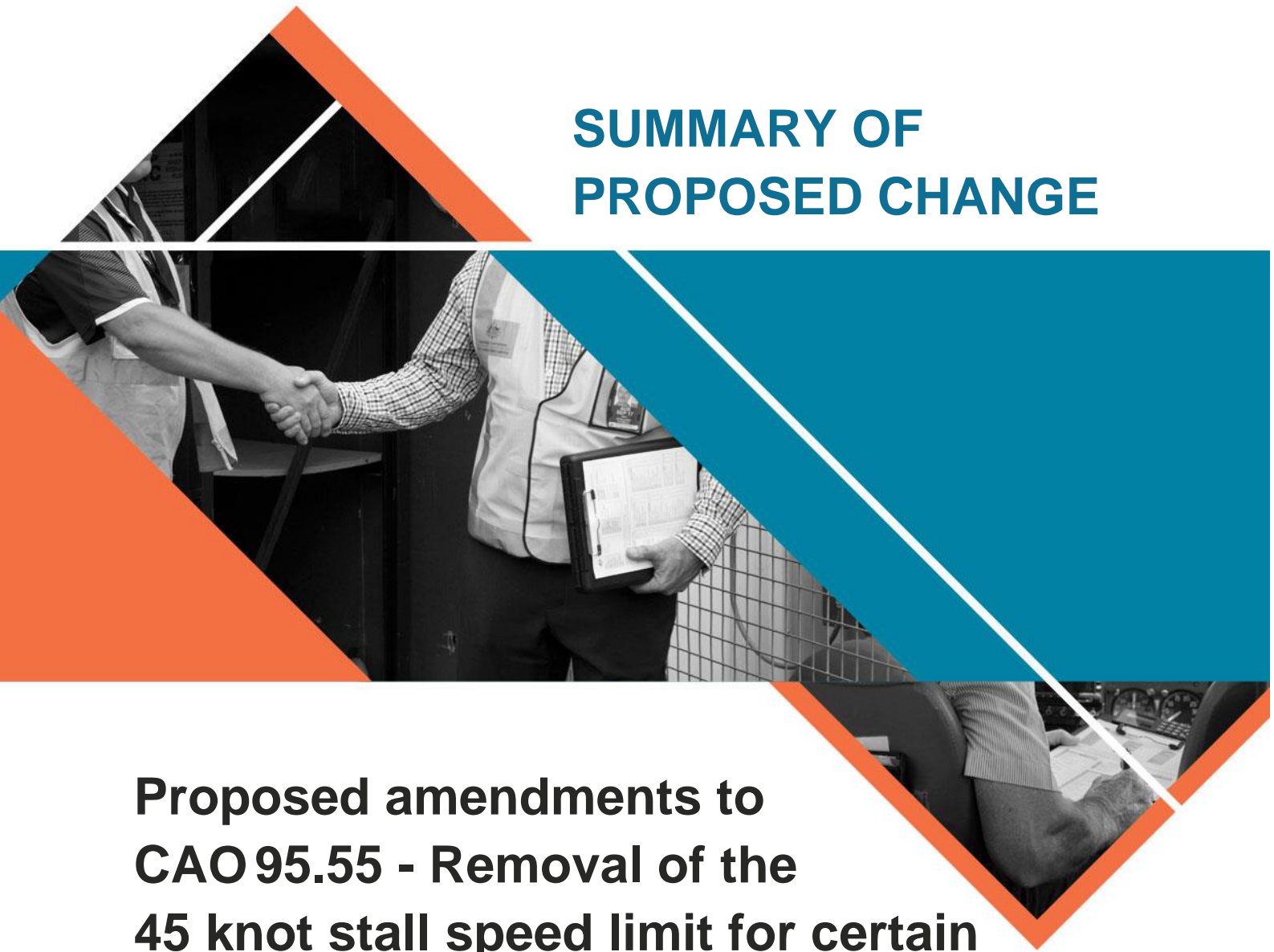




SUMMARY OF PROPOSED CHANGE



Proposed amendments to CAO 95.55 - Removal of the 45 knot stall speed limit for certain sport and recreation aeroplanes

Civil Aviation Order 95.55

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Introduction

The purpose of this consultation is to set out CASA's proposals for the stall speed limits that apply to lightweight aeroplanes operated under CAO 95.55.

On 2 December 2021, CAO95.55 was amended to include the operation of aeroplanes up to a maximum take-off weight (MTOW) of 760 kg. These aeroplanes are referred to as lightweight aeroplanes.

The change to the MTOW was the outcome of CASA discussion paper ([DP1912SS Maximum take-off weight limit for aeroplanes managed by approved self-administering aviation organisations](#)). The discussion paper sought feedback from the aviation community about amending the CAO to include certain aeroplanes up to a maximum weight of 760 kg under the administration of an approved self-administering aviation organisation (ASAO). Feedback was sought on the relevance of the stated benefits, the identified risks and the industry impacts more broadly.

The summary of consultation for the discussion paper noted some respondents either requested CASA increase the maximum stall speed limit beyond 45 knots to capture two-seat aircraft with an MTOW of 760 kg or less, whose stall speed was greater than 45 knots, or identified the stall speed limit as a concern. However, most respondents to consultation DP 1912SS did not specifically raise any concerns regarding the 45 knot stall speed limit.

In consideration of these submissions, CASA determined the 45 knot stall speed should initially remain and a follow-on review of the stall speed limitation conducted.

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Purpose and scope of the proposed amendments

Stall speed limits that presently apply to aeroplanes operated under CAO 95.55

Sport and recreation aeroplanes that are the subject of CAO 95.55 are grouped into three categories - ultralight aeroplanes, light sport aircraft and lightweight aeroplanes. This is based on the aeroplane's maximum take-off weight and the certification standard to which the aeroplane is constructed, further details can be found in Appendix A.

In most instances these aeroplanes are not constructed to the same structural certification standards as aeroplanes certificated to Part 23 of the *Civil Aviation Safety Regulation (CASR)*, and that are intended to provide occupants a reasonable chance of escaping injury in the event of an accident.

The primary purpose of the 45 knot stall speed limit in CAO 95.55 is to provide a mechanism to mitigate the risk of serious injury or death to the occupants of these aeroplanes by limiting the potential impact forces in a landing accident, where the aeroplane will generally be operating close to its landing configuration stall speed.

The definition of lightweight aeroplane in CAO 95.55 requires that:

- a. a certificate of airworthiness be in force under regulation 21.176 of CASR for the aeroplane;
- or
- b. in the case of an amateur-built or kit-built aeroplane — an experimental certificate be in force under regulation 21.195A of CASR.

The effect of this requirement, for private operations under the CAO, are as follows:

- a. if the aeroplane is not an amateur-built or kit-built aeroplane – the aeroplane must be type certificated and the specific certificate of airworthiness will depend on the certification, being either a standard certificate of airworthiness issued in the normal or utility category or a special certificate of airworthiness issued in the primary category;
- or
- b. if the aeroplane is an amateur-built or kit-built aeroplane – the aeroplane must be issued with an experimental certificate for a purpose mentioned in either paragraph 21.191(g) or paragraph 21.191(h) of CASR.

A type certificated lightweight aeroplane must satisfy the certification requirements of Part 21 of CASR as well as either Part 23 or Part 26 of CASR, including the occupant protection standards. Under these standards, the aeroplane, even when damaged in an emergency landing, must protect each occupant against injury that would prevent their egress from the aeroplane.

Notwithstanding the above, a lightweight aeroplane that is certificated to EASA certification standards for very light aeroplanes (CS-VLA - which is a subset of CS-23), is limited by this standard to a stall speed in the landing configuration of 45 knots because the occupant protection standards for CS-VLA aeroplanes do not meet the full CS-23 standard.

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As experimental lightweight aeroplanes are not type certificated, there are no occupant protection standards which pertain to such aeroplanes. Consistent with similar experimental aeroplanes registered under Part 47 of CASR, the stall speed of an individual amateur-built aeroplane is determined during the flight testing for the issue of the aeroplane's experimental certificate.

The stall speed limits and airworthiness standards that presently apply to the aeroplanes operated under CAO 95.55 are set out in Appendix B.

Principal changes that would occur

Given the above, we propose to amend CAO 95.55 to achieve the following outcomes:

- a. Remove the 45 knot stall speed limit for lightweight aeroplanes (other than for aeroplanes certificated to CS-VLA as this speed remains a certification limit for these aeroplanes) for which a certificate of airworthiness is in force under regulation 21.176 of CASR.
- b. Remove the 45 knot stall speed limit for lightweight aeroplanes for which an experimental certificate of airworthiness issued for a purpose mentioned in either paragraph 21.191(g) or paragraph 21.191(h) of CASR is in force.

The outcomes will be implemented by omitting paragraph (c) from the definition of lightweight aeroplane in subsection 5 of the CAO. The CS-VLA 45 knot limitation does not need to be specified in the CAO as it is encompassed by the type certification rules.

Previous consultations

The change to the MTOW in the revised CAO 95.55 of 2 December 2021 was the outcome of a CASA discussion paper ([DP 1912SS](#) - Maximum take-off weight limit for aeroplanes managed by approved self-administering aviation organisations) that was publicly consulted between 30 August to 28 September 2019. The discussion paper sought feedback from the aviation community about amending the CAO to include certain aeroplanes up to a maximum weight of 760 kg under ASAO administration. Feedback was sought on the relevance of the stated benefits, the identified risks and the industry impacts more broadly. The summary of consultation for the discussion paper, published in December 2019, noted the strong support for the increase in the MTOW of aeroplanes that an ASAO may administer, with 83% of respondents supporting an increase to 760 kg, and that CASA should implement the policy change in line with the discussion paper. The change was implemented in CAO 95.55 on 02 December 2021.

Impact on industry

The changes to CAO 95.55 have been designed to maintain the current overall level of safety in the sport and recreation flying sector. CASA estimates that these amendments will provide more flexibility, as it will provide for a wider range of aircraft that can now be used, some which had been previously excluded.

Safety risk analysis

CASA has assessed the impact of this change on the overall level of safety for the CAO 95.55 segment of the sport and recreation sector. The amendment is expected to maintain safety as it will allow for access to a wider range of suitable aircraft, particularly in certain types of training sequences.

Regulation impact statement

In line with normal practice, CASA will submit a regulation impact statement to the Office of Best Practice Regulation (OBPR) for their assessment once the feedback from this consultation has been assessed and any necessary policy changes have been determined.

Closing date for comment

CASA will consider all comments received as part of this consultation process and incorporate changes as appropriate. Comments on the proposed change to CAO 95.55 should be submitted through the online response form by close of business 13 April 2022.

Appendix A

Sport and recreation aeroplanes to which CAO 95.55 applies

CONSULTATION DRAFT FOR PROPOSED AMENDMENTS TO CAO 95.55 - REMOVAL OF THE 45
KNOT STALL SPEED LIMIT FOR CERTAIN SPORT AND RECREATION AEROPLANES

Sport and recreation aeroplanes that are the subject of CAO 95.55 are grouped into three categories based on the aeroplane's maximum take-off weight and the certification standard to which the aeroplane is constructed.

These are:

- a. An *ultralight aeroplane*, being an aeroplane:
 - i. that meets the airworthiness certification requirements in Civil Aviation Order 101.28 as in force from time to time
or
 - ii. mentioned in paragraph 1.1 or 1.2 of Civil Aviation Order 101.55 as in force on 31 May 2016
or
 - iii. an aeroplane to which Air Navigation Order 95.25 as in force from 25 March 1985 applied
or
 - iv. an amateur-built or kit-built aeroplane
or
 - v. an aeroplane of a type for which a type certificate, a certificate of type approval or equivalent document has been issued by a competent issuing authority that has been manufactured for sale by the holder of a certificate or equivalent document, permitting the manufacture of aeroplanes of that type, issued by CASA or a competent issuing authority.
- b. An aeroplane that is a *light sport aircraft* (within the meaning of regulation 1.004 of CASR).
- c. A *lightweight aeroplane* (within the meaning of CAO 95.55) for which:
 - i. a certificate of airworthiness is in force under regulation 21.176 of CASR
or
 - ii. in the case of an amateur-built or kit-built aeroplane — an experimental certificate is in force under regulation 21.195A of CASR.

Appendix B

Current stall speed limits and airworthiness standards that apply to aeroplanes operated under CAO 95.55

CONSULTATION DRAFT FOR PROPOSED AMENDMENTS TO CAO 95.55 - REMOVAL OF THE 45
KNOT STALL SPEED LIMIT FOR CERTAIN SPORT AND RECREATION AEROPLANES

CAO 95.55 aeroplane category	Stall speed	Airworthiness standards & approvals
Ultralight aeroplanes		
a. type certificated ultralight aeroplanes not mentioned in paragraphs (h) or (i)	45 knots	Stall speed specified by CAO 95.55 for type certificated ultralight aeroplanes (not mentioned in paragraphs (h) and (i)) that are manufactured by the holder of a manufacturing approval. Flight permit issued by a sport aviation body or a certificate of airworthiness issued under regulation 21.176 of CASR must be in force.
b. amateur-built or kit-built aeroplanes (not mentioned in paragraphs (f) and (g)) that have a MTOW not exceeding: i if not equipped to operate on water — 600 kilograms; or ii if equipped to operate on water — 650 kilograms		Stall speed specified by CAO 95.55 for amateur-built or kit-built ultralight aeroplanes (excluding aeroplanes mentioned in paragraphs (f) and (g)). Flight permit issued by a sport aviation body or an experimental certificate issued under regulation 21.195A of CASR must be in force.
c. amateur built aeroplanes other than seaplanes with an MTOW ≤ 544kg to which CAO 101.28 applies		Design standards specified by CAO 101.28 for aeroplanes with a special certificate of airworthiness issued in the amateur-built category for the purposes of regulation 21.190 of CASR (legacy ABAA aeroplanes). Flight permit issued by a sport aviation body or a special certificate of airworthiness issued under regulation 21.176 of CASR must be in force.
d. single seat amateur built seaplanes with an MTOW ≤ 579kg to which CAO 101.28 applies		
e. two seat amateur built seaplanes with an MTOW ≤ 614kg to which CAO 101.28 applies		
f. single seat aeroplane with an MTOW ≤ 290kg to which ANO 95.25 applied and that met the airworthiness conditions of Appendix I to the ANO	35 knots	Stall speed and airworthiness conditions specified by of Appendix I to ANO 95.25 (legacy Australian Ultralight Federation aeroplanes). Flight permit issued by a sport aviation body must be in force.
g. single seat aeroplane with an MTOW ≤ 400kg to which ANO 95.25 applied and that met the airworthiness conditions of Appendix I to the ANO		
h. single or two seat type certificated aeroplanes to which CAO 101.55, as in force on 31 May 2016, applied with an MTOW ≤ 450kg	40 knots	Stall speed and design standards specified by CAO 101.55 (legacy certification requirements for aircraft <450kg/480kg). Flight permit issued by a sport aviation body or a certificate of airworthiness issued under regulation 21.176 of CASR must be in force.
i. single or two seat type certificated	42 knots	

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CAO 95.55 aeroplane category	Stall speed	Airworthiness standards & approvals
aeroplanes, to which CAO 101.55 as in force on 31 May 2016 applied, with an MTOW \leq 480kg and where the product of the aeroplanes MTOW (kg) and the square of the stall speed (kt) does not exceed the numerical value 768,000		
Aeroplanes that are light sport aircraft		
	45 knots	<p>Stall speed set by the definition of <i>light sport aircraft</i> in the CASR Dictionary consistent with that stall speed prescribed by the CS-LSA standards.</p> <p>Aeroplanes manufactured by a qualified manufacturer – special certificate of airworthiness issued for the purpose of regulation 21.186 or experimental certificate issued for the purpose of paragraph 21.191(k) must be in force.</p> <p>Aeroplanes assembled from a kit manufactured by a qualified manufacturer – experimental certificate issued for the purpose of paragraph 21.191(j) must be in force.</p>
Lightweight aeroplanes		
	45 knots	<p>Stall speed is set by CAO 95.55.</p> <p>Type certificated aeroplanes – certificate of airworthiness issued under regulation 21.176 of CASR must be in force for the aeroplane.</p> <p>Amateur-built or kit-built aeroplanes – an experimental certificate issued for the purpose of paragraph 21.191(g) or (h) must be in force.</p>