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Susan J. M. Cabler
Acting Manager, Design Manufacturing, & Airworthiness Division
Aircraft Certification Service
Federal Aviation Administration
450 L'Enfant Plaza SW, 5th Floor
Washington, DC 20024

RE: FAA Policy Statement, Approval of Non-Required Safety Enhancing Equipment (NORSEE)

Dear Ms. Cabler,

The Aircraft Owners and Pilots Association (AOPA), the world's largest aviation membership association, submits the following comments in support of the Federal Aviation Administration's (FAA) recently issued policy statement, "Approval of Non-Required Safety Enhancing Equipment (NORSEE)," dated November 10, 2015 (NORSEE Policy).

The recently initiated a policy statement outlines how an individual or manufacturer can incorporate NORSEE equipment into an existing general aviation (GA) aircraft. AOPA is pleased to see the FAA recognizing the enormous safety benefits new equipment and technologies can bring, and has already brought, to the GA community. AOPA endorses and recommends that the FAA fully adopt and implement the proposed policy.

The NORSEE Policy is Consistent with Reducing LOC Accidents

Analyzing fatal GA accident data between 2001 and 2010, the General Aviation Joint Steering Committee's (GAJSC) Safety Analysis Team (SAT) determined that 40.2 percent of fatal GA accidents, or 1,259, were caused by loss of control (LOC). With this in mind, the GAJSC approved the creation of two separate LOC working groups (LOC WGs) – one to study LOC approach and landing accidents, and another to examine LOC enroute and departure accidents. AOPA had the privilege of co-chairing each of these LOC WGs.

The GAJSC's LOC WGs were tasked with developing and prioritizing "safety intervention strategies that will reduce the potential for LOC accidents," and preparing a "detailed implementation plan" for each intervention strategy proposed. The prioritization of proposed safety enhancements was accomplished by analyzing two components: overall effectiveness and feasibility of each enhancement. Consideration of overall effectiveness and feasibility focused on how likely the intervention would have prevented an accident, the number of accidents which could have been prevented, current state of technology, total cost of implementation, timing and scheduling, current rules and certification processes, and sociological and political concerns.

The GAJSC’s LOC WGs developed a number of GA Safety Enhancements over the course of their study. Considering overall effectiveness and feasibility, the installation of an angle-of-attack (AOA) indicator – which helps inform the pilot how close he or she is to stalling – had the highest potential for preventing future LOC accidents. The LOC WGs recommended three other vital GA Safety Enhancements (SE-25, SE-26, and SE-27), all of which sought to reduce regulatory roadblocks to certifying modern technology with tremendous safety benefits and minimal risk to overall safety.

To illustrate, the GAJSC LOC WG pointed out that AOA indicators and autopilots were two primary examples of how increasing costs are keeping beneficial technology out of the cockpit. The large majority of the existing GA aircraft fleet is comprised of certified Part 23 aircraft with avionics designed in the 1960s to 1980s. Unfortunately, according to the LOC WGs’ final report, “[t]he cost to put an existing AOA system on a certified airplane is almost 10 times higher than putting it on a homebuilt,” where the FAA’s approval is not required. A similar cost differential applies in the case of installing an autopilot. In other words, aircraft owners are not installing modern safety technology because it is just too expensive.

AOPA supports the NORSEE Policy because, among other things, the FAA’s streamlined and transparent certification procedures (1) considers the significant safety benefits NORSEE equipment provides relative to minimal safety risks, (2) reduces overall regulatory roadblocks, as recommended by the LOC WGs, and (3) decreases the costs to aircraft owners and operators to install NORSEE equipment in certified aircraft. These benefits from the NORSEE Policy are absolutely necessary steps towards reducing the number of GA accidents, particularly due to LOC.

The NORSEE Policy Justifiably Expands Existing FAA Policies

AOPA and manufacturers have long desired streamlining FAA approval of non-required safety equipment in an effort to modernize and increase safety in existing GA aircraft. The FAA and GA community has made it a top area of focus to prevent and reduce the number of LOC-related accidents. AOPA is pleased to see that the NORSEE Policy is a continuation and expansion of the FAA’s current policies aimed at making it easier and less costly to install NORSEE equipment.

On February 5, 2014, the FAA issued Memo No. AIR100-14-110-PM01, which established “requirements and procedures for issuing a design and production approval” to manufacturers under 14 CFR 21.8(d) for non-required, or supplemental, *AOA indicators*. The FAA’s memorandum standardized the process for manufacturers to obtain a letter of approval (LOA) for its AOA indicator system. In doing so, the FAA reduced the costs of obtaining approval, along with much uncertainty in the process, for such manufacturers. AOPA is proud that the FAA embraced such an initiative, as it aligned with the GAJSC’s LOC WGs’ top recommendation and priority of increasing the installation of AOA indicators in GA aircraft.

As further encouragement, on July 25, 2014, the FAA’s Flight Standards Service issued Information for Operators (InFO) 14010, entitled, “Installation, Training, and Use of Non-required/Supplemental Angle-of-Attack (AOA) Based Systems for General Aviation (GA)

Airplanes” (AOA InFO). Referencing the data-driven analysis and findings from the LOC WGs, the AOA InFO reiterated the FAA’s strong desire to implement initiatives which would promote the installation of AOA indicators in GA aircraft. The FAA’s final recommendation was for the GA community to recognize the safety benefits derived from the AOA indicator, review the FAA’s memorandum from February 5, 2014 (discussed above), and install AOA-like systems into GA fleets for the purpose reducing LOC accidents.

The NORSEE Policy is a continuation and expansion of these existing FAA policies and outreach efforts to encourage the modernization of GA airplanes through the installation of safety-enhancing equipment. AOPA is encouraged that the FAA has not limited the streamlining of NORSEE equipment approvals to AOA indicators. Instead, the FAA has justifiably expanded what has been considered NORSEE equipment, a sign that the FAA and GA community are fulfilling the FAA’s fundamental mission of improving safety by implementing risk-based certification, lowering certification costs, and ensuring safety-enhancing equipment is affordable for GA aircraft owners.

Conclusion

AOPA commends the FAA for its work in reducing the costs of certification for these safety-enhancing devices. The development of refined and unambiguous procedures and standards has significantly reduced the costs of certification for light-sport aircraft and will continue to do so for aircraft certified under Part 23. Only through this collaborative effort will we collectively rise to the next level of safety while making GA more accessible and affordable.

AOPA appreciates the opportunity to provide comments on the FAA’s NORSEE Policy and stands committed to encouraging and incentivizing the use of safety-enhancing equipment in the GA fleet.

Sincerely,

A handwritten signature in black ink that reads "Justin T. Barkowski". The signature is written in a cursive style with a large initial "J" and "B".

Justin T. Barkowski
Director, Regulatory Affairs