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MARK R. BAKER
President and CEO

June 7, 2016

The Honorable Michael P. Huerta
Administrator
Federal Aviation Administration
800 Independence Avenue SW
Washington, D.C. 20591

RE: Comprehensive Policy for GA Fleet Modernization

Administrator Huerta,

I am writing today to bring to your attention a critical need for a comprehensive policy to modernize the existing general aviation (GA) fleet and enhance the safety of our National Airspace System. With this letter, AOPA is requesting that the FAA create streamline pathways, along with a timeline and milestones, to implement both policy and guidance to enable cost-effective fleet modernization.

First, I want to acknowledge the FAA's significant progress on reforming 14 CFR Part 23, which promises significant safety and technological advancements in new airplanes.

While new airplane developments are critical, it is equally, if not more important that the existing GA fleet benefit from modern safety-enhancing technology. For this reason, AOPA urges the FAA to undertake a comprehensive policy reform initiative to streamline and simplify design, production, and installation approval for engine and fuel monitoring systems, propulsion accessories, flight displays and avionics, autopilots, and other safety-enhancing equipment. With sensible and achievable means of compliance in place, pathways for safety innovation and enhancements would streamline much needed efforts to modernize existing legacy aircraft.

Creating pathways to modernize the existing GA fleet has become increasingly important in recent decades for three main reasons:

First, new aircraft are cost prohibitive for most pilots, causing an increased demand for older, less expensive and less technologically advanced aircraft. In 1984, the median annual household income was $47,866 (in 2013 inflation-adjusted dollars) and the price of a new Cessna 172 was almost double at $90,671 (in 2013 inflation-adjusted dollars). In 2013, the median income rose to $51,939 whereas the price of a 172 increased almost eight times to almost $400,000. The significantly higher price and accompanying lower demand for new GA aircraft are reflected in the production numbers: the number of new piston-powered aircraft being produced has fallen dramatically from a high of 17,032 in 1978 to just 1,129 in 2014.

Second, the existing fleet of more than 200,000 GA aircraft is aging. The average age of all registered U.S. GA aircraft is approximately 37 years old and about 45 years old for all single-engine piston airplanes. Unsurprisingly, the majority of these aircraft are still equipped with avionics and technology originating back to the 1960s. As you know, these older aircraft do not offer anything near the same level of technological and safety benefits as modern-equipped aircraft.

Finally, the current FAA approval requirements and standards for retrofitting type-certificated aircraft have driven up costs, stifled innovation and constrained the production and implementation of new technology. Consequently, innovative and safety-enhancing devices have

been embraced, adopted, and installed into the experimental and light-sport aircraft fleets, but not type-certificated aircraft.

I am very pleased that, under your leadership, the FAA has begun to acknowledge the need for modernization. AOPA has supported and encouraged recent FAA policies which streamlined the incorporation of a limited number of safety-enhancing products into the existing GA fleet, including approval of attitude indicator replacements, and some non-required safety-enhancing equipment, including angle of attack (AoA) indicator systems. Despite some limitations, these policies have received AOPA's support as we believe they are vital first steps to GA fleet modernization.

Please find enclosed a more thorough overview of AOPA's guidelines for comprehensive policy reform for the existing GA aircraft fleet. This document outlines the core concepts which can form the basis of a broader, more comprehensive policy that addresses all aspects of FAA approval, from design and production to installation, for retrofitting different categories of new, modern technologies in type-certificated aircraft.

In the interest of both the safety and protection of our nation's general aviation fleet, these pathways, along with a timeline and milestones, must be established as soon as possible. AOPA stands ready to assist the agency in this effort.

Sincerely,

Mark R. Baker

Enclosure

Guidelines for GA Fleet Modernization

AOPA strongly encourages the FAA to develop a series of policies and procedures for streamlining and simplifying design, production, and installation approval of a wide range of safety-enhancing products. The current piecemeal approach to GA fleet modernization is insufficient, ineffective, and prohibitively expensive as a long-term solution. The FAA needs a broader and more comprehensive plan to address the growing need for owners and operators to update their existing aircraft simply and affordably.

AOPA has outlined fundamental guidelines for the FAA's consideration when streamlining the processes for owners and operators to upgrade the existing GA fleet. AOPA strongly recommends and encourages the FAA to incorporate these principles and philosophies into a broad, comprehensive policy that addresses this growing need.

1. **Any policies developed should address a wide range of safety-enhancing equipment.** The GA industry has demonstrated the most interest in equipping the existing fleet with the following categories and types of modern technology:

    a. Engine and fuel monitoring and management systems;
    b. Propulsion accessories and enhancements;
    c. Advanced flight displays (PFD/MFD);
    d. Autopilots;
    e. ADS-B in/out; and
    f. Non-required safety enhancing equipment (NORSEE).

    AOPA recommends that agency resources be directed toward these modern technologies where demand is highest and the most safety-related benefits can be quickly realized.

2. **The FAA should develop policies for approving both required and non-required equipment, as well as equipment which may replace or modify an article reasonably likely to be installed on a type-certificated product.** One of the notable limitations with some of the FAA's existing policies is that they are limited to non-required or supplemental equipment. AOPA agrees that supplemental equipment can enhance safety. However, the downside is that there still is no pathway for an aircraft owner or operator to remove and replace the antiquated equipment which may be required. This results in a situation where the owner or operator has some modern (supplemental) technology in the aircraft, but is simultaneously forced to maintain older (required) technology as well. The Part 23 proposed rulemaking effort should assist the FAA in this endeavor by providing the agency with authority under 14 CFR § 21.9 to streamline its approval processes for replacement and modification articles.

3. **The FAA policies should be comprehensive and streamline all existing barriers to replacing antiquated equipment and technology, i.e., design approval, production approval, and installation approval.** Each of these three approval processes poses unique challenges for manufacturers, aircraft owners and operators, and mechanics depending upon the specific piece of equipment at issue. Policies should reflect the different challenges affecting different categories of equipment. Further, the supplemental type certificate (STC) and type certificate amendment processes are still extremely cumbersome, time consuming, and expensive. The current criteria and procedural requirements for obtaining an STC should be reconsidered and made dependent on the risk level of the aircraft or proposed alteration.

4. **The FAA should develop policies for approving the different categories of modern technology in accordance with the risk posed by that technology.** The major fundamental change in the certification of airplanes under 14 CFR Part 23 is the introduction of airplane certification levels based on risk. The shift reflects the FAA's "effort to introduce risk-based decision-making and better align with the FAA's safety continuum philosophy." These same principles must apply to GA fleet modernization effort. Criteria and requirements for obtaining design, production and installation approval must reflect the risk posed by the proposed article or system. For certain products, one improvement may be to provide design and production approval upon satisfaction of an industry-consensus standard (e.g. ASTM specification) in lieu of the more rigorous review processes, such as obtaining a technical standard order authorization (TSOA) or parts manufacturer approval (PMA).

5. **The FAA should consider the relative risk associated with the proposed equipment as compared to the product being replaced when developing policies for installation approval.** AOPA believes the FAA's safety continuum philosophy would be better achieved by considering not only the risk posed by the article to be installed, but the article being replaced as well. To illustrate, an applicant for a STC must currently satisfy airworthiness standards for *new* aircraft, regardless of the potential safety risk posed by equipment installed in the used aircraft. In doing so, the FAA has effectively determined that the older, antiquated technology, which may be several decades old, poses less of a risk than certain uncertified equipment already operating in the experimental category. Such a high standard unnecessarily increases costs and discourages many from pursuing an STC. The FAA should instead create an easier pathway for obtaining installation approvals while considering the risk and historical failure rates of the article being replaced.

AOPA stresses the importance of ensuring that the needs of the GA industry and existing fleet are met concurrently. AOPA believes the broad concepts and guidelines outlined, along with its cooperation with the FAA and other industry stakeholders, will produce those much desired and needed solutions.