ASTM International—An organization that builds consensus standards across a range of industries, including the process by which Light Sport aircraft are approved.

DO-178—Officially called Software Considerations in Airborne Systems and Equipment Certification. This is a software validation standard the FAA uses when determining the suitability of a piece of avionics for certification. Previously it was the only acceptable standard, but recently an ASTM consensus has been added as an alternative in certain cases.

Part 23 Rewrite—An effort to reform small aircraft certification under FAR Part 23 by allowing manufacturers to opt to comply with performance-based standards.

PMA—Parts Manufacturer Approval. This is both a step-in certification for avionics manufacturers that ensures a high level of production, and a path forward for non-TSO products when combined with an STC. Compared to a TSO, certifying through a PMA gives a company more latitude because it is meant to apply to a smaller subset of aircraft. A wing tip fairing for a Cessna 172, for example, would have a PMA and not a TSO. Today that process has expanded to avionics.

Non-TSO—An alternative pathway to certification that doesn’t require as much initial investment from a manufacturer, leading to lower costs for aircraft owners.

NORSEE—An official FAA policy that provides a certification pathway for Non-Required Safety Enhancing Equipment. While the underlying concepts in the policy originated as a way to proliferate angle of attack indicators in aircraft, the NORSEE policy has certain limitations preventing its widespread use.

STC—Supplemental Type Certificate. Parts that require a major change in an aircraft’s design are required to also have an approved STC for each make and model. It is separate and distinct from a TSO or PMA. In fact, the original parts manufacturer may not hold the STC approval. As an example, The STC Group obtained an STC approval for Trio Avionics’ Pro Pilot autopilot to be installed in various Cessna aircraft.

TSO—Technical Standard Order. A series of FAA orders that provide detailed certification guidance for each type of equipment and avionics in an airplane. Many requirements, such as software validation and environmental testing, led to high avionics prices. —IJT