EASA
European Union Aviation Safety Agency

Certification of Training Aircraft

Do we do this and what is the difference between training aircraft?

Where it comes from

→ Regulation 1178 FCL.745.A

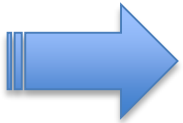
→ **(a) The advanced UPRT course shall be completed at an ATO and shall comprise at least:**

→ **…**

→ **(3) 3 hours of dual flight instruction with a flight instructor for aeroplanes FI(A) qualified in accordance with point FCL.915 (e) and consisting of advanced UPRT in an aeroplane qualified for the training task.**

~~Certified~~ Training Aircraft

- → The type of aircraft used for UPTR is depending on the intended training, Glider, Balloon, Piston, Jet, Amphibian, …
- → The capability of an aircraft used for UPRT is depending on the intended training, and Utility, Aerobatic, Spin, …
- → Also the equipment necessary for UPRT is depending on the intended training VFR, IFR, Parachute, …



We do not and we cannot certify a “Training Aircraft”

- → However, it is possible to design an aircraft tailored to training.

What is the counterpart in Certification? (I)

CS-23, Amdt.4,

→ **CS 23.3 Aeroplane categories**

- (a) The normal category is limited to non-aerobatic operations. Non-aerobatic operations include – g-load +3.8 / -1.52
  - (1) Any manoeuvre incident to normal flying;
  - (2) Stalls (except whip stalls); and
  - (3) Lazy eights, chandelles and steep turns or similar manoeuvres, in which the angle of bank is not more than 60°.
- (b) The utility category is limited to any of the operations covered under subparagraph (a); plus – g-load +4.4 / -1.76
  - (1) Spins (if approved for the particular type of aeroplane); and
  - (2) Lazy eights, chandelles, and steep turns, or similar manoeuvres in which the angle of bank is more than 60° but not more than 90°.
- (c) The aerobatic category is without restrictions, other than those shown to be necessary as a result of required flight tests. g-load min +6.0 / -3.0
- (d) Commuter category …

What is the counterpart in Certification? (II)

- CS 23.221 Spinning
- (a) *Normal Category aeroplanes.* A **single engined**, normal category aeroplane must be able to recover from a *one-turn* spin or a three-second spin, whichever takes longer, in not more than *one* additional turn, after initiation of the first control action for recovery.
- (b) *Utility category*: either (a) or, ***if approved for spinning***
  The aeroplane must recover from any point in a spin up to and including *six turns*, or any greater number of turns for which certification is requested, in not more than one and *one-half* additional turns after initiation of the first control action for recovery. However, beyond three turns, the spin may be discontinued if spiral characteristics appear;

What is the counterpart in Certification? (III)

CS-23, Amdt.4,

→ **23.1301 Function and Installation**

- → Each item of installed equipment must –
  - → (a) Be of a kind and design appropriate to its intended function;
  - → (b) Be labelled as to its identification, function or operating limitations, or any applicable combination of these factors;
  - → (c) Be installed according to limitations specified for that equipment;
  - → (d) Function properly when installed.

Typical Training Aircraft

- → At least 2 – Seater (very often 3 or 4 Seats)
- → Utility Category (+4.4 g / - 1.76 g) or equivalent
- → (Approved for Spin)
- → Good and forgiving Flying Characteristics
- → AoA Indicator, g-meter as additional equipment
- → Higher amount of circuit patterns considered for fatique

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Thank you for your attention !

Any Questions?

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