Proposal to develop a tailored set of maintenance regulations for general aviation

Overview

CASA is currently working to develop a new set of maintenance regulations tailored specifically for general aviation (GA), that will be based on the example of best practices in other leading aviation nations.

The new regulations seek to meet an overarching objective of streamlining maintenance requirements, minimising the level of regulatory burden and reducing costs while still maintaining the high aviation safety standards expected by all Australians.

How do we define general aviation?

General aviation covers all flying activity carried out by VH registered aircraft other than charter and air transport operations. This includes flying training, mustering, firefighting and emergency service operations, search and rescue, aerial surveying and photography, towing, and private flying.

Principles underpinning this work

Last year CASA established an **Aviation Safety Advisory Panel** *<https://www.casa.gov.au/rules-and-regulations/standard-page/aviation-safety-advisory-panel>* (ASAP) made up of industry representatives. In July, the ASAP endorsed the following key principles that will underpin the proposed changes:

- minimum regulatory compliance burden consistent with ensuring a level of safety appropriate for the general aviation and aerial work sectors
- any changes are intended to be cost neutral or provide savings for the general aviation and aerial work sectors wherever possible.
- a regulatory structure based to the maximum practical extent on an established and appropriate international standard
- compliance with the standards set by the International Civil Aviation Organization (ICAO) for general aviation:
    - Annex 6 Part II — International General Aviation — Aeroplanes
    - Annex 6 Part III, Section III — International General Aviation — Helicopters.

Benefits of basing the regulations on an existing model

Adopting a regulatory structure based on an established and appropriate international standard that is tried, tested and proven to be working effectively, is an efficient approach to delivering tangible improvements to Australia's GA community. For example, in the United States there have been general aviation maintenance regulations in place for over 50 years. Why re-invent the wheel?

Why we are consulting

We will be working with industry on the development of these new regulations. As a first step, we are inviting the general aviation community to tell us about the challenges currently faced and highlight opportunities.

We also want industry to consider the practices of four leading aviation nations and provide us with feedback that will be used to choose the best model on which to base our new maintenance regulations for general aviation.

We have shortlisted, the United States, New Zealand, Europe and Canada as leaders in general aviation maintenance and their approaches align with the key principles for this work. All four nations uphold a strong general aviation safety record with simple, less prescriptive regulations in place for general aviation maintenance.

What Happens Next

CASA anticipates the ASAP will establish a technical working group to help review industry input to this consultation and work with CASA to select and develop the most appropriate international model on which to base our proposed new maintenance regulations for general aviation. We aim to have the policy established by the end of this year.

At the end of the response period for public comment, we will review each comment and submission received. We will make all responses publicly available on the CASA Consultation Hub unless a respondent requests that their submission remain confidential. More information about how we consult is available on the **CASA website** *<https://www.casa.gov.au/rules-and-regulations/landing-page/consultation-process>* .

You can subscribe to our **consultation and rule making mailing list** *<https://mailinglist.casa.gov.au/?p=subscribe&id=3>* to be notified of future consultation or rule making.

Introduction

We would like your feedback regarding our proposal to develop a tailored set of maintenance regulations for general aviation.

We will ask you for:

- **personal information**, such as your name, any organisation you represent, and your email address
- **your consent** to publish your submission
- **any comments** you may want to provide

Our website contains more information on **making a submission and what we do with your feedback.** *<https://www.casa.gov.au/rules-and-regulations/landing-page/consultation-process>*

Personal information

First name?

(Required)

Last name?

(Required)

What is your email address?

If you enter your email address then you will automatically receive an acknowledgement email when you submit your response.

Email (Required)

Do your views officially represent those of an organisation?

Please select only one item

◯ Yes ◯ No

If yes, please specify the name of the organisation.

Consent to publish your submission

In order to promote debate and transparency, CASA intends to publish all responses to this consultation. This may include both detailed responses/submissions in full and aggregated data drawn from the responses received.

Where you consent to publication, we will include:

- **your name**, if the submission is made by you as an individual or the name of the **organisation** on whose behalf the submission has been made
- **your responses and comments**.

We will not include any other personal or demographic information in a published response.

Do you give permission for your response to be published?

(Required)

Please select only one item

◯ Yes - I give permission for my response/submission to be published.

◯ No - I would like my response/submission to remain confidential but understand that de-identified aggregate data may be published.

◯ I am a CASA officer.

Issues and opportunities

To help us develop a set of maintenance regulations tailored to general aviation, please tell us about your current challenges and where you see opportunities by answering the questions below.

Further information: Summary of Australia's current approach in a range of areas

CASA's regulations for managing continuing airworthiness for general aviation are currently contained in ***Civil Aviation Regulations Parts 4, 4A, and 4B.***
<https://www.legislation.gov.au/Details/F2017C00094/Html/Volume_1#_Toc473722660>

Below is a summary of how Australia currently approaches aircraft maintenance in some key areas.

Responsibility for airworthiness

Currently in Australia, the maintenance organisations are responsible for ensuring the airworthiness of an aircraft and that all required maintenance has been completed before issuing a maintenance release, and the issuance of a maintenance release is an implication that the aircraft will remain airworthy until the next periodic inspection. International standards specify that the aircraft owner or operator is responsible for maintaining the airworthiness of an aircraft and a maintainer is only required to certify that the work he or she has carried out is serviceable.

Maintenance organisations requirements

The CAR 30 Certificate of Approval sets out the requirements for maintenance organisations that typically maintain GA aircraft. Entry control and ongoing surveillance audits are currently 'one size fits all' and we see there could be opportunities to make improvements.

Independent licensed aircraft maintenance engineer (LAME) privileges

Currently in Australia, there are provisions for independent LAMEs (i.e. LAMEs who do not work on behalf of a maintenance organisation) to certify minor maintenance that they have conducted. Schedule 7 sets out the things an independent LAME cannot do. One opportunity might be to increase privileges so that an independent LAME can use the full scope of their licence privileges outside of the approved maintenance organisation.

Generic inspection schedule

The generic maintenance schedule can be understood as the minimum inspection tasks to be covered for each annual/100 hourly inspection. CASA's **Schedule 5**
<https://www.legislation.gov.au/Details/F2017C00094/Html/Volume_4#_Toc473728061> sets out the minimum standard list of inspection tasks.

Maintenance certifications

CASA has unique and prescriptive rules for certifying maintenance. These rules are contained in **CAR (1988) 42ZE and Schedule 6**
<https://www.legislation.gov.au/Details/F2017C00094/Html/Volume_1#_Toc473722725> . With this review, we think there's an opportunity to consider simplifying these requirements.

Maintenance release

The CASA maintenance release is a multi-purpose document that includes flight-tech log and defect recording/certification. In other countries the MR means a plain and simple Release to Service entered in the logbook.

Airworthiness review requirements (currently not required in Australia for GA)

Australia currently doesn't have this requirement for GA. In New Zealand and Europe it is seen as a way of managing airworthiness assurance by reviewing the logbooks, certifications, major work and a physical survey of the aircraft generally in last 1-2 years.

Inspection authorisation requirements (currently not required in Australia)

In America and New Zealand, the Inspection Authorisation (IA) is an additional approval given to a licensed mechanic to ensure airworthiness compliance after major repairs/ alterations and to carry out annual inspections.

Pilot maintenance privileges

We currently allow some level of pilot authorised maintenance in GA as per **Schedule 8** *<https://www.legislation.gov.au/Details/F2017C00094/Html/Volume_4#_Toc473728100>* .

Maintenance records

The current approach for maintenance records is prescriptive. For example, organisations are encouraged to use a **logbook system developed by CASA** *<https://www.casa.gov.au/manuals-and-forms/standard-page/order-printed-maintenance-forms>* (available for purchase) or obtain approval to use an alternative. We think there is an opportunity to simplify record keeping requirements.

Modifications and repairs

Currently, modifications and repairs to aircraft are approved by an authorised person and the LAME does the release to service. **See CAR 42U for more information.** *<https://www.legislation.gov.au/Details/F2017C00094/Html/Volume_1#_Toc473722712>*

Other countries have found ways to simplify the approval process for modifications and repairs to non-complex aircraft, thereby reducing compliance burden.

1. In regard to general aviation, have you experienced issues and/or challenges in any of the following areas? (Select all that apply).

Please select all that apply

- [ ] Maintenance organisation requirements
- [ ] Independent licensed aircraft maintenance engineer (LAME) privileges
- [ ] Generic inspection schedule
- [ ] Maintenance certifications
- [ ] Maintenance release
- [ ] Pilot maintenance
- [ ] Maintenance records and logbook requirements
- [ ] Modifications and repairs
- [ ] Other

(please specify)

2. What kind of issues and/or challenges are you currently experiencing in regard to general aviation, and how have they impacted you?

Comments

3. Can you think of any opportunities that would improve our regulatory system for general aviation maintenance? For example, ways to reduce costs and red tape while maintaining a high safety standard. Please provide detail.

Comments

Benefits and limitations of international models

One of the principles underpinning this proposal is to develop a regulatory structure based to the maximum practical extent on an established and appropriate international standard.

We have shortlisted, the United States, New Zealand, Europe and Canada as leaders in general aviation maintenance and their approaches align with the key principles for this work.

Please consider the practices of these four leading aviation nations and provide us with feedback that will be used to choose the best model on which to base our new maintenance regulations for general aviation.

1. United States – FAA

Summary of America's approach to general aviation maintenance

The United States of America has a strong history of safely managing its general aviation fleet. They have had general aviation maintenance regulations in place for over 50 years.

Many Australian aircraft have been manufactured, certified and often previously operated in America.

In America, the regulations for maintaining general aviation aircraft are in two places:

- **Part 43 – Maintenance, preventative maintenance, rebuilding, and alteration** *<https://www.ecfr.gov/cgi-bin/text-idx?SID=7225a47d36c9bdbf898f26a57a96ad56&mc=true&node=pt14.1.43&rgn=div5>* defines basic maintenance requirements, record keeping, and release to service requirements
- **Part 91 – General operating and flight rules** *<https://www.ecfr.gov/cgi-bin/text-idx?SID=7225a47d36c9bdbf898f26a57a96ad56&mc=true&node=pt14.2.91&rgn=div5>* covers all the rules for adequately managing continuing airworthiness of general aviation aircraft and specifies that the owner or operator of an aircraft is responsible for maintaining the aircraft in an airworthy. condition

Within these regulations, key features tailored to GA include:

- No requirement for a maintenance organisation approval to carry out maintenance for aircraft other than those in air transport (Part 121).
- Maintenance is carried out by certificated airplane and powerplant mechanics whose certificates cover the work.
- Independent mechanic privileges are restricted to aircraft under 5700kg MTOW and do not include the permission to carry out an annual inspection (unless the mechanic holds an inspection authorisation).
- A mechanic must also hold an inspection authorisation to be able to authorise release to service of an aircraft after an annual inspection or a major modification or repair.
- Generic Maintenance schedule (**Appendix D of FAR 43** *<https://www.ecfr.gov/cgi-bin/text-idx?SID=7225a47d36c9bdbf898f26a57a96ad56&mc=true&node=pt14.1.43&rgn=div5#ap14.1.43_117.d>*) is like **CASA's Schedule 5** *<https://www.legislation.gov.au/Details/F2017C00094/Html/Volume_4#_Toc473728061>* , but less detailed.
- A release to service is made in the aircraft log book: a one-line statement with details of the person authorising the release to service, the person's signature and the date.
- Pilot maintenance:
  - A Part 61 certificated pilot may perform preventive maintenance on aircraft not engaged in air transport (Part 121 and Part 135), or international operations (Part 129).
  - Preventive maintenance is like **CASA's Schedule 8.** *<https://www.legislation.gov.au/Details/F2017C00094/Html/Volume_4#_Toc473728100>*
  - Training not prescribed for pilot maintenance of GA aircraft.

Although written with some complexity including some terminology and definitions not generally used in Australia, the American rules are clear and logical with minimum burden to the GA industry.

Based on the summary above about how they approach general aviation maintenance in the United States:

a) What would you see as the main benefits in adopting the United States' model for regulating general aviation maintenance? Please detail.

b) What could be some potential limitations if Australia adopted the United States' model for regulating general aviation maintenance? Please detail.

2. New Zealand – CAA

Summary of New Zealand's approach to general aviation maintenance

New Zealand introduced general aviation maintenance regulations over 13 years ago with the aim to clarify, simplify and reduce burden on the GA community.

Their model is very similar to the American system whereby all the rules for maintaining general aviation aircraft are in two places:

- **Part 43 - General maintenance rules** *<https://www.caa.govt.nz/rules/part-043-brief/>* establishes the minimum standard for all aircraft to ensure the continued validity of an Airworthiness Certificate and a high level of safety. It spells out details for inspections to be completed (in accordance with Part 91).
- **Part 91 - General operating and flight rules** *<https://www.caa.govt.nz/rules/part-091-brief/>* cover all the rules for adequately managing continuing airworthiness of general aviation aircraft.

Within the New Zealand regulations, key features tailored to GA include:

- Maintenance organisation approval only required for aircraft engaged in commercial operations under AOC approvals; aircraft of 5700kg MTOW or higher; aircraft with 10 or more passenger seats; and aircraft used for adventure operations.
- A LAME may perform all maintenance of non-commercial aircraft and must hold an Inspection Authorisation to release an aircraft to service after an annual inspection, major modification or major repair.
- A release to service is made in the aircraft log book: a one-line statement with details of the person authorising the release to service, the person's signature and the date.
- Pilots can perform some maintenance on small GA aircraft for simple tasks and must be trained by a LAME and authorised by the operator.

Based on the summary above about how they approach general aviation maintenance in New Zealand:

a) What would you see as the main benefits in adopting the New Zealand model for regulating general aviation maintenance? Please detail.

b) What could be some potential limitations if Australia adopted the New Zealand model for regulating general aviation maintenance? Please detail.

3. Europe

Summary of Europe's approach to general aviation maintenance

In Europe, the European Aviation Safety Agency (EASA) launched a **GA roadmap** *<https://www.easa.europa.eu/easa-and-you/general-aviation/general-aviation-road-map>* five years ago. It sets out a plan for achieving lighter, simpler and better regulation for general aviation, including GA aircraft maintenance. The principles underpinning the GA roadmap are:

- one size does not fit all
- use rules when it is the only or the best way to reach the safety objectives
- adopt a risk-based approach
- protect 'what shows to work well' unless there are demonstrable and statistically significant safety reasons against doing so
- apply EU smart regulation principles
- make the best use of available resources and expertise.

In Europe, maintenance regulations are contained in Part-M.

As part of implementing the GA roadmap, EASA is currently introducing a light set of maintenance regulations tailored for general aviation (Part-ML). The requirements of the regulations would be in proportion to the lower complexity and risks of the lighter end of the general aviation community. They will also be clear and simple to facilitate implementation.

Part-ML proposes alleviations for aircraft maintenance programmes, airworthiness reviews and deferment of defects. It would apply to the following aircraft when unless they are listed in the air operator certificate (AOC) of an air carrier or classified as complex motor-powered aircraft:

- aeroplanes of 2730 kg maximum take-off mass (MTOM) or less;
- rotorcraft of 1200 kg MTOM or less, certified for a maximum of up to 4 occupants; and
- other light aircraft.

See EASA publications *<https://www.easa.europa.eu/document-library/general-publications?publication_type%5B%5D=148>* including the 'GA Roadmap progress report' for more information.

Based on the summary above about how they approach general aviation maintenance in Europe:

a) What would you see as the main benefits in adopting the European model for regulating general aviation maintenance? Please detail.

b) What could be some potential limitations if Australia adopted the European model for regulating general aviation maintenance? Please detail.

4. Canada

Summary of Canada's approach to general aviation maintenance

In Canada, continuing airworthiness for general aviation is managed by a mixture of regulations and standards under a common heading as follows:

CAR Part V – Airworthiness *<http://www.tc.gc.ca/eng/acts-regulations/regulations-sor96-433.htm#v>*

- **501 - Annual Airworthiness Information Report** *<http://www.tc.gc.ca/eng/civilaviation/regserv/cars/part5-standards-standard501-1952.htm>*
- **537 - Appliances and Parts** *<http://www.tc.gc.ca/eng/civilaviation/regserv/cars/part5-standards-537-menu-3244.htm>*
- **551 - Aircraft Equipment and Installation** *<http://www.tc.gc.ca/eng/civilaviation/regserv/cars/part5-standards-chapter551-258.htm>*
- **563 - Distribution of Aeronautical Products** *<http://www.tc.gc.ca/eng/civilaviation/regserv/cars/part5-standards-chapter563-1950.htm>*
- **571 – Maintenance** *<http://www.tc.gc.ca/eng/civilaviation/regserv/cars/part5-standards-standard571-1971.htm>* – including Appendix's A thru M (Subpart 71)
- **573 - Approved Maintenance Organizations** *<http://www.tc.gc.ca/eng/civilaviation/regserv/cars/part5-standards-standard573-1972.htm>* (Subpart 73)

Within the Canadian regulations, key features tailored to GA include:

- A LAME may perform all maintenance of non-commercial aircraft.
- A release to service is a simple statement accompanied by the details of the person releasing the aircraft, their signature and the date.
- No airworthiness review is required but an Annual Report is required to be sent into Transport Canada.
- Elementary maintenance tasks do not require a LAME release to service.

Based on the summary above about how they approach general aviation maintenance in Canada:

a) What would you see as the main benefits in adopting the Canadian model for regulating general aviation maintenance? Please detail.

b) What could be some potential limitations if Australia adopted the Canadian model for regulating general aviation maintenance? Please detail.

International regulations

Have you worked in general aviation maintenance under the rules of any of the international models mentioned in this consultation (i.e. United States, New Zealand, Europe or Canada)?

(Required)

Please select only one item

◯ Yes ◯ No

Experience with international regulations

1. You have identified as having experience working under the general aviation maintenance rules of one or more of the international models mentioned in this consultation. Please select from the list below, those regulations to which your experience applies.

Please select all that apply

☐ Europe ☐ Canada ☐ United States ☐ New Zealand

2. What kind of role did/do you have? (You may select more than one role if applicable)

Please select all that apply

- [ ] Aerial work
- [ ] Private flying
- [ ] Business aviation
- [ ] Sport aviation (including self-administered organisations)
- [ ] Flight training (including recreational, private and commercial pilot training organisations, and multi-crew training organisations)
- [ ] Recreational pilot/private pilot
- [ ] Maintenance authority
- [ ] Aircraft design/engineering/building
- [ ] Maintenance organisation
- [ ] Maintenance training organisation
- [ ] Licensed aircraft maintenance engineer
- [ ] Aircraft maintenance engineer
- [ ] Consultant & other professional services
- [ ] Chief engineer
- [ ] Government organisation
- [ ] Safety manager
- [ ] CASA officer
- [ ] Other (Specify)

Other

3. Based on your experience working with international regulations, what do you consider to be the benefits of the maintenance regulations for general aviation in that country? Please detail.

Comments

4. Based on your working experience in international regulations, what do you consider to be the limitations of the maintenance regulations for general aviation in that country? Please detail.

Comments

Final Comments

Do you have any further comments or feedback?

Comments

Final question to assist analysis

In order for us to summarise the responses of different stakeholder groups, we have a final question.

Which of the following best describes your current primary role in the aviation sector? (please select one)

(Required)

Please select only one item

- ◯ Aerial work
- ◯ Private flying
- ◯ Business aviation
- ◯ Sport aviation (including self-administered organisations)
- ◯ Flight training (including recreational, private and commercial pilot training organisations, and multi-crew training organisations)
- ◯ Recreational pilot/private pilot
- ◯ Maintenance authority
- ◯ Aircraft design/engineering/building
- ◯ Maintenance organisation
- ◯ Maintenance training organisation
- ◯ Licensed aircraft maintenance engineer
- ◯ Aircraft maintenance engineer
- ◯ Consultant & other professional services
- ◯ Chief engineer
- ◯ Government organisation
- ◯ Safety manager
- ◯ CASA officer
- ◯ Other (Specify)

Other