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Federal Department of the Environment, Transport, Energy and Communications DETEC

Federal Office of Civil Aviation FOCA
Safety Division - Flight Operations
Flight Personnel

Use of FSTD - Frequently asked Questions:

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Question 1: Why are the rules changing for single-pilot aeroplanes and helicopters?

This type of aircraft operates in a different environment as airline operations, so why this change? Has FOCA addressed the risks of changing the current system?

FOCA answer:

The rules in Appendix 9 to FCL and Part ORO have not fundamentally changed. Already in the past, FFS and FSTD were mandatory for checks; what changes now is a more specific definition of the scope of aircraft and the exclusion from the rule of non-complex aeroplanes and some categories of helicopters. This shows clearly the intention of the regulation: to minimize safety risks on larger, faster aeroplanes and helicopters.

Safety is affected in two ways when using an aircraft for training and checking: there is a direct risk associated with some mandatory manoeuvres; and there is the risk of inefficient training and checking, where important items are not trained nor assessed due to the environmental constraints. For instance, a decompression cannot be trained realistically in an aircraft, or a loss of tail rotor control in a helicopter. The FSTD is the right tool for this, and according to the rule, it is supplemented by training and checking in the aircraft where it is meaningful.

Accident investigation reports from various countries recommend the more systematic use of simulators to prevent accidents. See for instance the NTSB initiative in Safety Through Helicopter Simulators (ntsb.gov)

FOCA must conduct a Management of Change process when implementing such changes. The change in policy has been analyzed and will continuously be reassessed in future months.

Question 2: How about the H125/AS350 helicopter?

Is the use of the FFS or FSTD mandatory for the H125/AS350 helicopters and from when?

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FOCA answer:

Currently two FTD3 and soon one FFS on this type are within easy reach in Switzerland, therefore they are clearly available and accessible. From June 1st 2025, the FSTD must be used. Pilots, instructors, operators and examiners are encouraged to plan for this change as soon as possible.

Question 3: How about the Pilatus PC12?

Is the use of the FSTD mandatory from October 1st, 2024?

FOCA answer:

Currently there is one FSTD in Switzerland. It is certified as a FTD2 for the NGX variant. It is therefore available for use for all NG and NGX checks. However, accessibility may be limited, therefore it will be examined on a case-to-case basis. In any case, exceptions must be requested using form 60.527 (refer to Examination Guide chapter 1.22 for guidance).

Question 4: How about PC12 variants (legacy, NG NGX)?

The pilot flies a PC12 legacy or a PC12 NG. Must the (NGX) FSTD be used for checks?

FOCA answer:

For legacy, the cockpit variant differs too much from the FSTD, therefore it would be exempted on request of the examiner (form 60.527). For the NG, the FSTD should be used with a difference briefing by the examiner.

Question 5: I get sick in the virtual reality simulator

Does FOCA force me to use sickness pills?

FOCA answer:

In no case. Experience has shown that travel sickness in the virtual reality simulator (like in many FFS) can be overcome by progressive exposure. It is advisable to do some training before undergoing a check in the virtual reality simulator. It should be noted that virtual reality simulators for the H125 are currently being used in Northern countries. Several hundreds of sessions and checks have been conducted with many pilots, therefore it is a matter of adaptation.

Question 6: Use of the FSTD for operators conducting Helicopter SPO/HESLO

Simulator do not seem to address the specific risks of SPO/HESLO operations, so why use them?

FOCA answer:

A differentiated approach is needed. Most training and checking elements, including all mandatory items in a LPC or OPC are best practiced in a simulator. There may be some elements where training in the helicopter is necessary. It is the role of the operator to address their needs and describe their tailored training and checking in the OM D. The approved program may contain elements in the FSTD and some in the helicopter.

There is no tenable argument to conduct high risk manoeuvres close to the ground in the helicopter when a FSTD is available and accessible.

Question 7: Impact on safety when using simulators

Very experienced pilots are skeptical of the use of simulators to replace training and checking in the aircraft. Why does FOCA think otherwise?

FOCA answer:

The use of simulators improves safety for two reasons.

First, safety-critical manoeuvres, such as full-down auto-rotations on helicopters, or simulated engine failures in an aeroplane, are a risk; quite often, they are in fact not performed completely during checks, as the examiner has discretionary authority to conduct the manoeuvre or not in the specific circumstances of the day. This is a loss for the trainee, and is non-compliant. There is no such restriction in a FSTD;

Second, FSTD are a synthetic environment free of the operational and environmental constraints. Significantly more value can be added to training and checking, as creative scenarios can be developed by the examiner to maximize learning by the candidate. It also broadens the view away from pure handling exercises, and also addresses non-technical competencies.

Many safety analysts concur to encourage the use of simulators in training and checking for single-pilot aeroplanes and helicopters. Technology is changing radically and makes cheaper, high-quality simulators available and accessible for these types of aircraft. It is a game changer; pilots, instructors and examiners are encouraged to adapt.

Question 8: How about helicopter full-down auto-rotations

What is FOCA's view on the subject?

FOCA answer:

Generally, FSTDs should be used for full-down auto-rotations. ATOs must adapt their syllabi and FOCA SBFL will use a flexible approach to enable safe practice of FDAs in the simulator. For safety reasons, it should be trained cautiously in the helicopter during train-

ing and the FSTD should be preferred. During checks, the final decision rests with the examiner.

Question 9: Combined use of FSTD and aircraft

If no FFS is available, the checks must be conducted in a combination of FSTD and aircraft. This is very unclear. How should it be done?

FOCA answer:

The regular checks forms are currently being modified to reflect combined checks. Generally, both parts should be conducted at a short interval and with the same examiner.

FOCA is aware that combined checks are more difficult to plan, but there is a clear safety benefit in conducting all exercises presenting an increased safety risk in the FSTD. All mandatory check items that can be conducted in the FSTD according to its certificate should be done in the FSTD. In many cases, the only remaining items in the aircraft will be pre-flight check, taxi, take-off and landing.

Question 10: Use of FFS for simulator checks on non-complex SPA and helicopters

Do I need to request an exception if I am not using an available and accessible FFS and prefer to use a fix-based FTD in combination with the aircraft?

FOCA answer:

No. This is described in the regulation and is at the discretion of the examiner.

For clarity: the regulation differentiates between the following aeroplane / helicopter types;

- *For all complex or high-performance single pilot aeroplanes and helicopters, the FFS must be used if available and accessible. An exception requires prior approval;*
- *for non-complex SPAs and helicopters), the examiner may prefer to use a FSTD (example: FTD2/FTD3) in combination with the aircraft even if an FFS is available/accessible; this does not require prior approval;*
- *for non-complex and non-high performance single pilot aeroplanes (example: all SEP, MEP and TMGs), as well as non-complex helicopters with less than 5 maximum certified seats, the check may always be conducted in the aircraft; this does not require prior approval.*

Approvals must only be requested for exceptions to the rules above. Refer to examination guide chapter 1.22 for details.

Question 11: Operator (AOC/SPO/NCC/NCO) training and checking

If the operator OM D approves the use of the aircraft for some elements of the training and for the OPC program, is there a need for an exemption for the license proficiency check?

FOCA answer:

No. Operators describe their training and checking programs in the OM D. It is approved by the respective FOCA section or Competent Authority. In this case, the LPC can be conducted in the FSTD and/or aircraft, as specified in the OM. Form 60.527 needs to be filled out with the necessary evidence by foreign registered operators only.

Question 12: Operating the FSTD station for examiners

In order to conduct a check on a FSTD, as an examiner I must take a FSTD operator course from the FSTD organization. This costs and takes time. Will FOCA pay for it?

FOCA answer:

No. The use of FSTD is a legal requirement, as described in detail above. Quite often a formal course is a necessity to correctly operate the FSTD and most FSTD companies require this course. Examiners on the relevant types must therefore register for the course and acquire the necessary knowledge. This is considered a necessary prerequisite to exercise the examiner privilege on the particular type.

Question 13: Location of the FSTD in the ICAO EUR Region for SPA checks

According to the examination guide (A), FOCA considers that for SPA the FSTD is available if located within the ICAO EUR Region. Does it mean that I cannot be forced to use a FSTD in the USA?

FOCA answer:

It depends. The examination guide mentions that FOCA analyses the FSTD market and adapts according to the context. Typically, it may be out of proportion to send a private pilot to the USA for a check on a SPA; for commercial operators the analysis may be different. For most checks on SPA, the ICAO Europe region seems appropriate; this guidance mainly helps the examiner assess if his request has a chance of "success".

Question 14: Reasonable working hours for SPA checks

According to the examination guide (A), FOCA considers that for SPA the FSTD is accessible if it can be booked during reasonable working hours. What are these?

FOCA answer:

It depends on the type of operations. Generally, FOCA considers that for private operators, typical simulator times starting between 0800 LT to 2000 LT are reasonable to avoid

excessive disruption of day-night cycles. For commercial operators employing full time pilots with rosters planned in advance and adequate rest times, FOCA will require the use of night simulator sessions as well; this guidance mainly helps the examiner assess if his request has a chance of "success".

Question 15: Are foreign examiners subject to the same rules?

Do these rules also apply to foreign examiners? How about if another competent authority has a different view?

FOCA answer:

The rules in the examination guide applies to all examiners conducting checks on Swiss licence holders. The examination guide is referenced in the EASA EDD and is binding. Conversely, FOCA examiners conducting checks on foreign licence holders comply with the regulations of the issuing competent authority. There may be some differences in practical application of the rules, just like in every EASA domain.

Question 16: MPO Operations on Single Pilot Aeroplanes

I am operating a Single Pilot Aeroplane in MPO Operations. Do the rules above also apply in this case?

FOCA answer:

The appendix 9 regulation refers to the type of aeroplane and not the type of operation. Therefore, for a multi-pilot operation on a single-pilot certified aeroplane, the training and checking rules of single-pilot aeroplanes apply.

Question 17: What is a high-performance single-pilot aeroplane

I did not find the definition of a high-performance single-pilot aeroplane in EASA. How is it defined?

FOCA answer:

EASA lists high-performance single-pilot types on the EASA Type Rating list. It is based on an assessment by the manufacturer and the certifying authority during the certification process. Typical criteria to designate a type as a high-performance aeroplane are high operating altitude, high power to weight ratios resulting in high climb rates, but also high stall and approach speeds. No fixed numbers are published.