but it cannot show that these constitute substantial, unforeseeable changes as a matter of law. At most, they might create a jury question.

Lycoming also has not attempted to show that anything that happened after the engine left its possession was the sole cause of the crash—a third element of this defense. Lycoming Br. 28 (conceding that the defense only applies if "'the changes to the product were a superseding cause of the user's injury'") (citation omitted); *Harley v. Makita USA, Inc.*, 1998 WL 156973, at *6 (E.D. Pa. Apr. 7, 1998). Its defense fails independently for that reason.

Lycoming relies on two cases. It cites *Fisher v. Walsh Parts & Service Co.*, 296 F. Supp. 2d 551 (E.D. Pa. 2003). Lycoming Br. 29. But as the Pennsylvania Association for Justice (PAJ) brief points out, *Fisher* was decided after a bench trial—not on summary judgment. PAJ Br. 10. Indeed, the court stressed that these issues belong to the factfinder. 296 F. Supp. 2d at 563. *Fisher* is also factually distinguishable: there, the court found a substantial change because a safety device was removed after the product left the defendant's possession; here, the attachment

system used on the accident aircraft was materially identical to the attachment system on the engine Lycoming shipped.

Lycoming also cites *Schwartz v. Abex Corp.*, 106 F. Supp. 3d 626, 653 (E.D. Pa. 2015), which held, as a matter of law, that the addition of aftermarket or replacement parts containing asbestos constitutes a "substantial change." We discussed *Schwartz* (at 48 n.11), as does PAJ (at 12). We add the following thoughts. First, the case is distinguishable because it is about the "bare metal" defense in failure-to-warn cases, *i.e.*, whether and when a manufacturer of a product that does not contain asbestos has a duty to warn about the dangers of asbestos that subsequently might be combined with its product. The case is not about design defect theories, and is therefore inapposite. Even if the logic might apply in design defect cases, *Schwartz* is distinguishable because in a "bare metal" case, the original product does not include the defective component. Here, by contrast, the design defect infected the original carburetor.

To be sure, *Schwartz* commented on alternative hypotheticals, including situations in which original products include asbestos—and predicted that the replacement of original parts would constitute a "substantial change" as a matter of law. But that analysis is unpersuasive. First, as *Schwartz* recognized, its analysis constituted a "deviation from prior [Pennsylvania] caselaw." 106 F. Supp. 3d at 652. And indeed, it is impossible to reconcile *Schwartz*'s conclusion with the many cases

cited above reserving the "substantial change" question to the jury. It is especially impossible to reconcile *Schwartz* with the foreseeability precedents because, as Lycoming concedes, the types of changes deemed substantial in *Schwartz* were "of the sort that might be anticipated"—which means that the issue should have gone to a jury. Lycoming Br. 29.

Aside from being inconsistent with Pennsylvania law, *Schwartz* employed flawed logic. The court erroneously concluded that because replacement parts are a separate "product" from the original equipment, their installation on the original equipment constitutes a "substantial change" as a matter of law. 106 F. Supp. 3d at 653-54. But almost every tangible thing sold by any supplier—from a screw to a nut to a carburetor—is a "product." Yet nobody would say that any time a mechanic replaces a screw on an engine, the engine has undergone an unforeseeable, substantial change, as that term has been interpreted by Pennsylvania courts. The correct rule is that when, as here, a component product that is part of a larger product is replaced with a similar component, a "substantial change" to the larger product has not occurred.

A final important point about *Schwartz* is that even though the court erroneously found no strict liability, it did so only because it found that the manufacturer could be liable in negligence. 106 F. Supp. 3d at 654. The court did not hold that

Pennsylvania law foreclosed manufacturers' liability for replacement parts altogether—and neither should this Court.

Because Lycoming has not shown that a substantial, unforeseeable change occurred, or caused the injury in this case, its defense fails. Lycoming does not otherwise challenge the evidence showing that the use of lock tab washers caused the crash in this case, and so all of the elements of strict liability are satisfied.

B. Lycoming Is Strictly Liable for Its Role in the Design of the Replacement Carburetor.

Independently, Lycoming is liable because it created the design that Kelly followed in overhauling the carburetor. Lycoming argues (at 22-24) that because it was not in the chain of distribution for the replacement carburetor, it cannot be strictly liable for defects in that product. This Court should reject Lycoming's position because it ignores the unusually prominent role that type certificate holders play in the general aviation industry.

Here are the key facts. As the type certificate holder, Lycoming set the design for MA-4SPA carburetors used on the O-320 engine. The industry norm, set forth in federal regulations, is that any third party performing maintenance on a manufacturer's product "shall use the methods, techniques, and practices prescribed in the current manufacturer's maintenance manual or Instructions for Continued Airworthiness." 14 C.F.R. § 43.13(a). Lycoming's attorneys have thus admitted that overhaulers ordinarily are required to use the MA-4SPA carburetor as designed by

Lycoming. JA1413. Lycoming's instructions for engine overhauls also recommend carburetor overhauls. JA547; JA1413-14. During those overhauls, Lycoming's instructions command overhaulers to follow Precision's manuals (which include the lock tab washer design). JA517. Lycoming's service bulletins, which it describes as "mandatory," JA604, likewise require mechanics to tighten the throttle body to bowl screws and use lock washers, JA567. And as a matter of fact, Kelly did follow Lycoming's instructions in this case. JA571. Moreover, the parts Kelly used had the same form, fit, and function as Lycoming's own parts, and performed identically to them. JA1137. Indeed, Lycoming acknowledged that the design of the replacement carburetor was "exactly the same" as the original carburetor. JA941.

On these facts, it makes sense to hold Lycoming liable for a defective feature of its design—even if the feature was replicated using PMA parts by a third party. Strict liability is rooted in the understanding that sellers "assume[] a special responsibility toward . . . the consuming public." Restatement (Second) of Torts § 402A cmt. C (1965). Type certificate holders likewise have the responsibility to address flaws in their designs and instructions. JA579; JA581-83. Moreover, even though Kelly overhauled the carburetor, a reasonable jury easily could find that Lycoming's design choices and maintenance instructions were a substantial factor in Kelly's decision to build the carburetor the way it did and introduce that carburetor into the stream of commerce—thus causing Sikkelee's injury. *See Lowe v. TDY Indus., Inc.*,

2005 WL 1983750, at *13, *16 (Cal. Ct. App. Aug. 18, 2005) (holding that engine type certificate holder could be strictly liable for failure of valves that were made by another manufacturer and installed by a third party because the manufacturer's overhaul instructions were defective), *modified on denial of reh'g* (Sept. 16, 2005); *Rost v. Ford Motor Co.*, 151 A.3d 1032, 1049 (Pa. 2016) ("This Court has consistently and without exception held that issues of causation are matters of fact for the jury to decide."); *Powell v. Drumheller*, 653 A.2d 619, 622 (Pa. 1995) ("Where a jury could reasonably believe that a defendant's actions were a substantial factor in bringing about the harm, the fact that there is a concurring cause does not relieve the defendant of liability."). When, as here, a type certificate holder makes a design choice that causes injury, joint strict liability makes sense.[1]

Lycoming argues that strict liability is only appropriate if foreshadowed by state supreme court precedent. It was. In *Pridgen v. Parker Hannifin Corp.*, 916 A.2d 619, 621 (Pa. 2007), the plaintiffs argued that "the hierarchical structure of responsibility assigned by the Federal Aviation Act and associated regulations demands that the aircraft engine manufacturer ensure the safety of all engine components that can affect safe operation, regardless of who physically manufactures them." The court

[1] The General Aviation Manufacturers Association's amicus brief argues that type certificate holders cannot control PMA holders. But that does not matter: the standard is causation, not control.

agreed that engine manufacturers "'sit at the top of the aviation food chain with respect to all components comprising the type certificated engine,'" such that they "might indeed be liable for design defects in replacement parts and/or the aircraft systems within which such components function." *Id*. at 623 (citation omitted).

Lycoming responds (at 31) that *Pridgen* is about Section 400 of the Restatement, which governs liability for apparent manufacturers, and not Section 402A. While Lycoming is correct that the plaintiffs invoked Section 400 to argue that the General Aviation Revitalization Act of 1994 (GARA), Pub L. No. 103-298, 108 Stat. 1552, *reprinted in* 49 U.S.C. § 40101 note, did not apply, it ignores that the plaintiffs also argued that Section 400 was "not the only source of the standard of care serving the basis of plaintiffs' design defect and liability claims" because, independent of Section 400, "the defendants' intimate participation in the design of the engine assembly and their components created common law duties of care owed to the plaintiffs under negligence theories and strict liability under the Restatement of Torts (Second) § 402A as manufacturers of the engine assembly." Appellees' Supplemental Brief, *Pridgen*, 916 A.2d 619 (Nos. 8 EAP 2005, 9 EAP 2005), 2006 WL 4081126, at *23. Moreover, the defendant's argument in *Pridgen* was identical to Lycoming's argument here, *i.e.*, that liability could not attach because the defendant never "actually sold or supplied any of the replacement carburetor parts that the [plaintiffs] claim were defective and caused the accident." Appellants'

Supplemental Brief, *Pridgen*, 916 A.2d 619 (Nos. 8 EAP 2005, 9 EAP 2005), 2006 WL 4081125, at *1. The Pennsylvania Supreme Court found the plaintiffs' characterization of the engine manufacturer's liability more persuasive—and never held that Section 400 was the only path to liability. On remand, Lycoming was held liable for more than $80 million in compensatory and punitive damages based on defects in the carburetor. Dkt. 409-6 (*Pridgen* verdict sheet).

Ultimately, Lycoming's argument is that Kelly is responsible for the replacement carburetor. But the facts show that Kelly is not the only culpable party. In strict liability cases, every party that plays a substantial role in introducing a defective product into the market is liable. Here, that includes Lycoming.

C. Lycoming Is Liable in Negligence.

A reasonable jury could find Lycoming negligent. The principal differences between negligence and strict liability are that a negligence action may lie against anybody who owes a duty (and not only those who assume a special responsibility as sellers)—but there must also be a showing of fault.

Lycoming disputes (at 34) that it had any duty to ensure the safety of the replacement carburetor that was used on its engine. But all of the traditional negligence factors support finding a duty. *See Barton v. Lowe's Home Ctrs., Inc.*, 124 A.3d 349, 359 (Pa. Super. Ct. 2015) (citing *Althaus v. Cohen*, 756 A.2d 1166, 1169 (Pa. 2000)). Lycoming had a relationship with David Sikkelee, who used

Lycoming's engine. The engine had little utility in its defective state, but a safer engine would have had great utility. The risk to Sikkelee was grave, and the harm was foreseeable because Lycoming knew of the problem of screws coming loose, and it knew that its engines would be overhauled. The consequence of imposing a duty on Lycoming is reasonable because Lycoming can control the design, issue warnings, and spread the costs of precautions. And the public interest weighs strongly in favor of a duty as well. Again, *Pridgen* is helpful: Pennsylvania courts found Lycoming liable in negligence for a replacement carburetor, rejecting the same objection Lycoming advances here. Dkt. 409-6.

Lycoming also negligently failed to warn the public about the dangers of using this carburetor design on this aircraft. *See Barton*, 124 A.3d at 360; *Walton v. Avco Corp.*, 610 A.2d 454, 459 (Pa. 1992) (holding helicopter manufacturer liable for failing to warn end users about engine defect). Since at least 1972, Lycoming has known that when its O-320 engines are used on Cessna 172 aircraft, the screws attaching the throttle body to the float bowl tend to loosen. JA557. In 2004, before the underlying accident, Precision urged Lycoming to consider an alternate attachment mechanism in Cessna 172 aircraft. JA582-83. But Lycoming has never warned users away from using this carburetor attachment mechanism in Cessna 172 aircraft. Instead, it issued Service Bulletin 366—which was ineffective, and risked aggravating the problem. Opening Br. 13-14.

D. Lycoming Is Liable for Failure to Report Defects to the FAA.

Finally, Lycoming is liable in negligence for failing to report known product defects to the FAA. Lycoming denies any duty to make such reports, but Pennsylvania law provides that warnings must be adequate to reach ultimate users, and recognizes that a manufacturer may discharge this duty by providing warnings to third parties in some circumstances. *See Phillips v. A.P. Green Refractories Co.*, 630 A.2d 874, 883 (Pa. Super. Ct. 1993), *aff'd sub nom. Phillips v. A-Best Prods. Co.*, 665 A.2d 1167 (Pa. 1995). Thus, courts interpreting Pennsylvania law have held that medical device manufacturers have a duty to report adverse events to the Food and Drug Administration (FDA). *See, e.g.*, *Silver v. Medtronic, Inc.*, 236 F. Supp. 3d 889, 900 (M.D. Pa. 2017); *McLaughlin v. Bayer Corp.*, 172 F. Supp. 3d 804, 838 (E.D. Pa. 2016). Reports to the FAA are no different.

Lycoming argues (at 35) that the FAA was aware that screws had sometimes loosened. But our argument is that Lycoming masked the cause of these defects by insisting that this issue was a service problem. Opening Br. 54. Lycoming does not suggest that it ever disclosed the true "[n]ature of the . . . defect" to the FAA, a specific requirement of 14 C.F.R. § 21.3(e)(3)(iii), and so it never gave the agency the necessary knowledge to spur corrective action.

II. Lycoming Is Not Entitled To Summary Judgment On Conflict Preemption Grounds.

1. This Court should reject Lycoming's conflict preemption defense. At a high level, two major problems arise. First, Lycoming's rule cannot be correct. Lycoming urges broad preemption, under which every design defect claim is preempted because, according to Lycoming, some form of FAA approval is required for any design change—however minor—and that approval requirement always triggers impossibility preemption. Lycoming does not seriously attempt to dispute this characterization of its argument. It says that "type certification does not preclude liability if the type certificate leaves relevant design choices to the manufacturer's discretion or if the manufacturer can otherwise implement the proposed change unilaterally." Lycoming Br. 55-56. But Lycoming does not identify a single case in which this has happened—or even could happen if the Court accepts Lycoming's argument that every design change requires FAA approval. Moreover, Lycoming concedes (at 55 n.14) that design defect claims relating to myriad major air crashes (set forth in detail by the American Association of Justice in its amicus brief) would all have been preempted under its rule. In other words, Lycoming is effectively advocating blanket immunity from design defects.

That cannot be right. Preemption is a question of congressional intent. As this Court recognized, there is no evidence—anywhere—that Congress intended to extinguish design defect claims wholesale. *See Sikkelee v. Precision Airmotive*

Corp., 822 F.3d 680, 695-96 (3d Cir. 2016). That holding makes sense because Congress explicitly stated that other than the "very limited" preemption provision in GARA, "State law will continue to govern fully, unfettered by Federal interference." H.R. Rep. No. 103-525, pt. 2, at 4, 7 (1994). These authorities are flatly inconsistent with Lycoming's broad rule.

The second high-level problem with Lycoming's argument is that this case presents terrible facts for a manufacturer asserting impossibility preemption. Lycoming cannot muster any evidence that if it attempted to make the design change proposed in this case—*i.e.*, using safety wire instead of lock tab washers—the FAA would disapprove. Indeed, the FAA previously deemed safety wire *mandatory*. Given the near certainty that Lycoming could change its design if it tried, it should not be able to claim impossibility under traditional conflict preemption principles.[2]

2. Lycoming advances two preemption theories. First, it argues that Kelly could not have changed the design of its PMA parts without first obtaining FAA approval. Lycoming Br. 42-43. Our opening brief never argued otherwise. Instead, we argued that Kelly, acting as a repair station, had the power to *alter* the carburetor of the

[2] We are not describing a "mere possibility" of FAA approval, *Sikkelee*, 822 F.3d at 704; we are describing a virtual certainty because the alternative design has already been approved. Impossibility preemption is a "demanding defense" that should not arise when changes are easy to make. *Wyeth v. Levine*, 555 U.S. 555, 573 (2009).

accident aircraft without FAA approval (using any approved parts)—and would have done so if Lycoming had changed its design or provided adequate instructions. Opening Br. 9-10, 38-39. We therefore argued that any restrictions on Kelly's ability to modify its PMA designs are irrelevant to impossibility.

Lycoming does not dispute our description of Kelly's power to alter the carburetor, nor deny that this point defeats its Kelly-based preemption arguments. Instead, it disparages this as an "eleventh hour" argument—which is just a barbed way of admitting that the argument was timely presented—and then pivots to argue that if Kelly was free to alter the carburetor, then Lycoming cannot be liable under state law because Kelly's freedom to alter the carburetor disrupts the chain of causation. Lycoming Br. 44.

Lycoming cites no authority for its state law argument, which is clearly wrong because Kelly's freedom is irrelevant to Lycoming's strict liability. In most cases where a product is repaired by a third party, the third party is legally free to modify it. For example, if a manufacturer made an industrial press with a dangerously defective control system, no law would ordinarily prohibit a mechanic from modifying the press to cure the defect. But if the mechanic chose instead to maintain the manufacturer's design, then under Pennsylvania's well-settled test for strict liability, the manufacturer is still liable for injuries caused by its product—which was defective when it left the manufacturer's possession, and reached the end user

without an unforeseen, substantial change. Thus, the fact that Kelly was free to fix Lycoming's engine cannot absolve Lycoming of liability for making a defective engine in the first instance—or for negligently issuing overhaul and service instructions that urged Kelly to continue to use the defective lock tab washer design.

In sum, Lycoming's Kelly-based preemption arguments are non-starters, and it did not gain a state law defense in the process.

3. Lycoming's second conflict preemption theory is that federal law prohibits it from altering the carburetor design without prior approval from the FAA. Lycoming Br. 45-48. This contention has a gaping factual hole. As Lycoming acknowledges (at 41), our position is that the easiest way to cure the design defect is by changing the design to use safety wire instead of lock tab washers. We have argued that Lycoming could attempt to implement this as a minor change, using a "method acceptable to the FAA." 14 C.F.R. § 21.95. As this Court acknowledged in its previous opinion, such minor changes may not "require preapproval," depending on the method acceptable to the FAA. *Sikkelee*, 822 F.3d at 703 n.21.

As we explained (at 35-36), manufacturers decide in the first instance whether a change is minor or not, and the FAA has accepted minor change methods that do not require its involvement. For example, some changes can be "recorded in the descriptive data" by the manufacturer. FAA Order 8110.4C, at 87 (2017). It appears that Lycoming previously implemented the safety wire design, in the 1960s, using

an internal engineering change order. JA1623. And many manufacturers can implement minor changes after consulting with a designated engineering representative (DER)—without any involvement from an FAA employee. Thus, Lycoming could attempt the change in this case without prior FAA approval—and its defense fails unless it can show, with clear evidence, that the FAA would reject the change. *See In re Fosamax (Alendronate Sodium) Prods. Liab. Litig.*, 852 F.3d 268, 282 (3d Cir. 2017), *petition for cert. filed*, No. 17-290 (Aug. 22, 2017).

Lycoming has not made this showing. It cites no evidence proving that it would have to involve the FAA before making this change; nor evidence that the FAA would reject either the determination that the change is minor or the change itself. We highlighted this problem in the district court, noting that the lack of record evidence about what it would "have taken on Lycoming's end for them to change the design if they wanted to" was "damning to [Lycoming's] motion." JA1561. We suggested that, in the interests of getting to the right answer, the district court consider reopening the record for limited discovery and to hear from experts. *Id*. Lycoming did not join our suggestion, and the district court did not accept it. JA1561-62. On this record, Lycoming has failed to carry its summary judgment burden.

Lycoming's other answers to the "minor change" argument are unpersuasive. First, it makes the "gotcha" observation that the regulations define a minor change

as one with no appreciable effect on the engine's reliability, and argues that if the change is actually minor, our claim would fail for lack of causation. Lycoming Br. 46. This argument assumes—without any authority—that the FAA's determination that a change is minor under federal law would somehow bind a state court adjudicating causation under state law—which it would not. This argument also misapprehends the nature of the conflict preemption inquiry. The question is not whether, in some academic sense, a change meets the technical definition of a minor change. Instead, as explained above, the question involves a prediction: it is Lycoming's burden to show—as a matter of fact and practice—that the FAA actually would refuse to accept the change as minor if Lycoming tried to pursue it as such. *See Fosamax*, 852 F.3d at 289-94. There is no evidence that the FAA would have done so; for example, there is no evidence that the FAA would second-guess Lycoming's claim that the change was, in fact, minor.

Second, Lycoming argues (at 47) that all design changes, however minor, are approved by the FAA. We explained earlier that FAA approval is not synonymous with *prior* FAA approval, nor with the need for the FAA to exercise judgment and take action. The approval requirement Lycoming cites is therefore not distinguishable from the regulation in *Wyeth*, which permitted manufacturers to make temporary changes pending subsequent FDA approval—and did not trigger impossibility preemption. Opening Br. 36-37.

Third, to the extent Lycoming is right about any of these arguments, it only proves that Lycoming's preemption rule is all-encompassing. If every change that might improve aviation safety is "major" per se, or if every minor change triggers preemption, then every design defect claim is preempted. That cannot be the law.

4. Lycoming has no good answer to the threshold argument that, because the design features here were not expressly approved by the FAA, there can be no preemption under this Court's prior opinion. *See* Opening Br. 26-29. Lycoming argues (at 48) that this rule is inconsistent with the Supreme Court's drug label precedents, which did not impose an "express approval" requirement.[3] But that requirement is unnecessary in drug cases because every word of a drug label is

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[3] We identified (at 32-34) four other differences between aviation designs and generic drugs, including the relative frequency and ease of changes to aviation designs, the role of DERs, and the fact that state and federal law will often require the same result in the aviation context.

In response, Lycoming cites data saying that drug label changes happen often. That data is not about generic drug manufacturers attempting to change their labels. The Supreme Court noted that there was no evidence of any generic manufacturer ever attempting to do so. *PLIVA, Inc. v. Mensing*, 564 U.S. 604, 617 (2011).

Lycoming argues that aviation changes are hard to implement—but it only discusses major changes, ignoring evidence that minor changes are ubiquitous.

Finally, Lycoming argues that even if state and federal law have the same goal, that would not eliminate preemption if the two systems of law embrace different means to achieve that goal. This answers a straw man: our argument is that, in the drug context, the government must balance safety against efficacy—but in the aviation context, safety and efficacy are synonymous. Thus, while it is possible that state law tort claims will disturb the balance struck by the FDA, a similar risk does not exist in aviation design defect cases.

approved by the FDA after painstaking review. In aviation, by contrast, the FAA performs a "spot check" of applications. *United States v. S.A. Empresa de Viacao Aerea Rio Grandense (Varig Airlines)*, 467 U.S. 797, 817 (1984). The only documents that necessarily evidence consideration by the FAA are the ones it creates expressly approving design features. Limiting preemption to this category of approvals is therefore not inconsistent with the Supreme Court's drug cases; in fact, it is the only way to achieve consistency across industries.

Lycoming argues that its design features were expressly approved because the FAA stamped Kelly's drawings and implicitly approved Lycoming's type design when it granted the type certificate. Lycoming Br. 48-50. But as we explained in the opening brief, none of these expressly approves Lycoming's lock tab washer design, and no document prepared by the FAA endorses that design. Opening Br. 27-29.

Lycoming argues (at 50) that the FAA approved the lock tab washer mechanism on other carburetors. This is misleading for reasons set forth in a Rule 28(j) letter filed on October 8, 2015 during the first appeal. The short version is that while the FAA approved lock washers for certain other carburetors, it did not accept Lycoming's request to use that mechanism in the MA-4SPA. Later, the FAA repealed the airworthiness directive that required the use of safety wire—thus leaving the choice of attachment method to "'manufacturers' discretion'"—a fact that cuts against conflict preemption. *Sikkelee*, 822 F.3d at 702 (citation omitted).

5. Lycoming also cannot refute our argument that when the only approval necessary is DER approval, *i.e.*, approval by a manufacturer's own employee, impossibility preemption cannot lie. Lycoming argues that DERs should be treated as FAA employees for conflict preemption purposes. Not so. In explaining the degree of federal involvement that gave rise to conflict preemption in *PLIVA*, the Court explained that preemption applied because "the FDA—a federal agency—had to undertake special effort permitting" the manufacturers to satisfy their state law duty. 564 U.S. at 623. The Court *held* that "when a party cannot satisfy its state duties without *the Federal Government's special permission and assistance*, which is dependent on the exercise of judgment *by a federal agency*, that party cannot independently satisfy those state duties for pre-emption purposes." *Id*. at 623-24 (emphasis added). When a DER can grant approval, however, no federal resources are involved, and no federal employee must *do anything*, let alone "exercise . . . judgment" or provide "special permission." Thus, the manufacturer *is* acting independently.

Lycoming's authorities do not suggest otherwise. Lycoming points out that a DER is legally distinct from his employer. Lycoming Br. 52. But as the FAA's guidance makes clear, employers can indemnify DERs for decisions that DERs make. FAA Order 8110.37F, at 3-1 (2017). Thus, the DER is even more clearly distinct from the FAA—which emphasizes that a DER "is not an employee of the

FAA . . . and is not federally protected for the work done or the decisions made as a DER." *Id.* Lycoming also notes that the DER is required to act independently. But that has no bearing on the impossibility question either—which does not look to the standards that a decisionmaker must apply, but looks instead to whether that decisionmaker *is a federal agency*. DERs are not.

6. Finally, we urge the Court to reconsider its conclusion that type certificates support conflict preemption. Any rule broad enough to support preemption here would likely reach *every* design defect case. Moreover, as we explained (at 35 n.8, 39-40), crafting an administrable rule is daunting—and whatever rule the Court adopts, manufacturers will have an incentive to manipulate it by modifying their design change approval processes to require the requisite level of FAA input. Of course, Congress can preempt state law, as it did with GARA, if it chooses. But until that happens, the better approach for this Court is to preserve the status quo by disavowing conflict preemption of general aviation design defect claims, which have enhanced aviation safety and provided necessary compensation to accident victims for decades.

CONCLUSION

The judgment below should be reversed.

Respectfully submitted,

Dated: May 10, 2018

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CERTIFICATES OF COMPLIANCE

Pursuant to Fed. R. App. P. 32(a)(7)(B), I hereby certify that this brief was produced in Microsoft Word 2016 Times New Roman 14-point type and contains 6,499 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(f).

I further certify pursuant to L.A.R. 31.1(c) that the electronic copy of this brief filed with the Court is identical in all respects to the hard copy filed with the Court, and that a virus check was performed on the electronic version using Windows Defender. No computer virus was found.

Dated: May 10, 2018

/s/ Tejinder Singh
Tejinder Singh

CERTIFICATION OF BAR MEMBERSHIP

I hereby certify that I am a member of the Bar of the United States Court of Appeals for the Third Circuit and remain a member in good standing of the Bar of this Court.

Dated: May 10, 2018

/s/ Tejinder Singh
Tejinder Singh

CERTIFICATE OF SERVICE

I hereby certify that on May 10, 2018, I electronically filed the foregoing with the Clerk of Court for the United States Court of Appeals for the Third Circuit by using the appellate CM/ECF system. All participants in the case are registered CM/ECF users, and service will be accomplished by the appellate CM/ECF system.

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