

Standard Change CS-SC102b

INSTALLATION OF DC POWER SUPPLY SYSTEMS (DC-PSSs) FOR PORTABLE ELECTRONIC DEVICES (PEDs)

1. Purpose

Installation of DC power supply systems (DC-PSSs) which connect aircraft electrical power to portable electronic devices (PEDs).

2. Applicability/Eligibility

Aeroplanes that are not complex motor-powered aircraft, rotorcraft that are not complex motor-powered aircraft, and any ELA2 aircraft.

3. Acceptable methods, techniques, and practices

The following standards contain acceptable data:

- FAA Advisory Circular AC 43.13-1B, Chapter 11, or ASTM F2639-18 or subsequent revisions; and
- ASTM F2490-20 or subsequent revisions (for electrical-load analysis).

Additionally, the following conditions apply:

- All the parts and appliances identified in this SC are eligible for installation without an EASA Form 1.
- Any modification of the electrical wiring is performed in accordance with acceptable practices such as the aircraft maintenance manual, FAA Advisory Circular AC 43.13-1B, Chapter 11, or ASTM F2639-18 or subsequent revisions.
- The design of the DC-PSS and its installation shall:
 - provide circuit protection (e.g. circuit breakers) against system overloads, smoke and fire hazards resulting from intentional or unintentional system shorts, faults, etc.;
 - provide a clearly labelled 'ON/OFF switch' for deactivating the entire DC-PSS, which is easily accessible by the pilot-in-command in flight.

Note: The use of circuit breakers as switches is not acceptable, as it can degrade their protection function, except for switch-rated circuit breakers, provided that they are shown to be appropriately rated for the number of switch cycles expected during the service life of the systems or of the circuit breakers.

- The ON/OFF switch is not mandatory for USB outlets, provided that the PEDs power supply cables are easily accessible in flight to be disconnected from the USB outlets at any time by the aircrew members.
- The socket installation shall be such as to prevent the ingress of fluid and also to minimise the possibility that conductive objects could be inserted into the socket.
- When installed in the cockpit, the DC-PSS shall not:
 - affect the proper operation of the magnetic direction indicator;
 - impair access to, or viewing or operation of cockpit controls or instruments; and

- *unduly* impair the external view of the pilot.

Note: The positioning of the DC-PSS in the cockpit should also consider the possible hazard that would result from dangling power cables interfering with any emergency escape means and the access or view of the cockpit controls or instruments.

- If there are systems or equipment powered from the essential power supply, i.e. systems or equipment necessary for continued safe flight and landing; then:
 - the DC-PSS shall be powered from a non-essential supply (bus bar) of the aircraft;
 - an electrical-load analysis or electrical measurements shall be undertaken, taking into account the maximum loading that may be utilised from the PSS for PEDs, to substantiate that the aircraft's electrical power generating system has sufficient capacity to safely provide the maximum amount of power required by the PSS for PEDs. This assessment shall be recorded, or referred to, in EASA Form 123; and
 - after installation, a full aircraft EMI test shall be performed in accordance with FAA Advisory Circular AC 43.13-1B, Chapter 11, or ASTM F2639-18 or subsequent revisions.
- The equipment is suitable for the environmental conditions to be expected during normal operations; see CS STAN.42 in Subpart A for guidance.
- The instructions and tests defined by the equipment manufacturer shall be followed.

4. Limitations

This SC does not cover the approval of the use of PEDs. The responsibility for establishing the suitability of use of PEDs on an aircraft model remain with the operator/pilot-in-command.

This SC only allows the installation of a DC-PSS with a maximum power supply per outlet limited to 20 watts.

Any limitation defined by the equipment manufacturer applies.

5. Manuals

If needed, amend the AFM with an AFMS that contains equipment instructions for operation including the maximum load that can be connected to the DC-PSS, as required.

Amend the ICAs to establish maintenance actions/inspections and intervals, as required.

6. Release to service

This SC is not suitable for the release to service of the aircraft by the pilot-owner.

[Issue: STAN/2]

[Issue: STAN/4]