



# Advisory Circular

**AC 21-09(2)**

**MARCH 2009**

## **SPECIAL FLIGHT PERMITS**

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### **1. REFERENCES**

1	Regulations 21.197 to 21.200 of Civil Aviation Safety Regulations (CASRs).
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### **2. PURPOSE**

2	This Advisory Circular (AC) provides guidance and information to applicants applying for special flight permits (SFP) in Australia.
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### **3. STATUS OF THIS AC**

5	This AC has been revised to further clarify the requirements for SFPs for overweight operations.
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*Advisory Circulars are intended to provide advice and guidance to illustrate a means, but not necessarily the only means, of complying with the Regulations, or to explain certain regulatory requirements by providing informative, interpretative and explanatory material.*

*Where an AC is referred to in a 'Note' below the regulation, the AC remains as guidance material. ACs should always be read in conjunction with the referenced regulations*

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## **4. GENERAL**

**4.1** A SFP is generally issued when:

- a) a certificate of airworthiness is temporarily invalid, for example as the result of a damage or lack of maintenance; or
- b) a certificate of airworthiness cannot be issued for instance when the aircraft does not comply with the essential requirements for airworthiness; or
- c) compliance with airworthiness requirements has not yet been shown, but the aircraft is nevertheless capable of performing a safe flight.

*Note: A SFP is not an authorisation to deviate from regulatory requirements for the operation of the aircraft.*

**4.2** CASR 21.197 allows CASA or an authorised person to issue SFPs.

**4.3** The following general guidelines indicate the baseline for the regulatory oversight of SFPs:

**4.3.1** Regulation 21.197(1) applies to those aircraft that may not currently meet applicable airworthiness requirements and which will be operated for the following purposes:

- a) Flying the aircraft to a base where repairs, modifications, or maintenance are to be carried out, or to a point of storage;

*Note: This includes allowing an aircraft fitted with an aeronautical product covered by an airworthiness directive (AD) to fly if the AD does not contain a statement to the effect that a SFP must not be issued.*

- b) Delivering or exporting the aircraft;
- c) Production flight testing new production aircraft;
- d) Evacuating the aircraft from an area of impending danger;
- e) Conducting customer demonstration flights in new production aircraft that have satisfactorily completed production test flights;
- f) Assisting in searching for, bringing aid to or rescuing persons in danger on a particular occasion;
- g) Assisting in dealing with a state of emergency.

**4.3.2** Regulation 21.197(2) applies to those aircraft that meet all the applicable airworthiness requirements except those that cannot be met because of an overweight condition. A SFP under the provisions of regulation 21.197(2) may be issued for any temporary non-commercial operation of an overweight aircraft.

**4.3.3** Where a SFP is granted for the purposes of a ferry flight for an aircraft exceeding its certificated maximum take-off weight (MTOW), no separate exemption against CAR 235(4), (5) and (6) for the flight is required.

**4.3.4** Specific conditions and limitations relating to the permitted operations are contained in the SFP.

**4.3.5** The validity of the SFP is not affected by the operation of the aircraft outside Australia, as long as it is operated for the intended purpose and within the timeframe specified on the permit.

**4.3.6** A SFP does not authorise flight over countries other than Australia without permission of those countries.

**4.3.7** A SFP does not allow commercial operations of the aircraft.

**4.4** Flight tests for the purpose of completion of a maintenance action or assessment flights as detailed in the aircraft maintenance manual may be conducted by entering the requirement on to the aircraft flight and technical log (DA 741 Maintenance Release). No SFP is required.

**4.5** A SFP should not be confused with a special flight authorisation, which allows operation of a foreign registered aircraft in Australia that is operating on a special flight permit or a special certificate of airworthiness issued by a National Airworthiness Authority (NAA).

*Note: This AC does not deal with special flight authorisations. For further information on special flight authorisation refer to CAR 135A.*

## **5. APPLICATION FOR A SPECIAL FLIGHT PERMIT**

### **5.1 Who may apply**

**5.1.1** Any person may apply for issue of a SFP. The registered operator is usually the applicant.

### **5.2 Where to apply**

**5.2.1** An application for a SFP can be made direct to a person who is authorised by CASA to process and issue the SFP on CASA's behalf. Such persons may be referred to as "CASR 21.200 authorised persons".

**5.2.2** An application for a SFP can also be made at any CASA Office, but preferably at the office in the region where the aircraft will be operated.

### **5.3 The application form**

**5.3.1** Application is made on CASA Form 725, "Application for Issue of a Special Flight Permit". These forms may be obtained from the CASA website [www.casa.gov.au](http://www.casa.gov.au).

### **5.4 Payment of fees**

**5.4.1** Section 97 of the *Civil Aviation Act 1988* allows prescribed fees to be payable to CASA in advance of work to be done.

**5.4.2** In the case of work carried out by CASA leading to the issue of a SFP, an hourly fee in accordance with the CASA schedule of fees is applicable. The estimate, payment and reconciliation procedure is as follows:

- a) the local CASA Office which receives the application form prepares an estimate based on experience, work time for the staff involved and all associated travel costs as applicable;
- b) the applicant pays the estimated fee;
- c) actual time expended are recorded on timesheets as the task is undertaken; and

- d) a reconciliation will be made prior to the issue of the SFP. If the initial CASA fee was overestimated, a refund of the difference will be paid to the applicant. If the initial estimate fee was underestimated, a final additional payment from the applicant will be required prior to the issue of the SFP.

**5.4.3** Where an applicant engages a CASR 21.200 authorised person for the issue of a SFP, any fees involved are a matter between the applicant and the authorised person.

## **6. ISSUE OF THE SPECIAL FLIGHT PERMIT**

**6.1** Prior to the issue of the SFP, CASA or the CASR 21.200 authorised person may require an inspection of the aircraft. The applicant must facilitate any such request, and should understand that such an inspection would only be required to resolve issues associated with the capability of safe flight for the intended purpose(s). The inspection could be carried out by the relevant authorised person or CASA inspector, or by another entity e.g. a Licenced Aircraft Maintenance Engineer (LAME), as directed by the authorised person or CASA.

**6.2** Subsequent to any inspection, and after consideration of all the facts presented to the CASR 21.200 authorised person or CASA inspector, he or she will then decide on the conditions, limitations and/or directions which shall be applied, and then reflect these in the completion of Block No.7 of Form 721, "Special Flight Permit". Block No.5 can then be completed, and the SFP issued. Note that a SFP may be sent to an operator (by facsimile, or other electronic means), and the sent copy will be considered valid for the aircraft's operation under the conditions of the SFP. However, the original form must be carried on board the aircraft for any international operation.

**6.3** CASR 21.197 allows a CASR 21.200 authorised person or CASA considerable latitude in exempting certain regulatory requirements which apply to civil aircraft in normal circumstances, as follows:

- a) the aircraft can be unregistered only if it is not to be operated in international airspace;
- b) the aircraft can be flown without a maintenance release;
- c) the aircraft can be flown without nationality or registration marks applied;
- d) the aircraft may not have to comply with conditions reflected in a maintenance release;
- e) the aircraft can be flown with maintenance, and certification for maintenance, outstanding; and
- f) the aircraft can be flown without carrying any or all of the documents listed in regulation 139 of CAR 1988.

*Note: Exemptions in subparagraphs (a), (c) and (f) are not available to aircraft in international operations, e.g. importing or exporting of aircraft.*

**6.4** SFPs provide a qualified exemption to normal airworthiness requirements in order that an unserviceable aircraft may still be operated in an acceptable and safe manner but not for commercial operations.

**6.5** There are a range of possible conditions, limitations, directions and combinations thereof which could be reflected in the Annex to the SFP. Examples of these conditions appear at Appendix 1 to this AC.

## **6.6 Duration of a SFP**

**6.6.1** A SFP is normally issued for a specific duration to allow for the prescribed flight or flights. The certificate will be in force for the specified period, or until cancelled, whichever occurs first.

## **6.7 Cancellation/suspension of a SFP**

**6.7.1** An authorised person or CASA has the power to suspend or cancel a SFP by giving written notice to the SFP holder if the authorised person or CASA considers it is necessary to do so in the interests of aviation safety. A suspension on a SFP will be lifted on a date prescribed by the authorised person or CASA.

## **6.8 Display**

**6.8.1** An Australian SFP and applicable Annex must be made available to the pilot of the aircraft.

## **7. SPECIAL FLIGHT PERMIT FOR OVERWEIGHT OPERATIONS**

**7.1.1** Regulation 21.197(2) of CASR 1998 applies to those aircraft that meet all the applicable airworthiness requirements except those that cannot be met because of an overweight condition.

**7.1.2** All installations, for example, a long-range fuel system or navigational equipment are changes to the aircraft's type design and must be installed in accordance with approved data.

**7.1.3** The installation(s) added to the aircraft for the intended overweight flight must be recorded in accordance with the regulations.

**7.2 Ferry fuel system installations.** In the approval of the ferry fuel system installations by CASA or an authorised person for the purpose of regulation 35 of CAR 1988, the following items should be considered:

- a) The aircraft and ferry fuel system must meet all applicable airworthiness requirements, except for those the aircraft cannot meet because of its overweight condition. The aircraft and ferry fuel system, including the restraints of internal ferry tanks against emergency landing loads, must be found safe for the intended flight.
- b) Fuel tank(s) installed in a pressurised area should be tested for the maximum pressure differential existing between cabin pressurisation and aircraft maximum operating altitude with fuel tank(s) empty. The design should also be tested against an "explosive (rapid) decompression",
- c) Adequate ventilation must be provided for the fuel tank(s) and the area in which the fuel tank(s) are located to prevent the accumulation of fumes that would be detrimental to the flight crew or present a fire or explosion hazard.
- d) A means must be provided to readily determine the quantity of fuel in the ferry tank(s) prior to takeoff. In addition, a means must be provided to indicate the quantity of fuel in tanks that have a vapour/excess fuel return line, both prior to takeoff and during flight.

- e) The location of the fuel tank(s) in the aircraft is a major factor in determining that the aircraft is safe for flight because the added fuel and fuel system components have the greatest effect on the aircraft's CG. In addition, the fuel system installation must not restrict entrance to or exit from the aircraft as provided by the applicable design standards and operational requirements. If required under FAR 23.1001 (amendment 23-7) or equivalent standards, the aircraft should have an adequate fuel jettison system installed.
- f) The existing cabin fire extinguishing capacity should be assessed for adequacy to cater for any ferry fuel fire.
- g) Ferry fuel systems that are not complete, that is, not connected to the basic aircraft fuel system, may not be considered for issuance of a SFP.

**7.2.1** CASA has issued an exemption allowing CAR 35 authorised persons to approve design of temporary modifications or repairs that do not fully meet the relevant design standards for an operation under the special flight permit provisions in paragraph 197(1)(a) and (b) and subregulation 197(2) of the CASR 1998. This exemption is available on the CASA website [www.casa.gov.au](http://www.casa.gov.au).

**7.3 Engine oil quantity.** The applicant must show that the oil supply provided for each engine is sufficient to ensure satisfactory cooling and system circulation for the duration of the flight. If deemed necessary, an oil transfer system for replenishing the engine oil while the aircraft is in flight must be provided.

#### **7.4 Maximum weight and centre of gravity limits**

- a) Regulation 21.197(2) of CASR 1998 limits any excess weight over the certificated maximum weight due to additional fuel, fuel carrying installations, and navigational equipment added for the intended flight. It must be determined that this part of the maximum weight complies with this requirement.
- b) When numerous modifications are performed, it may be necessary to weigh the aircraft and to establish the new aircraft loading system. The computations should be evaluated for accuracy. It also may be necessary to require flight testing at the new maximum weight and CG limits to determine that the aircraft is safe for operation.
- c) In determining the maximum weight to which the aircraft can be overloaded, the normal manoeuvring load factor that the overloaded aircraft can sustain should not be less than 2.5g.
- d) Operation of rotorcraft over the certificated maximum weight presents some unique conditions over and above those encountered with fixed-wing aircraft. Special attention should be given to this type of aircraft. A careful evaluation should be made to determine what effect the overweight operation may have on the retirement times of critical parts.

#### **7.5 Operating limitations**

- a) No temporary flight manual supplement is required, however, the SFP is to contain or refer to any operational or procedural information essential to the safe conduct of the flight:
  - (i) overload weight and balance data necessary for safe loading of the aircraft;

- (ii) capacity of the additional fuel tank(s), together with the necessary instructions regarding fuel usage and operation of the ferry fuel system;
  - (iii) such other normal or emergency procedures as may be necessary for safe operation in an overweight condition;
  - (iv) performance information, including any variation in stalling and maximum permissible speeds;
  - (v) manoeuvres permitted; these will normally be limited to gentle turns; and
  - (vi) where applicable, a prohibition against smoking; and
- b) CASA must be notified in writing within 2 days following the departure of the aircraft of the details of the maximum weight permitted and identifying details of the modifications and SFP. This notification will be placed on the CASA Airworthiness Office aircraft file.

**7.6** Where the MTOW of the aircraft for flights exceeds 110% of the certificated MTOW the applicant will be expected to:

- a) in addition to the above conditions , provide with the application an engineering evaluation of the effects of the increased weight and any variation in centre of gravity position on the loads sustained by critical elements of the structure. This may necessitate the applicant working with the aircraft manufacturer to obtain the necessary data; and
- b) demonstrate by flight test, or other acceptable means, that the necessary performance capability is achieved and that the handling characteristics of the aircraft are satisfactory under overload conditions.

*Note: If the type certificate holder of the aircraft or the NAA of the State of design supports the overweight operation in writing, no further engineering evaluation is required.*

## **8. ASSOCIATED MATTERS**

### **8.1 Noise certification**

**8.1.1** Noise certification for individual aircraft is required before the aircraft can legally be operated in Australian territory. Aircraft noise is regulated through the Air Navigation Act (Aircraft Noise) Regulations, introduced under the *Air Navigation Act 1920*, in 1984. Noise certification, or lack of such, has no legal impact on type approval, or individual certificate of airworthiness (CoA) issue. However, if an individual aircraft does not meet the Australian noise requirements, then it is illegal for that aircraft to operate in Australian territory, even though the aircraft may have a valid special CoA. Information on noise assessment for individual aircraft can be obtained from:

Manager of Environment Monitoring  
Airservices Australia  
GPO Box 211  
MASCOT NSW 1460  
AUSTRALIA

or the Airservices Australia website at:  
<http://www.airservicesaustralia.com.au>

## **8.2 Aircraft import**

**8.2.1** The customs formalities associated with the importation of aircraft into Australia are external and in addition to CASA requirements.

**8.2.2** The liaison required between the applicant and Australian Customs Service in regard to import formalities is straightforward. The applicant may choose to use a customs broker, or lodge an application directly with the Australian Customs Service.

**8.2.3** In the case of used aircraft, for NAAs with which CASA has no appropriate arrangements, the applicant should be prepared to fund authorised persons to travel overseas to inspect the aircraft, carry out any other subsidiary work, and issue SFPs in the countries involved.

**8.2.4** Applicants should note that condition No. 32 of Appendix 1 (reference paragraph 6.5 above) would have to be reflected on a SFP issued for international operations, and that it would be the applicant's responsibility to obtain landing/overflight permission from the countries involved.

**8.2.5** A SFP will be issued with a period in force normally sufficient only to allow the aircraft to be flown to Australia to be issued with an Australian CoA.

## **8.3 Aircraft export**

**8.3.1** CASA or an authorised person may issue a SFP to cover export of an aircraft from Australia. It is the applicant's responsibility to obtain landing/overflight permission from the relevant countries involved.

**8.3.2** Issue of a SFP in this case is not dependent on the Australian export CoA being issued. However, an applicant may have other reasons, in consultation with overseas NAAs, for the latter being issued. Relevant information may be obtained from a companion Advisory Circular, AC 21.17, "Export Certificates of Airworthiness".

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**APPENDIX 1****SAMPLE CONDITIONS****ANNEX TO SPECIAL FLIGHT PERMITS**

- (1) No person may operate this aircraft for other than the purposes of..... to accomplish the operations permitted by this special flight permit. Additionally, this aircraft shall be operated in accordance with applicable air traffic control and general operating rules of the Civil Aviation Regulations, and all additional limitations herein prescribed. The aircraft must be operated in accordance with the Flight Manual/Pilot's Notes or other approved handling instructions, and the supplementary operational and procedural instructions in this special flight permit.
- (2) Production test flights shall be conducted within the geographical area described as follows:.....  
.....  
..... (Note: The size of the area shall be that required to safely conduct the type of anticipated manoeuvres and tests, as appropriate).
- (3) The pilot-in-command of this aircraft must hold an appropriately rated pilot's licence.
- (4) This aircraft is to be operated under VFR, day only.
- (5) Day/night VFR operation is authorised.
- (6) No passengers may be carried.
- (7) Applications must be made to an authorised person or CASA for any revision to these operating limitations.
- (8) This aircraft must not operate over the built-up areas of any city or town, except where approval is given in respect to takeoff and landing.
- (9) A parachute must be worn for .....  
(flights/hours/operations).
- (10) The aircraft may only be flown by .....  
(name of pilot).
- (11) The following restrictions are applied:  
Speeds:.....  
Weights:.....  
Altitudes:.....  
Attitudes:.....  
Load Factors:.....  
CG limitations:.....

- (12) The following manoeuvres must not be undertaken :.....  
.....
- (13) Flight into known or forecast icing conditions is prohibited.
- (14) The route to be flown is. ....  
.....
- (15) The following essential persons only may be carried on the flight:  
.....  
.....  
.....  
.....  
.....  
.....
- (16) Flight is not to be undertaken in known or forecast turbulent air masses.
- (17) Fuel load is limited to.....
- (18) Aircraft loading is limited to.....
- (19) The following radio callsign is to be used:.....
- (20) Prior air traffic control approval is required for.....
- (21) This aircraft is not required to be registered.
- (22) This aircraft may be operated without a maintenance release.
- (23) Paragraph(s)..... of regulation 133 of CAR 1988 do not apply to this aircraft.
- (24) This aircraft may operate without the following documents (as required by regulation 139 of CAR 1988) being carried .....
- (25) This aircraft may takeoff at a weight limit of.....
- (26) CG limits for flight under this special flight permit are..... to.....
- (27) Before flight, the aircraft is to be inspected by the pilot-in-command (other than a student pilot) in accordance with the daily inspection schedule.

or

Before flight, the aircraft is to be inspected by an appropriately licensed aircraft maintenance engineer and must be inspected to sufficient depth to ensure the aircraft is fit for the purpose of this special flight permit.

- (28) Any maintenance required as a result of the inspection as at.....(*date*) is to be assessed by the appropriately licensed person and maintenance essential to the operation of the aircraft for the intended flight under this special flight permit must be carried out by an appropriately licensed person before the flight.

- (29) Maintenance shall be certified in the aircraft logbook or approved alternative maintenance record for the aircraft, by an appropriately licensed aircraft maintenance engineer prior to the flight.

or

Maintenance required but considered not to affect the operation of the aircraft for the intended flight under this special flight permit must be recorded in the last maintenance release issued or whichever may apply on the maintenance release issued under paragraph 43(7)(b) of CAR 1988.

or

Following the certification of required maintenance (by a licensed aircraft maintenance engineer), a maintenance release shall be issued pursuant to paragraph 43(7)(b) of CAR 1988, expressed to remain in force for..... flying hours or until..... (*date*) whichever occurs first, and quoting this permit reference number.

or

A record of the inspection and any maintenance carried out must be made in the aircraft logbook or approved alternative maintenance record for the aircraft.

- (30) The previously expired maintenance release or current maintenance release issued under paragraph 43(7)(a) of CAR 1988, whichever may apply, is to be used to record details of the issue and validity of this special flight permit, to record applicable flight details, and to record any defects or damage detected during or after the flight.
- (31) Operations shall be conducted in accordance with the aircraft's flight manual or pilot's Operations Manual/handbook approved for the aircraft.
- (32) This aircraft does not meet the requirements of the applicable comprehensive and detailed national airworthiness code as provided by Annex 8 to the Convention on International Civil Aviation. The owner/operator of this aircraft must obtain written permission from another country's National Airworthiness Authority (NAA) prior to operating this aircraft on or above that country. That written permission must be carried aboard the aircraft together with this special flight permit and these operating limitations; and must be made available to CASA or the NAA in the country of operation at any time.
- (33) This aircraft may not operate within controlled airspace unless otherwise authorised by an authorised person or CASA.
- (34) Aerobatics are prohibited.