



European Aviation Safety Agency
Comment-Response Document 2015-13

Appendix
to Opinion No 06/2017

RELATED NPA 2015-13 — RMT.0581 — 29.6.2017

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1. Summary of the outcome of the consultation

Please refer to Section 2.3 of the associated Opinion for grouped responses to the individual comments.



2. Individual comments

(General Comments)

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comment 45 comment by: *Luftfahrt-Bundesamt*

The LBA has no comments on NPA 2015-13.

response Noted

Thank you for your comment.

comment 106 comment by: *European Cockpit Association*

General comments:

- A strong upset prevention and recovery training (UPRT) program provided throughout a pilot's career is an effective means to mitigate loss of control in-flight incidents.
- The pilot must be well trained and have recency of experience in order to effectively recover from any upset. UPRT should be **provided throughout a pilot's career**, and focus on **skill development** to prevent, recognize and recover from such events.
- UPRT is additional specialized training that should be taught both as a stand-alone course and be **fully integrated throughout the overall training scheme**, including **initial and recurrent training**. UPRT should not be used to replace training requirements for basic flying skills training.
- Aerobatic Rating for UPRT Instructors is **paramount** for delivering an appropriate message with respect to aircraft capabilities. Theoretical knowledge and flight instruction for the issuance of license shall include upset prevention and recovery training. The flight instruction shall include **on-airplane training**.
- Simulators - Motion limitations for each specific FSTD used for UPRT have the potential to introduce negative transfer of training. Simulators therefore must meet the following requirements: be approved by the Regulator to provide UPRT, be updated to meet the latest industry simulator standards for UPRT, must provide proper cues, and must only be used within the capabilities of the aerodynamic model. Type specific "representative" data must be available to conduct accurate aerodynamic stall training.
- At the moment (2015) there are no broadly available simulators which could adequately simulate G-forces and psycho- and physiological sensations (except in Europe, Desdemona with limited availability due to its cost and limited numbers). UPRT in real aircraft is mainly about human behavior (startle, G-forces etc.) while the simulators are for handling the aircraft (procedures).



- Instructors should undergo specific UPRT instructor training prior to providing UPRT to other pilots. Since instructors are key to the success of any training, specialized instructor skills and training are necessary for the proper delivery of UPRT.

response

Noted

Thank you for your comments.

Please refer to Sections 2.3.7, 2.3.8, 2.3.9, and 2.3.10 of the Opinion.

comment

118

comment by: *DGAC France***Subject : UPRT measures for general aviation****Content of comment :**

The proposed amendment addresses UPRT issues for both commercial aviation and leisure aviation (PPL(A) et LAPL(A)). The enforcement of a nearly same system for at once private and professional fields brings confusion and suggests the Agency wishes to deal with leisure aviation and commercial aviation in the same way. DGAC strongly suggests to address first the commercial aviation, and to consider more proportionate measures for the general aviation in a second phase.

The NPA amends LAPL(A) and PPL(A) training syllabi to include “upset prevention training” for theoretical and flight training.

The part “upset recovery training” that has to be done on an aeroplane is not mandatory but optional in the case of LAPL(A) and PPL(A). Nevertheless, if the applicant chooses to attend this part of the training he will need to go in an ATO, as if he/she was holding a professional licence. The suitability of this obligation to go in an ATO is questionable for an applicant holding a private pilot licence. As a matter of fact the Agency has launched several initiatives aiming at reviewing and simplifying the requirements applicable to the general aviation, and in particular a task force in charge of setting the implementation of trainings outside ATOs for private pilot licences and associated ratings. It would then be adequate to wait for the results of this TF to determine the framework that could be applicable to leisure aviation for UPRT.

response

Partially accepted

Thank you for your comment.

Please refer to Section 2.3.1 of the Opinion.

comment

120

comment by: *DGAC France***Subject : Prevention aspect of the new UPRT training****Content of comment :**

The prevention part is essential in the future UPRT regulatory package that will have to be implemented. It participates as much for the mitigation of the risk of loss of control as the recovery aspect. It is then suggested that the prevention training stress particularly the



awareness of pilot students for unusual situations they may encounter. This could be done with adapted teaching techniques, including flight simulation training devices. An excellent understanding of unusual phenomena and risks associated by any pilot student is essential for the coherency of the UPRT package.

For that purpose, it is then suggested to reinforce the applicants' awareness of sensory illusions and spatial disorientations. This awareness must be raised from the very beginning of their basic training so that they become able to recognize risk potential situations and then attempt to avoid them by adopting simple reflex reactions. Such awareness could be ideally integrated in the theoretical training to licences LAPL(A), PPL(A) and CPL(A). Some teaching tools especially based on videos are recommended. In this perspective, DGAC France in collaboration with the « IRBA » (Institut de Recherche Biomédicale des Armées) is developing this kind of pedagogical materials with the objective to provide all stakeholders some in-depth knowledge tools.

response

Partially accepted

Thank you for your comment.

Please refer to Section 2.3.1 of the Opinion.

Your comment will be also be further considered by the Review Group when finalising the AMC/GM.

comment

121

comment by: DGAC France

Subject : Readability of the new UPRT provisions

Content of comment :

The regulatory proposal of this NPA lacks of readability and gives an impression of complexity. This particularly comes from the fact that the elements of training introduced in matter of UPRT (prevention and recovery) are spread through different parts of the text, sometimes in a too prescriptive way.

For instance the appendice 3 (and related AMCs), describing professional licences training courses (integrated ATP, integrated CPL(A)/IR, integrated CPL(A), modular CPL(A)), is amended in a very detailed manner to include UPRT elements at every stage of the training. We admit these elements could be of a precious help for ATOs wishing to get detailed elements for the implementation of UPRT throughout their training programme.

Nevertheless, we think it would be efficient to leave to the ATOs wishing to do so, more flexibility as for the timing of UPRT elements in their training courses. Indeed, ATOs are actually best placed to know, depending on each student's profile, how and when to program the UPRT instruction, in an efficient and adapted manner, during the training provided

For that purpose, the appendice 3 could simply provide for ATOs the obligation to integrate the UPRT elements in their training without being prescriptive as for the timing.

response

Noted



Thank you for your comment.

Please refer to Sections 2.3.4 and 2.3.7 of the Opinion.

comment

134

comment by: *Embraer - Indústria Brasileira de Aeronáutica - S.A.*

EASA has informed through the NPA 2015-13 that it intends to amend the CS-FSTD when the solutions to obtain validated data in support of FFS full-stall training become more mature and accessible to the aircraft manufacturers. Moreover, a full stall training will be proposed. When using the US scenario as a reference, it is important to consider that the FAA mandated upset recovery training only to Part 121 operations. This drastically reduces the scope of the impact on the industry, especially on the requirements for upgrading the FFS with post stall capability.

As the loss of control prevention and recovery training mandate in Europe impacts the ATPL (Airline Transport Pilot Licence), MPL (Multi-crew Pilot Licence), LAPL (Light Aircraft Pilot Licence), PPL (Private Pilot Licence) and CPL (Commercial Pilot Licence) candidates, Embraer requests that, in the event the Agency decides to address full stall training at this stage, new requirements be limited to applicants for a type rating for aircraft above a certain weight only. This approach would increase the overlap between the models impacted by the FAA and EASA regulations.

Additionally, Embraer would like to point that a decision to address full stall training would be a major change to the contents of the NPA and, therefore, a new round of public consultation would be warranted.

response

Noted

Thank you for your comment.

Please refer to Sections 2.3.8 and 2.3.10 of the Opinion.

comment

136

comment by: *FNAM*

FNAM (Fédération Nationale de l'Aviation Marchande) is the French Aviation Industry Federation / Trade Association for Air Transport, gathering the following members:

CSTA: French Airlines Professional Union (incl. Air France)
 SNEH: French Helicopters Operators Professional Union
 CSAE: French Handling Operators Professional Union
 GIPAG: French General Aviation Operators Professional Union
 GPMA: French Ground Operations Operators Professional Union
 EBAA France: French Business Airlines Professional Union

And the following associated member:

UAF: French Airports Professional Union

Introduction:

The comments hereafter shall be considered as an identification of some of the major issues the French industry asks EASA to discuss with third-parties before any publication of the proposed regulation. In consequence, the following comments shall not be considered:



- As a recognition of the third-parties consultation process carried out by the European Parliament and of the Council;
 - As an acceptance or an acknowledgement of the proposed regulation, as a whole or of any part of it;
 - As exhaustive: the fact that some articles (or any part of them) are not commented does not mean FNAM has (or may have) no comments about them, neither FNAM accepts or acknowledges them. All the following comments are thus limited to our understanding of the effectively published proposed regulation, notwithstanding their consistency with any other pieces of regulation.

General Comments:

The proposition is dealing with UPRT elements for both commercial and general aviation (PPL (A) and LAPL (A)). The application of the same measures for all sectors brings a certain confusion and lead us to believe that the EASA has put, once again, on the same level general and commercial aviation. It is suggested to treat Commercial Air Transport (CAT) as a matter of priority and to think in a second phase about more proportionate measures for other activities.

response Partially accepted
 Thank you for your comment.
 Please refer to Section 2.3.1 of the Opinion.

comment 163 comment by: EUROCONTROL
 The EUROCONTROL Agency does not have comments on NPA 2015-13.

response Noted
 Thank you for your comment.

comment 176 comment by: European Transport Workers Federation - ETF
 The ETF is favorable to Option 2 proposed by the Agency and the RMG experts.

response Noted
 Thank you for your comment.
 Please refer to Section 2.3.1 of the Opinion.

comment 177 comment by: European Transport Workers Federation - ETF
 Subject to the content of the detailed version of the syllabus, the ETF proposes to the Agency to amend the "SYLLABUS OF THEORETICAL KNOWLEDGE FOR THE ATPL, CPL AND IR" in the "AMC1 FCL.310; FCL.515 (b); FCL.615 (b)" by adding two lines in the "050 METEOROLOGY" section:
 - "weather at high altitude" in order to emphasize the theoretical knowledge specially on ice crystals
 - "Volcanic activity" in order to emphasize the theoretical knowledge on Volcanic ashes and



response	<p>the effects on planes (visibility, pitot probe and engines)</p> <p>Noted</p> <p>Thank you for your comment.</p> <p>Your comment will be taken into consideration in the context of the activities under RMT.0595 'Technical review and regular update of learning objectives and syllabi for commercial licences (IR)'.</p>
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comment	<p>188</p> <p>comment by: AEROFUTUR (ATO FR 0053)</p> <p><u>General comments:</u></p> <ul style="list-style-type: none"> • Aerobatic Rating for UPRT Instructors is paramount for instruction safety. Some parties and states are fighting against for lobbying reasons. Their comments and actions are intended to keep instructional activities as a status-quo, no matter the outcome. <u>We urge the Agency to keep its clarity of vision where instruction safety is at stake.</u> • Some parties would like to take the UPRT duty out of ATOs. Organizations without a SMS, without an approved training program, without instruction Quality Assurance, without aircraft airworthiness oversight requirements, would by no means offer a security level matching the demanding activity that UPRT actually is. The whole UPRT intent and LOC-I issue are at stake. Here again we urge the Agency to keep its high-mindedness by maintaining the requirement for UPRT courses <u>to be completed at an ATO.</u> • Introducing UPRT for <i>Multi-Pilot-Operations-Type-Ratings only</i> would leave apart an area of licensing for which UPRT is just essential: <u>HPA Class Ratings.</u> • UPRT shouldn't be used to replace training for basic-flying skills. UPRT is additional training. • UPRT has a clear "Undesired State avoidance/recovery" intent. The Agency should emphasize this characteristic and make clearer the definition of UPRT as training regarding undesired situations which must be addressed immediately and timely recovered from. • At the opposite, beside UPRT, some "desired training situations" exist such as <u>level-flight high-bank turns</u> (up to 60°bank) and <u>slow-flight</u> (down to approach to stall alert) which should still be taught, trained and finally mastered by student pilots because they are basic-flying skills. • As a consequence, the Agency should refine the "Standard Instructor" scope with respect to level-flight high-bank turns training (up to 60°bank) and slow-flight trainings (down to approach to stall alert). Those "standard instructors" acting beside UPRT must clearly be allowed by regulation to undertake those basic manoeuvres for basic-flying skills training purpose. • Furthermore, specialized instructor skills are necessary to ensure proper delivery of UPRT. However, it seems to us that this NPA is not properly considering and addressing some threats specific to LOC-I instruction. Those are situations when
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	<p>quick -and even short- actions from a student pilot will create highly threatening <u>uncontrolled</u> situations. The Instructors response to the unexpected, to the unknown and to their own reaction to startle will be challenged (e.g. flat spins).</p> <ul style="list-style-type: none"> • Flat spins can be created by extremely brief "out spin aileron command" actions. The UPRT-Instructor skills in such a situation will be highly challenged for several reasons <u>if this threat is not part of his expertise</u>. First because no countermeasure can be anticipated to an unknown threat. But also because, at a point, this UPRT-Instructor will take controls. However, experience has shown that without a spin-expertise the chances that a flat spin be recognized and recovered from are <u>ZERO</u>!
response	<p>Noted</p> <p>Thank you for your comments.</p> <p>Please refer to Sections 2.3.7, 2.3.8, 2.3.9, and 2.3.10 of the Opinion.</p> <p>Your comment will be further considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>191 comment by: <i>International Development of Technology b.v.</i></p> <p>GENERAL COMMENTS</p> <p>1. The terms <i>prevention</i> and <i>recovery</i> are often used in various combinations through the NPA. It would be better to try to consolidate these and consistently use "UPRT". Furthermore, there appears to be hesitation in usage of the term "recovery"; for example, even when discussing the academic portions of the training. We really cannot do one without the other, in practical terms. While the intent is clear, the wording causes confusion.</p> <p>2. The term "stall event" has recently been introduced by the FAA and is also used here. The intent was to convey to pilots that recovery from a "stall event" requires the same set of immediate actions as described in the industry-written Stall Recovery Template. Hence, the recovery from an approach-to-stall or stall are the same.</p> <p>However, the difference is that "stall event training" should not be training that is triggered as a result of a stall warning. The FAA has indeed called for training both recovery from a stall warning and recovery from a full stall. This was consistent with the recommendations of the ICATEE Working Group, which developed these requirements through a major international collaborative exercise.</p> <p>In the NPA, EASA should be more clear on requiring training from both these conditions (or kinds of stall events), in order to emphasize identical recoveries, despite the fact that the cues and aircraft responses may differ between these two conditions.</p> <p>EASA should also be aware that training organizations have already been exercising stall training in simulators, despite their potential lack of proper data, so that pilots are made aware of the importance of reducing angle-of-attack when near or past the stall break, regardless of whatever cues are being presented. Hence, we need to give guidance on the proper implementation of this training.</p> <p>ICATEE developed a solid base of requirements for Integrated UPRT through a formal</p>



process involving a large cross section fo the aviation training industry. The final recommendations included the imperative for training in both approach-to-stall and stall. A critical difference between the two is the potential for startle. This needs to be understood and emphasized. It is believed that startle played a major role in the pilots of recent accidents to not apply the correct techniques to recover.

ICATEE also concluded that prevention is not sufficient on its own. While we may exercise the best prevention, according to the OEM recommendations, our best training practices, etc., exxternal or internal factors can lead us into an upset or stall condition from which we must be able to recover.

Hence, we recommended the use fo UPRT throughout.

response

Noted

Thank you for your comments.

Please refer to Sections 2.3.3, 2.3.4, 2.3.5, 2.3.8, and 2.3.14 of the Opinion.

comment

192

comment by: *Flightdeck Training Consultancy*

In general, the NPA applies the terms “prevention” and “recovery” separately, whereas “prevention and recovery” would be more appropriate. this is confusing.

It would be better to determine the definitions for 'prevention' and 'recovery' but use the term "prevention and recovery" as much as possible in the whole legislation unless one of the subjects is adressed specifically.

response

Accepted

Thank you for your comments.

Please refer to Section 2.3.4 of the Opinion.

comment

225

comment by: *Flightdeck Training Consultancy*

There is a general concern about instructor requirements.

The proposed requirements on knowledge, skill, recency etc. are very serious and demanding for on-airplane instruction. But the majority of the training will be given by TRI's and SFI's in simulators. And the requirements for these instructors with regard to extra training, knowledge and skills in the area of UPRT are extremely light.

In the proposals the on-aircraft training will mostly be an one-time-only event during initial training of a pilot. The further life-time upkeep of this knowledge and skills for professional pilots depends only on the instructional skills of the TRI's/SFI's.

The majority of the current generation of instructors never had any quality UPRT or all-attitude training at all. And this generation is going to implement the whole UPR-training in the next few years without any proper training?

response

Not accepted

Thank you for your comment.



Please refer to Section 2.3.9 of the Opinion.

comment	<p>233 comment by: <i>Federal Office of Civil Aviation (FOCA), Switzerland</i></p> <p><i>The Federal Office of Civil Aviation (FOCA) appreciates the opportunity to comment on this NPA. While the aim of the NPA addresses a valid safety issue, we are doubtful that the promulgation of new regulatory material is the most effective and efficient way to address all of its aspects. Therefore, all proposed new regulation in this NPA should be analyzed in order to assess whether the intended objectives could also be achieved by other means, such as standardization or safety promotion. Furthermore, it must be considered that with every additional training requirement (UPRT, EVS, RNP apch, TCAS, etc.), training sessions tend to get more overloaded and training gets very repetitive and generic/boring. The freedom to adapt training to the trainee or other circumstances is reduced further.</i></p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Sections 2.3.2 and 2.3.3 of the Opinion.</p>

comment	<p>242 comment by: <i>The Norwegian Air Sports Federation</i></p> <p>Attachments #1 #2 #3</p> <p>The Norwegian Air Sports Federation (Norges Luftsportforbund – NLF) appreciates this rulemaking initiative, which addresses a growing concern over potentially insufficient manual flying skills of professional pilots, working in a highly automated environment. A stronger emphasis on upset recovery training for this segment is welcome. We believe that yearly training in an actual aircraft (for instance light aerobatic aircraft) would be an efficient supplement to training in a synthetic flight-training device. The cost is potentially lower, while the enhanced realism could enable a higher degree of “stick and rudder skills” than a synthetic device alone can contribute with.</p> <p>Unfortunately, the proposal fails to apply an appropriate and sufficient differentiation between commercial/professional pilots (CPL/ATPL) and recreational pilots (PPL/LAPL). Even though the proposal applies fewer demands on recreational pilots in order to meet proportionality requirements, it seems to us that “a lower dose of the same medicine” has been applied to PPL/LAPL pilots, compared to CPL/ATPL pilots. We believe this is not an ideal approach, because evidence suggests that loss of control incidents happen of very different reasons in commercial aviation compared to non-commercial aviation. Similarly, the reason why professional pilots have fewer manual flying hours per year today than they had in the past is quite another than why the same may be true for private pilots.</p> <p>To take the latter difference first:</p> <p>It is no doubt that commercial pilots spend more and more of their time as “system operators” and “system monitors”, and less and less time on actual manual flying. Needless to say, this is a consequence of aircraft and systems design, as well as on the safety policies of airlines.</p>
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Private pilots, on the contrary, typically fly fewer hours per year today than before due to increasing costs and a higher regulatory burden.

Since the root cause of less flying for private pilots is linked to cost and regulatory burden, gold plating the current PPL/LAPL syllabus and training program with more upset recovery training can in fact achieve the opposite effect.

The prime questions are, however, to what extent loss of control in VMC is a common cause of accidents within European general aviation as such, and if it is – what can be done to address it.

Is loss of control in VMC a significant cause of GA accidents?

From a Norwegian perspective, loss of control is the number 1 cause of fatal accidents within the *microlight segment* of general aviation. All four fatal accidents within the past five years have been related to loss of control. **However, this segment is not regulated by EASA**, and the pilots are not PPL/LAPL holders – hence the training has not complied with past JAR-FCL / current Part-FCL standards. Also, the aircraft involved have in some cases not been equipped with a stall warning device – contrary to the standards for aircraft compliant with CS-23/CS-VLA (and even CS-LSA, though with a small exception).

The contrast to general aviation with EASA aircraft registered in Norway is stark: There has been no fatal accidents at all within this segment since 2005 – hence no fatal loss of control accidents either. Please refer to the attached statistics from CAA-N. The two last fatal accidents – in 2003 and 2005 – were both loss of control related, however the underlying issue being VFR flight into IMC by non-instrument rated pilots.

Last year, one fatal accident occurred with a home built aircraft registered in Norway, the most probable cause again being VFR flight into IMC.

Our experience is clear: The upset recovery training in the current PPL/LAPL syllabus is sufficient to avoid fatal loss of control accidents in Norway, but still people die due to loss of control, primarily due to VFR flight into IMC.

The US experience

Looking at accident data in the US, the situation appears to be different. The General Aviation Joint Steering Committee (GAJSC) and its Loss of Control Working Group has identified that loss of control is one of the prime direct causes for fatal accidents in US general aviation (estimated at 40 % of all fatal accidents).

That being said, the NTSB released figures under the EAA Air Venture in Oshkosh 2014, indicating that accidents linked to VFR flight into IMC has come down as much as 40 percent over the past three years, while the reduction of LOC accidents have decreased by 25 percent. NTSB attributes this to wider use of handheld equipment, such as GPS and ADS-B with weather data. (Please see NTSB's slide attached.) It is ironic that ADS-B with weather data over FIS-B, which may have led to a dramatic reduction in weather related accidents in the US, is not really on the agenda in Europe.

To lower the number of LOC accidents further, the Loss of Control Working Group has suggested a number of action points to be implemented in US general aviation, one of the



prime suggestions being wider adaptation of AoA (angle of attack indicators) in the GA fleet. While AoA has become a more realistic option for the European GA fleet through CS-STAN implemented a few months ago, more can probably be achieved if AoA is used more commonly in pilot training.

It comes as a surprise to us that the Agency doesn't appear to base its recommendations in this NPA on the extensive work performed by the Loss of Control Working Group when suggesting action points for general aviation.

Conclusion

To conclude, we would like to suggest the following:

1. Withdraw all proposals in this NPA linked to upset recovery training for LAPL and PPL pilots at this stage.
2. Establish a European loss of control task force, dedicated to general aviation. Task number one should be to analyse the report from the US Loss of Control Working Group from October 2014 (attached) and evaluate which suggestions could/should be implemented in Europe – and how it should be done. Alternatives to regulation should also be considered.
3. Introduce measures to lower the probability of VFR pilots flying into IMC. The most obvious solution would be to introduce ADS-B systems in Europe, which includes transmitting weather data over FIS-B, just like it is being done in the US. Technical bandwidth issues must be resolved, for instance by releasing the single 978 MHz TACAN frequency for civilian use to enable the UAT approach, as applied in the US. (A less attractive alternative is to use the less common ADS-B VDL Mode 4, as applied in Sweden during their ADS-B testing phase. This solution has the huge disadvantage of a different standard in Europe than in the US – hence a much lower chance of low-cost equipment to penetrate the market.)
4. Speed up the work related to RMT.0677 to enable easier access to IFR for recreational pilots. The current instrument-rating regime – though already simplified – has a theoretical knowledge syllabus, which is still disproportionate and takes too much effort for most leisure pilots to go through. Secondly, we can see no reason why the IMC rating in the UK cannot be expanded to Europe. As long as the accident rate linked to IMC rating holders does not indicate that the IMC rating is unsafe, it is difficult to accept that the IMC rating cannot be expanded outside the borders of the UK (for other reasons than misconceptions, prejudice or politics).

Introduce mandatory upset recovery training in light aerobatic aircraft for CPL and ATPL pilots as a supplement to similar training in a synthetic flight training device.

response Partially accepted

Thank you for your comments.

Please refer to Section 2.3.1 of the Opinion.

comment 243

comment by: Royal Aeronautical Society (UK)

Comments on behalf of the Royal Aeronautical Society (UK)



About the Royal Aeronautical Society (RAeS)

1. The RAeS is the world's only professional body dedicated to the entire aerospace community. Established in 1866 to further the art, science and engineering of aeronautics, the Society has been at the forefront of developments in aerospace ever since. We seek to i) promote the highest possible standards in aerospace disciplines; ii) provide specialist information and act as a central forum for the exchange of ideas; and iii) play a leading role in influencing opinion on aerospace matters.
2. These comments have been produced by experts on both the RAeS Flight Operations Group and Flight Simulation Group. For more information on our Specialist Groups please visit our website: <http://aerosociety.com/About-Us/specgroups>

General Comments:

In general, there are two issues in the NPA:

1. The mixed use of upset prevention and upset recovery. While the intent is clear, the wording causes confusion. Furthermore, there appears to be hesitation in usage of the term “recovery”; for example, even when discussing the academic portions of the training.
2. The term “stall event” has recently been introduced by the FAA and is also used here. The intent was to convey to pilots that recovery from a “stall event” requires the same set of immediate actions as described in the industry-written Stall Recovery Template. Hence, the recovery from an approach-to-stall or stall are the same. However, the difference is that “stall event training” should not be training that is triggered as a result of a stall warning. The FAA has indeed called for training both recovery from a stall warning and recovery from a full stall. EASA should be more clear on requiring training from both these conditions (or kinds of stall events), in order to invoke the stall or stall warning for the purpose of emphasizing identical recoveries, despite that the cues and aircraft responses may differ between these two conditions.

response

Partially accepted
 Thank you for your comments.
 Please refer to Sections 2.3.4 and 2.3.8 of the Opinion.

comment

256 comment by: FAA
 The Federal Aviation Administration (FAA) thanks the European Aviation Safety Agency (EASA) for the opportunity to comment on the Notice of Approved Amendment (NPA) 2015-13, Loss of control prevention and recovery training and to observe the associated RMG. It is apparent the content of the NPA will harmonize many of the principles of training for the prevention and recovery from loss of control with the International Civil Aviation Organization (ICAO) and the FAA. The FAA is pleased to see much of the content of the Loss



response	<p>of Control Avoidance and Recovery Team (LOCART) recommendations integrated into the NPA, most notably the emphasis on prevention, academic training, and instructor requirements. The FAA looks forward to its continued partnership with EASA in harmonizing such important initiatives.</p> <p>Noted</p> <p>Thank you for your comment.</p>
comment	<p>257 comment by: FAA</p> <p>Requiring upset recovery in an “aeroplane” for ATPL(A) or MPL(A). 3 hours of recovery training is required in an airplane. This is not in alignment with ICAO or FAA.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.3 of the Opinion.</p>
comment	<p>264 comment by: René Meier, Europe Air Sports</p> <p>Europe Air Sports (EAS), on behalf of all its member organisations (national aero-clubs, European sports and recreational aviation federations) and their members, some 680'000 in total, thanks the Agency for preparing this NPA dealing with a subject of utmost importance to all of us.</p> <p>A general concern will be that it seems to add substantially to the burden of the GA pilot in the LAPL and PPL syllabus without taking anything away. That's inevitable in a focused piece of work like this on a particular topic. However, it goes against the general trend of addressing disproportionate regulation of GA.</p> <p>It is clearly stated that the scope of the NPA is firstly and mainly the holders of an ATPL(A) and MPL. As a result, any provision of this NPA should not adversely impact the GA community. Do not impose upon GA constraints developed for others. If any, provisions for LAPL(A) and PPL(A) should be light and proportionate to the risks and means. In our view what is required by the operations of the aircraft involved, today’s syllabi already contain the relevant training elements at all levels, e.g. basic, intermediate, advanced.</p> <p>Ensure that a truly proportionate and realistic approach is taken when considering the holders of LAPL(A) and PPL(A). Most of RFs and ATOs providing training for these two licences do not have any FI with an aerobatic training nor an FSTD. Again and again, consider GA as such - <u>not as a CAT subcategory</u>.</p>
response	<p>Partially accepted</p> <p>Thank you for your comments.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>
comment	<p>423 comment by: ULTIMATE HIGH</p>



Ultimate High response to EASA NPA 2015-13

Ultimate High welcomes EASA's NPA on Loss of control prevention and recovery training. This response summarises the view of Ultimate High's UPRT senior Flying Instructor team.

We believe that the NPA as a whole is an excellent proposal and will make a real difference to the ability of pilots who have undergone the recommended training to avoid, recognise and recover from Flight Upsets. However, we offer the following observations.

Applicability. The NPA will obviously only come into force in 2018, and the on-aircraft portion of the recommendation will only apply to new pilots. This inevitably mean that any benefits from this training will only trickle slowly into the pilot population as a whole, and as a result will likely take 20 year to have any material impact on the LOC-I accident statistics. We are in talks with a small number of airlines who are considering putting their entire pilot fleet through a one day on-aircraft UPRT course; they consider the risk to be sufficiently material that ALL of their pilots should benefit from the training, not just new ones. We understand that this is a politically difficult arena for EASA as the regulator, but the truth is that all pilots should benefit from on-aircraft training, not just the pilots of the future. EASA may well find that they are pushing against an open door if they mandate expanding the applicability of on-aircraft training to all existing pilots instead of just new ones; after all, it is THIS pilot population that has not had on-aircraft UPRT programmes that are experiencing the LOC-I accidents.

Recurrent training. It is important to stress that UPRT skills are degradable over time. Pilots need recurrent exposure to on-aircraft UPRT otherwise their skills will inevitably degrade with time. In our opinion it does not make any sense to just have on-aircraft UPRT exposure at the beginning of what might be a 40 year career with zero recurrency training thereafter. Whilst we recommend that our clients come back every 3 years for recurrent training, even having a 10 year recurrency requirement would at least make more sense than potentially having to rely on a piece of training that took place perhaps 20 or 30 years ago to prevent a Flight Upset from occurring.

UPRT Flying Instructor minimum qualifications. We understand that the requirements for UPRT FIs cannot be overly onerous and that the Instructor training programme should ensure consistency of standards. However, we believe that the aerobic skill requirement laid out in the NPA is materially insufficient. UPRT FIs have to be not just completely capable throughout the flight performance envelope but also completely calm so as to avoid any negative transfer of training. The proposed requirement of just having an EASA aerobic rating could mean that the candidate has only 8 hours of aerobic experience. In our view the minimum requirement here should be that the candidate has at least had the aerobic restriction removed from their FI licence and be able to demonstrate substantial aerobic experience. Given that aerobic time is not formally logged then we'd suggest a requirement of 100 aerobic sorties of which 50 should be delivering aerobic instruction before being eligible to sit the course to be a UPRT FI.

Ultimate High fully supports EASA's desire to reduce accidents arising from LOC-I and is happy to offer any future assistance that might be required.

Mark Greenfield
CEO



response	Ultimate High 1 st November 2015
	Noted Thank you for your comments. Please refer to Sections 2.3.3, 2.3.5 and 2.3.7 of the Opinion.

Title	p. 1
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comment	324	comment by: ATR
	In order to share and discuss our comments, ATR wish to participate with the working group to the review of the comments.	
response	Accepted Thank you for your comment.	

Executive Summary	p. 1
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comment	29	comment by: Prof. Dr. Bernd Hamacher, University of Applied Sciences Osnabrueck
	<p>The subject of the NPA is of high relevance, but the workmanship of the NPA needs substantial rework. Especially the measures for the LAPL/PPL-level are unbalanced, erroneous, fragmented and not in-line with ICAO standards. The implementation of developed spin demonstrations in standard LAPL/PPL-training will cause substantial risks as developed spins are hazardous maneuver by nature. This is why the ICAO has withdrawn this maneuver from basic training syllabi. The proposed reimplementaion is ill justified, as based on erroneous theoretical knowledge. The definitions and notes in this NPA show fundamental weaknesses in theoretical knowledge and understanding of the flight dynamics in spin. The relationship to closely related flight-states like spiral dive is not properly tackled in this NPA and the differentiation in recognition of spins and spiral dives is not made. These weaknesses in theory raise questions on the effectiveness of the quality management system for publications of the Agency.</p> <p>The proposals for the theoretical syllabi are incomplete and fragmented. Important subjects like load-limits and limiting speeds and their relationship are omitted. On the lower end of the speed-range the relationship the relationship between power-curve and degraded aeroplane-stability is not discussed; stalls are ill defined and not in line with the definitions in the Certification Specification of the Agency. Also the categorization of aeroplanes in the Certification Specifications as well as the associated load-factors deviate. Additionally cross-references on consequences for instrumentation and the set-up of AFM’s are missing in this NPA.</p> <p>Finally the Agency seems to be fully unaware that on LAPL/PPL level the teaching languages are the national languages of the EU. The NPA makes no provision how to translate terminology changes into national languages with respect of the national language-cultures</p>	



	in aviation in different EU member states. From the perspective of commercial aviation this might be a minor case, but from the EU perspective this is a violation of the Charter of Fundamental Rights of the European Union. This should be considered by the Agency.
response	<p>Noted</p> <p>Thank you for your comments.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>

comment	<p>30 comment by: <i>Prof. Dr. Bernd Hamacher, University of Applied Sciences Osnabrueck</i></p> <p>Careless terminology change at LAPL/PPL-level</p> <p>The term „Upset Prevention and Recovery Training (UPRT)“ will cause confusion when introduced at LAPL/PPL-level as the term “Upset” and the meaning of “Upset” is unknown yet in the domain of LAPL- or PPL-pilots. Thus LAPL/PPL-pilots, –students and ATO’s will not understand what the meaning of “Upset” as the NPA is not suitable to explain this. Accordingly LAPL/PPL-pilots and ATO’s will not know how to replace existing terminology properly in the respective national language as the NPA does not address this. Not properly translated terms will cause loss of terminology-precision and risks caused by misunderstanding and confusion.</p> <p>Confusion is a safety issue und should be avoided. The NPA does not contain an elaborated RIA of causes and consequences, if this term is not properly understood within EU-Countries and/or not properly translated into national languages, which are usually the teaching languages on a LAPL/PPL-level. This risk is especially evident here, as the term “Upset” linguistically is ambiguous, connoted with various different meanings in the English language and thus only meaningful for “insiders”. An equivalent term for example in German is not available yet and this situation will be similar in other EU-countries. This is relevant as the Charta of the EU requires in Art. 22 to respect the diversity of languages in the EU. It is a misconception of the Agency that terminology changes merely based on English language, would lead to a harmonization in the EU. This will not be the case, simply by the fact that English is not the only European language. The decision of the Agency to choose English as working language within the Agency does not mean that English will be the working language in each European country. Even for the national aviation communities this is not true, especially not at the level of LAPL/PPL. Communication and instructions are usually applied in the respective national language and there is no predominant political understanding to convert the EU in an only English speaking union. Hence the Agency has to respect this diversity in languages. Moreover the Agency should be aware that aviation has a history in Europe before and beyond the Agency. Many European countries have an impressive national history in aviation and are proud about. This history is coined in national terminology as this should be considered as an asset. This is the core of Art. 22 EU-Charta. To reduce aeronautical knowledge to what is written in English is a loss of aeronautical knowledge available in Europe and a loss of cultural heritage. Therefore whenever the Agency sees a need to change terminology, the Agency should carefully consider the consequences in the 24 languages in Europe and examine in advance whether there are appropriate equivalences in each European language is available. Otherwise there will be confusion and there are several cases meanwhile available to demonstrate, that the conversion into appropriate national terms has failed. From this perspective the NPA is incomplete and not applicable.</p>
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The risk of confusion can also be justified by historical considerations and shortcomings in available training documents: Historically the term was initially phrased “Jet Upset” as the phenomena associated with this term were unique to highly automated jet airliners, with swept-back wings, jet engines and movable horizontal stabilizers – almost unknown in the days of piston-driven airliners. LOC based on these phenomena came into focus from 1994 and has led to the Airplane Upset Recovery Training Aid issued by the FAA in 2004. From these reasons the term “upset” is unknown in the GA-community yet and we estimate that more than 90% of LAPL/PPL-ATO have not an idea what is meant with this term. As the Agency does not provide a publication explaining in a comprehensive way what the meaning of this new term for LAPL/PPL-pilots is and what the advances are this term is not suitable for the level of LAPL/PPL-pilots.. Such a learning document is not available yet and international publications are not exploitable, as these are dedicated to ATPL/MPL pilots and problems related to commercial transport aeroplanes. From this perspective the NPA is not complete.

Compared to the relative new term UPRT, the related phenomena for light aeroplanes with piston-engines, namely stall & spin awareness, are well equipped with sound national terms since more than 70 years and well tackled in the majority of training programs at LAPL/PPL-level. It becomes not clear why an established and meaningful term should be replaced by a phrase rooted in another world of flying.

response

Noted

Thank you for your comments.

Please refer to Section 2.3.1 of the Opinion.

comment

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comment by: *Prof. Dr. Bernd Hamacher, University of Applied Sciences Osnabrueck***Upset definition inappropriate for light aeroplanes**

From a light aeroplane perspective the upset-definition given in the NPA is almost meaningless. Therefore the need for change of terminology and procedures is not evident for LAPL/PPL-pilots. Aeroplane upsets are defined by the existence of at least one of the following parameters: pitch attitudes $>25^\circ$ nose-up or $>10^\circ$ nose-down, bank angles $>45^\circ$ or within the above parameters, but flying at airspeeds inappropriate for the condition.

These parameters are not very meaningful for conventional light aeroplanes. In case of nose-up attitude **most light aeroplanes will stall far below a pitch angle of 25° .** Moreover LAPL/PPL-pilots should be drilled, that not the pitch angle, but the AoA is relevant for hazardous states like stalls. So the first parameter of the definition will merely cause confusion or even the misunderstanding that pitch angles up to 25° are safe. On the other hand for many light aeroplanes a nose-down pitch $>10^\circ$ is a non-event causing no specific challenges due to high drag. Also a bank angle $>45^\circ$ in is usually uneventful und part of standard training since decades. There might be safety issues associated with, but there is no evidence that these are related to the parameters given in the upset definition. Without further justification the terminology change remains an empty shell offering space for speculation. This is the opposite from clarity and transparency. It seems that the upset definition is born in the context of conditions and phenomena in large transport aviation. They might be adequate there. But it must noted that the design criteria and certification



standards for CS-25 aeroplanes differ significantly from CS-23 aeroplanes or even more from CS-VLA aeroplanes. The allowable masses, load limits and performance values of the CS-23/CS-VLA aeroplanes are so different from CS-25 aeroplanes that a meaningful definition for so called upsets covering the whole range is not realistic.

response Noted

Thank you for your comments.

Please refer to Section 2.3.1 of the Opinion.

comment 32 comment by: *Prof. Dr. Bernd Hamacher, University of Applied Sciences Osnabrueck*

Risk to ruin European ATO's

The proposed integration of upset training in LAPL/PPL-courses, namely the provision of developed spins into the flight instruction syllabus, will seriously ruin the infrastructure of small ATO's in Europe offering LAPL/PPL-training. Estimated 90% of LAPL/PPL-ATO's in Europe do not operate aeroplanes suitable for developed spins and also estimated 90% of the Flight Instructors are not trained and current to recover from a developed spin. Developed spin is considered as aerobatic maneuver. Hence safe spin training and spin demonstrations require aeroplanes in the aerobatic category, which are designed and certified for intentional full spins. It is questionable to allow aeroplanes in the utility category for regular spin training, as their safety margin for proper recovery is much smaller. But most important is that the NPA does not reflect, that current training aircrafts available on the market are usually no longer certified for intentional spins. As European manufacturers are successful in the trainer-market, they will be affected as these trainers are not applicable anymore for the whole range of the training syllabus required for a LAPL/PPL. ATO's will be faced with the situation that their fleet of training aeroplanes will be no longer sufficient for LAPL/PPL-training. They either have to acquire training aeroplane in the aerobatic category – which is beyond the budget of most small ATO's – or to rely on the aging fleet of vintage trainers who originally were certified for intentional spins. Practically this means that the Agency votes for the Cessna C150/C152-trainers, which are the only training aeroplanes approved for intentional spins manufactured in quantity. But the production of these trainers were terminated 1985 and there are only used aeroplanes available. Furthermore spin training with C150/C152 is of limited value for training, as these trainers show non-standard behavior in developed spin and are known for the tendency to transition into a spiral-dive. This causes significant loads on the structure and the risk of fatigue, considering the age of this fleet. Therefore this would be a risky choice.

Flight instructors in Europe usually do not hold an aerobatic rating and/or current to recover safely from a developed spin. Furthermore it should be noted that a certification of an aeroplane for the acrobatic category does not assure that this aeroplane will recover from a spin every time. Experience show that rigging deviations from the original factory specifications may lead to reduction of anti-spin factors and thus may inhibit recovery in some cases. This is relevant for the aging fleet of training aeroplanes, who might be certified for intentional spins, but are on duty since decades. The NPA also misses to discuss the usage of parachutes. Wearing of parachutes is state-of-the-art in military training as well as in aerobatic training by good reasons. Spins are loss of control events, which are by nature hazardous. The agency misses the chance here to discuss this here and to provide guidelines, recommendations and rules.



But the immediate result of the NPA will be that the majority of ATO's will collapse due to the inability to fulfill the training syllabus lacking appropriate aeroplanes and instructors. A minority may be able to continue by integration of suitable subcontractors. But this capacity is limited. So the NPA proposal will probably lead to a disastrous result instead to enhanced safety. Therefore it is recommended here not to require a mandatory demonstration of spin during training, but to allow this on an optional basis. Aerobatic maneuvers require professionals and this type of training should be outsourced to professionals, which could credit training modules to existing license holder and ATO's. This would be more realistic and provides more safety.

response

Accepted

Thank you for your comments.

Please refer to Section 2.3.1 of the Opinion.

comment

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comment by: UK CAA

Page No: Various**Paragraph No:** Various throughout the document.

Comment: It is strongly recommended that this training should ***not*** be restricted to MPA and SP HPCA in the MP role. This training should be embedded in all pilots from the start of training.

Justification: If competence in upset recovery and prevention is not delivered effectively at the ab-initio stage, the law of primacy in education will cause any such training delivered after ab-initio (for example; at type rating conversion training) to be eclipsed by the competencies (and any inadequacies therefore) that were first taught.

Proposed Text: Wherever the text refers to "multi-pilot aeroplanes and single pilot, high-performance, complex aeroplanes in multi-pilot operations only" it should be changed to read and apply to "all aeroplanes"

response

Partially accepted

Thank you for your comment.

Please refer to Section 2.3.10 of the Opinion.

comment

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comment by: AOPA Finland

Attachment [#4](#)

When considering accidents in GA fixed-wing aeroplane by phase of flight, EASA Annual Safety Review 2014 shows that the most critical phase was during landing, where 45% of the accidents occurred.

Whereas Loss of control in-flight (LOC-I) remains the top safety risk area of Commercial Air



Transport with six fatal accidents recorded in the last eleven-year timeframe, including the one occurred in 2014. LOC-I is also the safety risk area resulting in the biggest number of fatalities in CAT, not only within the European context but also world-wide.

The analysis for LOC-I was carried out to support the development of the Agency's CAT FW Safety Risk Portfolio, which will support to the European Aviation Safety Plan (EASp) and facilitate the management of safety issues in the Agency. The analysis covers a six-year time frame, from 2009 to 2014 and involved 65 occurrences that were categorised as LOC-I. For the analysis, the definition of LOC-I was openly applied with the aim of capturing all the relevant safety issues leading to the upset of the aircraft in the first place and then to its subsequent loss of control.

The result of the analysis in terms of the most recurrent causal and contributory factors in LOC-I accidents. These factors are populated based on the event type taxonomy within Version 2.5.0.0 of the ECCAIRS Aviation Taxonomy. The top six factors were:

1. Use of policy/procedures: the flight crew did not use the applicable procedure or policy, or did not apply it properly, either intended or unintendedly.
2. Monitoring of equipment/instruments: the flight crew did not monitor properly or was unable to monitor adequately the indications of aircraft equipment or instruments. This is normally associated to the monitoring of the attitude, altitude or airspeed of the aircraft, or to the position of aircraft flight controls.
3. Flight crew CRM: lack of, inadequate or inefficient Cockpit Resource Management (CRM). An event related to the CRM and Human Factors interaction between flight crew.
4. Handling of the go-around: inadequate handling of the go-around by the flight crew.
5. Response to warning system: inadequate, erroneous or insufficient response to a warning system by the flight crew. This is normally associated to the response to stall warnings, unreliable airspeed indications or flight control failures.
6. Distraction: job related – Events where the flight crew is distracted for job related reasons. The distraction is normally caused by unexpected warnings or meteorological conditions.

The major safety risk areas of Business Aviation are:

1. MAC/Airprox ATM: the business aviation sector routinely carries out significant amounts of flying in uncontrolled airspace and such aircraft regularly use smaller airports. This exposes business aviation operators to a potentially greater risk of airborne collision compared to airline operations.
2. SCF-NP: from a technical point of view, non-powerplant component failures continue to feature in accidents and this remains an area of focus for future safety activities.
3. Runway Excursion: a significant number of business aviation occurrences take place in the landing phase and runway excursions continue to feature as a safety risk. At a worldwide level, around a third of accidents involve runway excursions, making the situation in Europe significantly better than that at the global level.
4. Abnormal Runway Contact: the occurrence category of abnormal runway contact includes a number of different types of events including hard landings, tail strikes and long landings. Often these are pre-cursors to runway excursions and in many cases are influenced by poor weather and other environmental factors.
5. Loss of Control - In-Flight: while loss of control accidents rarely occur, the accident



often result in fatalities. Therefore, understanding and controlling the risks leading to a loss of control will be an area of specific focus within the business aviation sector.

The newly developed upset recovery training in an aeroplane, should be mandated only for the ATPL(A) training course as well as serve as a pre-requisite prior to commencing the first multi-pilot type rating course. This training will be important step towards enhancing a commercial pilot's resilience to the psychological and physiological aspects often associated with upset conditions, and towards providing them with an enhanced ability to not only overcome these human factor aspects, but to also apply appropriate recovery strategies to return the aeroplane to safe flight. Today automated flight control is common to reduce pilot error and workload at key times like landing or takeoff but unfortunately they also reduce the actual manual aircraft handling time to a couple of tens of minutes instead of hours during a long haul flight. The provisions for the LAPL(A) and PPL(A) training courses mostly related to the General Aviation community shall be lighter and thus more proportionate. Upset prevention training should be optional for the persons who intend to pursue the Light Aircraft Pilot Licence (LAPL(A)), Private Pilot Licence (PPL(A)) and Commercial Pilot Licence CPL(A). Approved Training Organisation should be free to decide, if they wish to facilitate and commence such upset *prevention* training in Flight Simulator Training Device (FSTD) to deliver enhanced pilot competencies related theoretical knowledge (TK) and in addition to existing flight syllabi for those aeroplane licence training courses.

response

Partially accepted

Thank you for your comments.

Please refer to Sections 2.3.1 and 2.3.10 of the Opinion.

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comment

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comment by: SNPL FRANCE ALPA

General comments:

- A strong upset prevention and recovery training (UPRT) program provided throughout a pilot's career is an effective means to mitigate loss of control in-flight incidents.
- The pilot must be well trained and have recency of experience in order to effectively recover from any upset. UPRT should be **provided throughout a pilot's career**, and focus on **skill development** to prevent, recognize and recover from such events.
- UPRT is additional specialized training that should be taught both as a stand-alone course and be **fully integrated throughout the overall training scheme**, including **initial and recurrent training**. UPRT should not be used to replace training requirements for basic flying skills training.
- Aerobatic Rating for UPRT Instructors is **paramount** for delivering an appropriate message with respect to aircraft capabilities. Theoretical knowledge and flight instruction for the issuance of license shall include upset prevention and recovery



	<p>training. The flight instruction shall include on-airplane training.</p> <ul style="list-style-type: none"> • Simulators - Motion limitations for each specific FSTD used for UPRT have the potential to introduce negative transfer of training. Simulators therefore must meet the following requirements: be approved by the Regulator to provide UPRT, be updated to meet the latest industry simulator standards for UPRT, must provide proper cues, and must only be used within the capabilities of the aerodynamic model. Type specific “representative” data must be available to conduct accurate aerodynamic stall training. • At the moment (2015) there are no broadly available simulators which could adequately simulate G-forces and psycho- and physiological sensations (except in Europe, Desdemona with limited availability due to its cost and limited numbers). UPRT in real aircraft is mainly about human behaviour (startle, G-forces etc.) while the simulators are for handling the aircraft (procedures). • Instructors should undergo specific UPRT instructor training prior to providing UPRT to other pilots. Since instructors are key to the success of any training, specialized instructor skills and training are necessary for the proper delivery of UPRT.
response	<p>Noted</p> <p>Thank you for your comments.</p> <p>Please refer to Sections 2.3.7, 2.3.8, 2.3.9, and 2.3.10 of the Opinion.</p>

2. Explanatory Note	p. 4-19
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comment	<p>9 comment by: IAOPA (EUROPE)</p> <p>IAOPA (Europe) objects to the Agency's gold-plating of ICAO requirements by their preference for Option 2. We consider that Option 1 should be adopted instead.</p>
response	<p>Not accepted</p> <p>Thank you for your comment.</p> <p>Please refer to paragraph 2.3.1 of the Opinion.</p>
comment	<p>10 comment by: IAOPA (EUROPE)</p> <p>IAOPA (Europe) considers that Option 2 is emphatically not cost-effective as it fails to address the additional cost of acquiring aeroplanes approved for spin training beyond the incipient stage. Moreover, an FI assessment of competence does not require developing or fully developed spinning, hence most FIs would require refresher training before being considered competent to demonstrate such manoeuvres safely.</p>
response	<p>Accepted</p>



Thank you for your comments.
Please refer to Sections 2.3.1 and 2.3.7 of the Opinion.

comment 11 comment by: IAOPA (EUROPE)
IAOPA (Europe) considers that Flight Instructors with existing privileges to provide flight instruction for the Aerobatic Rating should be credited all FCL.915 requirements, provided that they have attended a UPRT standardisation seminar delivered by the ATO at which the UPRT will be conducted.

response Partially accepted
Thank you for your comments.
Please refer to Section 2.3.7 of the Opinion.

comment 12 comment by: IAOPA (EUROPE)
IAOPA (Europe) considers that both theoretical knowledge and flight training requirements for stall/spin awareness and avoidance are adequately covered in the existing LAPL and PPL syllabuses. The UK AltMoC has increased emphasis on these topics, particularly on a fuller understanding of AoA awareness. We consider that this is more than sufficient for LAPL/PPL needs.

response Accepted
Thank you for your comment.
Please refer to Section 2.3.1 of the Opinion.

comment 23 comment by: IAOPA (EUROPE)
IAOPA (Europe) requests confirmation that the
.A course may be taken as a standalone course by any aeroplane pilot licence applicant. It is likely that many ATOs will be unwilling to meet the financial investment needed to include FCL.915 privileges for its Flight Instructional staff; hence student pilots should be free to complete FCL.745.A requirements at any other ATO which is able to provide the course.

response Noted
Thank you for your comment.
Please refer to Section 2.3.7 of the Opinion.

comment 33 comment by: Prof. Dr. Bernd Hamacher, University of Applied Sciences Osnabrueck

References presented are not valid for LAPL/PPL-training

The list of SR's has no value for the justification of the NPA due to missing references. It is an academic tradition to specify references open to public domain. This is missing here.



Nevertheless the list of SR's show that in almost all cases the justification is based on incidents/accidents with commercial transport aeroplanes. A study justifying changes in the LAPL/PPL syllabus is not presented here.

response Accepted

Thank you for your comment.

Please refer to Section 2.3.1 of the Opinion. Moreover, references for each safety recommendation have been included with the Opinion.

comment 34 comment by: *Prof. Dr. Bernd Hamacher, University of Applied Sciences Osnabrueck*

Option 2 is proposed, but not justified

Option 2 is proposed as the best option by the Agency and the RMG experts, but this is not justified by studies or other findings collected. This is below academic and democratic standards. There is no evidence that the persons involved in this process are competent enough to assess this. This should be more transparent. The subsequent chapters show that the authors of this NPA show fundamental weaknesses in basic aeronautical theory or unable to assess delivered material properly on academic correctness and adequacy or missing sufficient awareness on quality. At least these paragraphs corrupt the impression, that this document is the outcome of competent people. I am very sorry about this statement, but according academic standards this has to be stated here.

The strong belief of the Agency is a weak argument. Measures should not justified by opinions or beliefs, but by facts and investigations based on accepted theories and methods. This is not presented in this NPA here and the definitions chapter in this NPA shows that the Agency itself is lacking proper understanding in basic theory of flight mechanics. This raises substantial concerns on the adequacy of the whole approach regarding LAPL/PPL training courses and the professional competency of the agency in that field.

As stated this proposal deviates from ICAO standards. There are sound reasons for this standard and the agency should provide detailed justification, backed by dedicated studies to justify this deviation from the international standard. This is especially relevant for an Agency, which existence is rooted to harmonize different standards.

Finally the argument that early exposure to upset prevention would provide a better basis for their later piloting career is of little value. It is a popular belief of people not experienced in education and curricula design that the more is better. Of course it desirable the people have more knowledge and skills and of course we would welcome, when people, dealing with technical issues in Aviation have at least a bachelor-degree in aviation, but the art of curricula design is not to blow-up to a maximum, but to carefully select the subjects necessary and suitable for the future tasks. For a LAPL/PP-pilot, who will stay on this level it is useless to be better prepared for a later piloting career as an airline pilot. If he/she later transitions to a ATPL/MPL-license he/she should learn this at this stage to discover the differences. It even seems that the kernel of UPRT is not properly understood. If you read the material provided by RAES, the Flight Safety Foundation, ICAO, FAA, NTSB, BEA, Airbus and Boeing on this subject, the main finding is that CS-25 aeroplanes are different dimensioned



that CS-23/CS-VLA aeroplanes. This is especially true for light aeroplanes, as they fly in different physical and operational environments and with a different level of automation and complexity. These differences require different competences and even relearning. The general message is that the procedures valid for light aeroplanes cannot be applied straightforward on large aeroplanes but need further considerations for pilots flying these large aeroplanes. The message is not that there are deficits in flying light aeroplanes and the phenomena discussed in the documents issued by the organizations mentioned above are far beyond the scope of an LAPL/PPL-pilot.

A LAPL/PPL training course must be designed from the perspective of a LAPL/PPL-pilot, not from the perspective of an Airline-pilot. This is a fundamental misconception of the Agency and the reason why the international standard is different. Therefore the agency should follow the international standards.

response

Partially accepted

Thank you for your comment.

Please refer to Sections 2.3.1, 2.3.7 and 2.3.7 of the Opinion.

comment

35

comment by: *Prof. Dr. Bernd Hamacher, University of Applied Sciences Osnabrueck*

UPRT-training and aerobatic training are evidently different subjects

Of course is upset recovery training different from aerobatic training! Who claims the opposite the Agency feels obliged to warn against? Someone who claims the opposite simply shows superficial knowledge. Therefore we see no need to emphasize this here in the NPA. Aerobatic training has different objectives; different maneuvers and aeroplanes for acrobatic training must be designed to bear much higher load-factors than aeroplanes in the normal category or even CS25 transport aeroplanes. And someone who holds an aerobatic rating, will not evidently be able to recover a large CS25-aeroplane from a developed high-altitude stall. No, no – there is much more to know on this. There it is surprisingly why the Agency mention and emphasize this here. Of course this would be an inappropriate (and negative) transfer of training.

But this again is another argument not to transfer upset subjects into the world of light aeroplanes and to LAPL/PPL-pilots. If a holder of a PPL(A) applies for an aerobatic rating – that's fine and may be very useful for him/her to enhance flying skills. But a later ATPL-student, who performs some aerobatic maneuvers during his/her basic training on light aeroplanes is ill advised if someone tells him/her that this would be a good preparation for later serious upset events in large airliners. This would indeed promote negative transfer of training. Therefore the best way to avoid this negative transfer of training is to keep the world of ATPL/MPL-pilots and the world of LAPL/PPL-pilots somewhat separated. ATPL/MPL-pilots should receive dedicated UPRT and measures should be taken to keep this specific competence current during his/her professional life. A loop performed with an aerobatic trainer at the beginning of his/her pilot-career years even decades ago, is not beneficial here! On the other hand it makes no sense to explain a LAPL pilot the flight dynamics of a high-altitude-stall with a swept-wing large aeroplane. This merely would promote the dissemination of semi-knowledge, which is dangerous in most cases. Keep it separated to avoid negative transfer of training.



response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>
comment	<p>36 comment by: <i>Prof. Dr. Bernd Hamacher, University of Applied Sciences Osnabrueck</i></p> <p>Somatogravic illusions are not relevant in light aeroplanes</p> <p>It is valuable that pilots know about the concept of somatogravic illusion. Nevertheless the requirement that students should at least one go-around to expose them to somogravic illusion shows little knowledge of the acceleration capabilities of light aeroplanes. This is a CS-25 perspective.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Theoretical knowledge training covers somatogravic illusions as a discussion item, and is not intended for initial licensing training. The requirement for a go-around is only for the initial type rating training. Please also refer to Section 2.3.14 of the Opinion.</p>
comment	<p>37 comment by: <i>Prof. Dr. Bernd Hamacher, University of Applied Sciences Osnabrueck</i></p> <p>Grandfathering here inappropriate</p> <p>Grandfathering is a proper measure to ease implementation of new rules. Nevertheless in this case this seems not appropriate: If the message is that the lack of UPRT-competences of the existing airline-pilots raises safety concerns today, immediate measures are required. If grandfathering is allowed the message is that there is no urgency and that it is sufficient to perform the long-term change over the next 20-25 years. But this is not in line with the SR's referred to.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.3 of the Opinion.</p>
comment	<p>38 comment by: <i>Prof. Dr. Bernd Hamacher, University of Applied Sciences Osnabrueck</i></p> <p>Replacement of the term “unusual attitude” not appropriate and contradictorily</p> <p>The replacement of the term “unusual attitude” by “aeroplane upsets” is not justified. The term “unusual attitude” is well defined and well established, whereas the upset definition is meaningless for aerobatic maneuver (see note to page 1)</p> <p>Furthermore the Agency confuses, if they highlight on page 12 in this NPA to differentiate between “UPRT-Training” and “aerobatic training” on one hand and on the other hand here introducing a new term, who is referring to UPRT-Training instead of Aerobatic training. This</p>



	<p>is contradictory and not consistent. We agree that “UPRT-Training” is different from “aerobatic training” and consequently the terminology used should reflect this.</p>
response	<p>Not accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.4 of the Opinion.</p>
comment	<p>43 comment by: <i>British Airways Flight Operations</i></p> <p>As a major international airline, with a varied worldwide route network and multiple aircraft types, British Airways shares EASA’s regulatory and safety aims with regard to the integration of upset prevention and recovery training (UPRT).</p> <p>Much of the proposed legislation either falls outside the scope of our in-house training (ATPL(A) training courses for our ab-initio pilots are presently provided by third party companies), or can be integrated into our current initial and recurrent pilot-training programs.</p> <p>However, an area of concern for British Airways is the proposed provision for Full Stall training in the Full-Flight Simulator (FFS). We understand that, although the manufacturers are in the process of validating data in support of full stall training, we are uncertain of the value of its application within the scope of present FFS technology. Specifically, that any full flight simulator with standard motion jacks is extremely limited in providing sustained motion cueing, long term acceleration cues are limited by motion jack length, and the fact the simulator is land locked. Consequently, the motion feedback will always be limited, regardless of any proposed enhancement to an aerodynamic model. This may in fact have negative training value, by exposing crews to inaccurate physiological effects, contrary to what the proposed legislation aims to achieve.</p> <p>We would urge further consideration of what is possible within the current and proposed technological boundaries of full-flight simulator technology and legislate accordingly. We would further propose that any legislation is inclusive, encompassing current FFS standards to allow ‘grandfather rights’ for current simulator operators (and their courses), specifying the training permitted (eg approach to stall only) in such FFS to ensure the required quality of crew training. This would also ensure continuity of training for operators of older generation FFS, where the fidelity is unlikely to be able to support the Full-Stall recovery data accurately without significant cost, if it is possible at all.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Sections 2.3.4, 2.3.8, and 2.3.10 of the Opinion.</p>
comment	<p>57 comment by: <i>UK CAA</i></p> <p>Page No: 4</p>



Paragraph No: 2.1

Comment: It is recommended that any changes should also be focussed on the instructor competencies; not just the licence and type rating training.

Justification: Many of the necessary elements and training references covering the issues to be addressed at paragraph 2.1 (for example; stalling on approach, spin avoidance and go around at low altitude) are already required by the regulations for training and flight testing. What appears to be missing therefore, is a satisfactory level of competence in the instructors and ATO's to deliver this training to an effective standard.

response

Noted

Thank you for your comment.

Instructor competencies will be considered in the context of the activities under RMT.0596 'Review of provisions for examiners and instructors (Subparts J & K of Part-FCL)'.

comment

75

comment by: AIRBUS

Regarding "recocery exercices from (impending) stall situations during Take-off and ..."

EASA shall clarify what "impending" stall means.

Does EASA refers to "Approach to stall" ? A stall exercise and an approach to stall are 2 different exercises.

EASA should take a precise position, manufacturers have their own well-defined position which is to teach/demonstrate stall events

response

Accepted

Thank you for your comment.

Please refer to Section 2.3.4 of the Opinion.

comment

76

comment by: AIRBUS

Regarding "realistic training scenarios that contain startle/surprise effects"

EASA should provide:

- Guidance to assist ATOs in defining what a startle effect is.
- Realistic training scenarii that contain startle/surprise effects.

Here, the main question is: How can we create startle effect to a flight crew maintaining a high level of situation awareness?

- If this kind of exercice or situation lead to startle effect despite continuous monitoring and good situational awareness, this might lead to negative transfer of training and deteriorate the flight crew perception of their own performance and lead to a worse situation.

Is EASA intention to create startle by introducing exercices out the mandatory items usually



response	<p>trained and checked?</p> <p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.8 and of the Opinion.</p>
comment	<p>77 comment by: AIRBUS</p> <p>EASA should align the required date with FAA application date in 2019 in order to have an harmonized approach and application date</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Sections 2.3.3 and 2.3.13 of the Opinion.</p>
comment	<p>82 comment by: Dassault-Aviation</p> <p>Dassault-Aviation comment page 8:</p> <p>Text:</p> <p>“....</p> <p>- realistic training scenarios that contain startle/surprise effects; “</p> <p>Comment:</p> <p>Specific “Upset <u>Prevention</u>” scenarios should be proposed in Appendix 9 (practical training): <i>(new item of the appendix 9) “ITEM 3.7.2 operational scenarios like encounter of heavy wake turbulence or heavy turbulence during approach or high altitude cruise, SAT increasing with storm front ahead and heavy aircraft, loss of reliable airspeed, etc...”</i></p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.8 of the Opinion.</p>
comment	<p>83 comment by: Dassault-Aviation</p> <p>Dassault-Aviation comment page 7</p> <p>Texte:</p> <p>"...should solutions be proposed, and also taking into account other manufacturers, the subsequent required qualification criteria becoming more mature, and the comments received on this NPA, the Agency may consider to introduce certain amendments to CS-FSTD(A) to qualify existing devices to enable full stall training during both TR training and operator conversion and recurrent training”.</p> <p>Comment:</p>



Dassault Aviation agrees the need to improve UPRT & stall training and believe there is still lots of improvements to carry out, with regards to :

- Theoretical knowledge for applicants and trainers : phenomena, associated risks & causes, generic & type specific procedure understanding, etc.;
- UPRT practical experiences of trainers which could generate experience sharing and could increase the training experience : e.g. briefing tips and well-adapted debriefing remarks;
- Optimized simulator courseware and scenarios so as to take advantage of all the possibilities offered by FFS.

But these improvements could be done to existing means and methods. Keep in mind that UPRT is not only stall and that the best effort has to be concentrated to prevention. So, before implementing a demanding full-stall regulation for FSTD, studies have to be conducted to better optimize training and exercises on current simulation devices.

response

Noted

Thank you for your comment.

Please refer to Section 2.3.8 of the Opinion.

comment

84

comment by: Dassault-Aviation

Dassault-Aviation comment page 7:

Text:

“should solutions be proposed, and also taking into account other manufacturers, the subsequent required qualification criteria becoming more mature, and the comments received on this NPA, the Agency may consider to introduce certain amendments to CS-FSTD(A) to qualify existing devices to enable full stall training during both TR training and operator conversion and recurrent training”.

Comment:

Even if it will depend on the comments received and on the general perception of the technical maturity of the solutions, the NPA contains provision to implement certification specifications without possibility to amend them later (e.g.: extended flight envelope). Based on the first comment, it is therefore paramount to underline that, at this stage, we are able to reach a certain maturity with the existing training practices and we do not promote implementing any rule for an extended flight simulation envelope too fast.

response

Noted

Thank you for your comment.

Please refer to Section 2.3.8 of the Opinion.

comment

101

comment by: IATA

1 / Consistency of training programs between AIROPS/AIRCREW:



	<p>Figure 1 below (NPA 2015-13 page 18/135) may be misleading by imposing the realization of the same exercise during type rating and during conversion course.</p> <p>Our ATO/Operator's idea is to avoid duplicating the same exercise because this exercise is required by both rules. If an exercise is done during the initial type rating, this exercise is credited for the operator conversion course.</p> <p>The Agency should clearly state this notion in the Opinion and Decision. This clarification should avoid NAA's different interpretations and should facilitate course approval.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.11 of the Opinion.</p>
comment	<p>102 comment by: IATA</p> <p>2/ <u>Credits regarding MFF (Mixed Fleet Flying):</u></p> <p>Another consistency issue is the MFF (Mixed Fleet Flying) in the proposed amendment, which does not give any flexibility (no flexibility in Part OPS also) for operators performing MFF. This issue is important because operators may have to duplicate prevention and recovery training on each aircraft type for pilots and instructors (e.g., A330/A340).</p> <p>The consequences would be increased training costs without safety enhancement. Concerning this NPA in particular, no credits are given for instructors who are supposed to instruct on more than one type.</p> <p>The Agency should produce flexibility for instructors in Aircrew and also take action for part OPS ORO.FC.240 Operation on more than one type or variants and related AMC/GM.</p> <p>This flexibility should be published in a very short-term because Part OPS requirements are applicable on the 4th of May 2016.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.11 of the Opinion.</p>
comment	<p>107 comment by: European Cockpit Association</p> <p>Commented text:</p> <p>Explanatory note:</p> <p><i>The Agency and the RMG propose to make the upset recovery training/course in an aeroplane a prerequisite for the first issue of a single-pilot high-performance complex aeroplane type rating in multi-pilot operations and multi-pilot aeroplane type rating training courses.</i></p> <p>And references to :</p>



NPA / FCL.725.A (p22):

(c) SP HPCA used in MP Ops and MP aeroplane type ratings

The training course for the first issue of the MP type Rating shall include theoretical knowledge and flight instruction in upset prevention and recovery.

FCL.720.A (p22):

(h) In addition to (c) and (d), an applicant for the first type rating shall have completed the upset recovery training course in FCL.745.A

ECA's Comments:

Explanatory Note does not match the actual NPA's FCL proposition. It introduces a **restriction of UPRT to Multi-Pilot Operations**, when the FCL.720.A actually makes it a requirement for **any first Type Rating**.

While we do support URT to be a prerequisite before commencing any first Type Rating, including HPCA used in SP operations, we are not in favour of UPRT to be restricted to MP operations.

This gap will create unacceptable discrepancies to training standards. The PC-12 and TBM types offer very explicit examples:

PC-12: Require a Type rating. Thus an applicant will need:
UPRT course completed before commencing his/her TR,
And additional type specific UPRT during the TR,

TBM-850: Require a Class Rating "SET" thus is not covered by the NPA.
- an applicant will need NO UPRT training, not before or even during the CR.

It must be also pointed out that talking of aircraft operational suitability - all Operational Evaluation Boards **(OEB) comments for transitioning from SP to MP operations and vice versa should be revised** and complemented with an appropriate UPRT sight and content (UPRT "in an aeroplane" when needed).

There is a need to also cover all *High Performance and Complex Aircraft* (HPCA) operations, including SP HPCA used in SP (when allowed by the OEB). Flight safety LOC-I events would benefit from requiring full UPRT training also for *HPA non-complex aircraft*.

EASA's intent to restrict UPRT to Multi-Pilot Operations must be clarified

response

Partially accepted

Thank you for your comment.

Please refer to Sections 2.3.7, 2.3.10, and 2.3.11 of the Opinion.

comment

137

comment by: *FNAM*

The schematic page 18 may be misleading by imposing the realization of the same exercise



during type rating and during conversion course.
 The aim of the ATO/Operator is to avoid duplicating the same exercise because this exercise is required by both rules. If an exercise is done during the initial type rating, it is credited for the operator conversion course.
 The Agency should clearly state this notion in the Opinion and Decision. This clarification should avoid NAA's different interpretations and should facilitate course approval.

response

Noted

Thank you for your comment.

Please refer to Section 2.3.11 of the Opinion.

comment

138

comment by: *FNAM*

Although the UPRT and stall training should be improved, these improvements could be done regarding existing means and methods. Therefore, some issues are raised with the following sentence: "should solutions be proposed, and also taking into account other manufacturers, the subsequent required qualification criteria becoming more mature, and the comments received on this NPA, the Agency may consider to introduce certain amendments to CS-FSTD(A) to qualify existing devices to enable full stall training during both TR training and operator conversion and recurrent training".

We need to keep in mind that UPRT is not only stall and that the best effort has to be dedicated to prevention. So, before implementing a demanding full-stall regulation for FSTD, studies have to be conducted to better optimize training and exercises on current simulation devices.

Besides, even if it will depend on the comments received and on the general perception of the technical maturity of the solutions, the NPA contains provision to implement certification's specifications without possibility to amend them later (e.g.: extended flight envelope). Based on the first comment, it is therefore paramount to underline that, at this stage, we are able to reach a certain maturity with the existing training practices and we do not promote implementing any rule for an extended flight simulation envelope too fast.

response

Noted

Thank you for your comment.

Please refer to Sections 2.3.8 and 2.3.10 of the Opinion.

comment

166

comment by: *Boeing*

Page: 7

Paragraph: 2.1, Overview of the issues to be addressed

Section: Full-stall training in the Full-Flight Simulator (FFS)

THE PROPOSED TEXT STATES:

"... As a result, this would also mean that the currently proposed approach-to-stall exercises in the FFS during type rating training proposed with this NPA, and the already published approach-to-stall exercises for the operator conversion and recurrent training programmes,



could be amended to require the full-stall training instead. ...;”

REQUESTED CHANGE: We recommend revising the text as follows:

“... As a result, this would also mean that the currently proposed approach-to-stall exercises in the FFS during type rating training proposed with this NPA, and the already published approach-to-stall exercises for the operator conversion and recurrent training programmes, could be amended to require the full-stall training *instead also be included.*”

JUSTIFICATION: Clarity and more consistent phraseology.

response

Accepted

Thank you for your comment.

Please refer to Sections 2.3.4 and 2.3.11 of the Opinion.

comment

178

comment by: *European Transport Workers Federation - ETF*

Page 7, chapter "Full-stall training in the Full-Flight Simulator (FFS)", the Agency refrains from requesting any improvement on full-stall training in the FFS. The ETF requests the Agency to set an agenda on the subject with a real objective instead of waiting for manufacturers goodwill.

Moreover, the ETF requests the Agency to widen the subject from "Full-stall training in the Full-Flight Simulator (FFS)" to "Full flight domain incursion in the Full-Flight Simulator (FFS)". The objective is to include all kind of stalls (low speed stall, shock stall if applicable, deep stall), all kind of buffeting (buffeting low speed, buffeting high speed when applicable) and also spins.

The ETF considers that training pilots to be familiar with these situations will help them to recognize them. Consequently, a strong position to push the FFS manufacturers to work on that is very important. An agenda on the subject is a bottom line.

response

Not accepted

Thank you for your comment.

Please refer to Sections 2.3.4 and 2.3.8 of the Opinion.

comment

179

comment by: *European Transport Workers Federation - ETF*

Page 8, chapter "2.2. Objectives", the ETF requests the Agency to add to "The specific objectives of this task" the following objectives:

- "more emphasis on severe weather at high altitude theoretical knowledge in the initial CPL and ATPL training (volcanic ashes, ice crystal)"
- "detection of hazardous situation at high altitude (Pitot probe freezing)"

==Comment 172==

Comment to "Page 41-47, 3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - GM1 FCL.010 Definitions":



	<p><pre>Page 44, the Agency omits the definition of the acronym IOS (Instructor Operating Station) used page 41: "(f) understand and be able to use the IOS of the FSTD in the context of effective UPRT delivery;"</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Your comment will be taken into consideration in the context of the activities under RMT.0595 'Technical review and regular update of learning objectives and syllabi for commercial licences (IR)'.</p> <p>Please also refer to Section 2.3.14 of the Opinion in relation to the IOS.</p>
comment	<p>187 comment by: <i>Center Air Pilot Academy</i></p> <p>Regarding <i>NPA - Loss of control prevention and recovery training</i></p> <p>Deleted text is marked with strike through; New or amended text is highlighted in grey; An ellipsis (...) indicates that the remaining text is unchanged in front or following the reflected amendment.</p> <p>Regarding 2.4 Overview of the proposed UPRT rules and provisions (p 11, 3rd section) (...)</p> <p>It should be highlighted that instructors play a key role in delivering UPRT, especially in the context of avoiding negative training and negative transfer of training. For this reason, the Agency and the RMG propose to amend FCL.920 'Instructor competencies' in order to ensure that all existing instructors will be competent in correctly delivering upset prevention and/or recovery training principles. When these changes come into effect, existing instructors shall be granted 'grandfather rights', but new instructors must complete UPRT training course. During every Assessment of Competence (AoC), instructors will need to demonstrate their knowledge, skills and attitude in this area, providing they do not fulfill the recency requirement according to FCL.915.</p> <p><i>The above suggestions regarding recency and AoC are put forth, in part, due to the low amount of Flight Instructor Examiners available, with the requirement of aerobatic rating, further reducing this amount.</i></p> <p><i>The above suggestion regarding removal of aerobatic rating as a requirement for Upset recovery instructor training course in an aeroplane, is put forth for 2 reasons;</i></p> <ol style="list-style-type: none"> <i>1. The additional cost of having to train the staff of instructors to obtain an aerobatic rating, on top of the UPRT instructor training course will be a significant financial burden to many of the smaller ATO's throughout Europe.</i> <i>2. If training within the suggested envelope during UPRT training (AMC4 to Appendix 3, p 74), the attitudes required <u>can</u> be attained in non aerobatic approved aeroplanes, whereby the reason for an aerobatic rating to instruct on UPRT training seems a needless requirement.</i> <p><i>Note: it may be considered advisable to add the requirement for aerobatic rating in FCL.915 e) (5), before being able to instruct on the Upset recovery instructor training course.</i></p>
response	<p>Noted</p> <p>Thank you for your comments.</p>



Please refer to Sections 2.3.7, 2.3.5, and 2.3.7 of the Opinion.

comment

258

comment by: FAA

The Agency would like to further explain that ICAO has highlighted that a review of transport category aeroplane major incidents and accidents shows that bank angles have exceeded 90 degrees in some upset events. Furthermore, studies show that most pilots who went into inverted flight for the first time during training incorrectly added back pressure even though they received instructions in academic training and briefings before flight not to increase back pressure. For that reason, ICAO has recommended upset recovery training in an aeroplane at licensing level. Therefore, the Agency and the RMG believe that mandating this type of training is an important step towards enhancing a commercial pilot’s resilience to the psychological and physiological aspects often associated with upset conditions, and towards providing pilots with an enhanced ability to not only overcome these human factor aspects, but to also apply appropriate recovery strategies to return the aeroplane to safe flight.

response

Noted

Thank you for your comment.

comment

265

comment by: René Meier, Europe Air Sports

Pages 4 and 5
Background
Comment

The following safety recommendations are widely targeting operations of modern transport aeroplanes during which a potential degradation of situation awareness and flight path management due to the flight crew reliance on aircraft automation can happen. Regarding the PPL(A) flight instruction syllabus (i.e. exercise 11 Spin avoidance), keep in mind that the availability of two-seated aerobatic aeroplanes is limited and of instructors holding a valid aerobatic rating as well.

Rationale

Some accidents are mentioned. They are all related to CAT operations, not to GA operations.

response

Noted

Thank you for your comment.

Please refer to Sections 2.3.1 of the Opinion.

comment

266

comment by: René Meier, Europe Air Sports

Pages 9 and 10
2.3. Summary of the RIA
Comment

1

Do not impose new obligations and costs upon private pilots for the sake of commercial pilots.

Rationale



Again, EASA and RMG experts see the LAPL(A) and PPL(A) as the first step to commercial licences. This is only partly true. Let's keep in mind that most of private pilots have no intent to become a professional pilot. For them, just consider provisions which are in adequacy with non-commercial operations on non-sophisticated aeroplanes.
For others, introduce a special training course in the CPL(A) syllabus.

Comment 2

Option 1 is based on the assumption that UPRT is optional for LAPL(A) and PPL(A). This is a strange assumption ignoring that the current training syllabi already contain TK and flight training on approach to stall, stall, turn with a bank between 45° and 60°, steep turn. Re-define Option 1 as an Option without any change in the LAPL(A) and PPL(A) syllabi.

Rationale

We do not understand your argument.

Comment 3

Please re-define Option 2 as an Option with additional and optional upset recovery training exercises. It is recognised that the proposal of EASA and the RMG for an Option 2 goes beyond ICAO SARPs. And please try to change EASA and RMG experts' mindset towards a more GA-friendly regulatory system.

Rationale

Option 2 is introduced as including UPRT dedicated to GA, still on an optional basis for private pilots. To some extent, this shows the lack of consideration for the GA safety strategy and GA roadmap. We are of nearly no risk to third parties.

response

Partially accepted

Thank you for your comment.

Please refer to Section 2.3.1 of the Opinion.

comment

267

comment by: René Meier, Europe Air Sports

Page

11

(EU)

No

1178/2011

Comment

Regarding UPRT for LAPL(A) and PPL(A), the requirement would be a very limiting factor.

Rationale

There are already some UPRT exercises in the LAPL(A) and PPL(A) syllabi. RFs are already providing some UPRT for LAPL(A) and PPL(A). Allow flight schools to provide some additional UPRT if required.

response

Partially accepted

Thank you for your comment.

Please refer to Section 2.3.1 of the Opinion.

comment

268

comment by: René Meier, Europe Air Sports



	<p>Page 11 (EU) No 1178/2011 Comment Please change the text to acknowledge the current situation where instructors are trained and assessed in this matter.</p> <p>Rationale Regarding instructors, the text seems to ignore that they are already trained and assessed in prevention and recovery of upset positions. They are <u>not UPRT-free</u>.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.5 of the Opinion.</p>
comment	<p>271 comment by: René Meier, Europe Air Sports</p> <p>Page 12 ...aeroplane (1) Comment Please consider both LAPL(A) and PPL(A) in the same manner. Only PPL(A) and CPL(A) are mentioned. Why not LAPL(A)</p> <p>Rationale From our point of view LAPL(A) and PPL(A) are very close to each other.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>
comment	<p>274 comment by: René Meier, Europe Air Sports</p> <p>Page 12 ...aeroplane (2)</p> <p>Comment Please deal with the private licences as a fully separated case. The “top/down” approach is not relevant. If any endorsement is required, develop LAPL(A) and PPL(A) provisions, not as “copy and paste” of ATPL(A) provisions.</p> <p>Rationale With regard to LAPL(A) and PPL(A), any UPRT should be deemed as <u>additional</u> to the current requirements and practises, no extension of the FI’s privileges should be required, no new endorsement in the licence should be required.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p>



Please refer to Section 2.3.1 of the Opinion.

comment	277	comment by: <i>René Meier, Europe Air Sports</i>
	Page	13
	...aeroplane	(3)
	Comment	
	It is proposed to issue a “special instructor certificate”.	
	Rationale	
	Please consider that this is not in line with the objective to review Subpart-J of Part FCL with the aim of simplification. Do not introduce such new subtle provision for FIs only training LAPL(A) and PPL(A) student pilots	
response	Accepted	
	Thank you for your comment.	
	Please refer to Section 2.3.1 of the Opinion.	

comment	282	comment by: <i>René Meier, Europe Air Sports</i>
	Page	13
	LAPL(A) and PPL(A) training courses	
	Comment 1	
	Please note that in the previous page CPL(A) and PPL(A) are in the same package, designated as “other licenses”. To be clarified.	
	Rationale	
	To avoid confusion.	
	Comment 2	
	The text conveys the idea that there is currently no UPRT. This is wrong. We do such trainings at basic, intermediate and advance level.	
	Rationale	
	There is UPRT today. We support that LAPL(A) and PPL(A) would be submitted to a special and proportionate set of rules. But it should not ignore what is currently achieved by FIs and checked by FEs.	
	Comment 3	
	It is proposed that UPRT would only be carried out on a voluntary basis. Fine. But ignoring what is done today would lead to allow some student pilots not to complete the current UPRT exercises.	
	Rationale	
	We should clearly distinguish <u>current</u> UPRT (refer to Part-FCL) and <u>additional</u> UPRT (refer to the NPA). We do not allow student pilots to refuse to perform current UPRT exercises on the grounds that UPRT is on a voluntary basis.	



	<p>Comment 4 No significant additional licensing requirements are proposed. Additional training would be welcomed as long as this would not be a blocking factor.</p> <p>Rationale Do not introduce additional licensing requirements for FIs training towards LAPL(A) and PPL(A). Even if they are “no significant” Include the additional training in the refresher training of any FI, but do not require the additional training before delivering any additional UPRT.</p> <p>Comment 5 With regard to additional UPRT to LAPL(A) and PPL(A) student pilots, delete any provision requiring an extension of FI’s privileges.</p> <p>Rationale We do not accept that under this headline (i.e. LAPL and PPL), it is proposed to require an extension of the instructor privileges.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>
comment	<p>295 comment by: <i>René Meier, Europe Air Sports</i></p> <p>Page 15 Single-pilot high-performance complex aeroplanes and multi-pilot aeroplane type rating training courses</p> <p>Comment We support that an UPRT training would be required prior to completing a respective training course.</p> <p>Rationale This is proportionate to the operation. It could demonstrate pilot skills at an early stage.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.10 of the Opinion.</p>
comment	<p>296 comment by: <i>René Meier, Europe Air Sports</i></p> <p>Page 16 Cover regulation</p> <p>Comment We support the “grandfathering” of existing CPL(A) holders. Our question is: What about PPL(A) holders?</p> <p>Rationale</p>

response	<p>We did not find them in the proposed text.</p> <p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>
comment	<p>297 comment by: <i>René Meier, Europe Air Sports</i></p> <p>Page 19 Other proposed amendments Comment Concerning TK subjects, the merge of VFR and IFR “Communications” examinations is proposed. Be careful: the best may be the enemy of the good.</p> <p>Rationale The impact assessment should check that the efforts required from a VFR pilot to reach this level of proficiency is commensurate with the expected safety improvement.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>The merging of the two subjects ‘VFR communication’ and ‘IFR communication’ was further discussed internally and confirmed with the Review Group as being a balanced solution in terms of effort and anticipated safety benefits.</p>
comment	<p>327 comment by: <i>ATR</i></p> <p>ATR request to be part of EASA's working group for the RMT 0196 & 0197 "Updating CS-FSTD" discussions that is scheduled to be launched in 2016.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p>
comment	<p>340 comment by: <i>ATR</i></p> <p>Regarding the statement: <i>"However, should solutions be proposed, and also taking into account other manufacturers, the subsequent required qualification criteria becoming more mature, and the comments received on this NPA, the Agency may consider to introduce certain amendments to CS-FSTD(A) to qualify existing FFS devices to enable full-stall training during both type rating training and operator conversion and recurrent training. As a result, this would also mean that the currently proposed approach-to-stall exercises in the FFS during type rating training proposed with this NPA, and the already published approach-to-stall exercises for the operator conversion and recurrent training programmes, could be amended to require the full-stall training instead."</i></p> <p>Upon the several feedbacks from international meetings on UPRT it seems that there is no</p>



real consensus accross aviation industry on the need to extend simulators envelop.

- Full stall exercises are outside the flight envelope: The question is, as mentioned in this NPA, how to develop out of flight envelop training exercises whithout leading to negative transfer of training? EASA should conduct studies to identify the cases leading to negative training and provide guidance to operators, ATOs and FSTD manufacturers.
- On the data aspect: there are no flight test data to feed the simulator data package. In addition, obtaining representative flight data is unrealistic since aircraft behavior in full stall condition might be really different according to the situation. Thus a typical behavior might not be possible to identify which may lead to negative transfer of training.
- UPRT does not only refer to stall events. Thus Prevention to avoid any type of Upset situation shall be key and focus the major part of the work on that subject, including standards and regulations.

response

Noted

Thank you for your comment.

Please refer to Section 2.3.8 of the Opinion.

comment

343

comment by: ATR

Regarding the statement: "Recovery exercises from (impending) stall..."
EASA shall clarify what "impending" stall means. Does EASA refers to "Approach to stall" ? A stall exercise and an approach to stall are 2 different exercises. EASA should take a precise position, manufacturers have their own well-defined position which is to teach/demonstrate approach to stalls.

response

Noted

Thank you for your comment.

Please refer to Section 2.3.4 of the Opinion.

comment

344

comment by: ATR

Regarding "realistic training scenarios that contain startle/surprise effects"

EASA should provide:

- Guidance to assist ATOs in defining what a startle effect is.
- Realistic training scenarii that contain startle/surprise effects.

Here, the main question is: How can we create startle effect to a flight crew maintaining a high level of situation awareness?

- If this kind of exercrise or situation lead to startle effect despite continuous monitoring and good situational awareness, this might lead to negative transfer of training and deteriorate the flight crew perception of their own performance and lead to a worse situation.

Is EASA intention to create startle by introducing excercises out the mandatory items usually trained and checked?



response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.8 of the Opinion.</p>
comment	<p>345 comment by: ATR</p> <p>Regarding the application in 2018: Right from now EASA should align the required date with FAA application date in 2019 in order to have an harmonized approach and application date.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Sections 2.3.3 and 2.3.13 of the Opinion.</p>
comment	<p>357 comment by: SNPL FRANCE ALPA</p> <p>Explanatory note: <i>The Agency and the RMG propose to make the upset recovery training/course in an aeroplane a prerequisite for the first issue of a single-pilot high-performance complex aeroplane type rating in multi-pilot operations and multi-pilot aeroplane type rating training courses.</i></p> <p>And references to : NPA / FCL.725.A (p22): (c) SP HPCA used in MP Ops and MP aeroplane type ratings The training course for the first issue of the MP type Rating shall include theoretical knowledge and flight instruction in upset prevention and recovery.</p> <p>FCL.720.A (p22): (h) In addition to (c) and (d), an applicant for the first type rating shall have completed the upset recovery training course in FCL.745.A</p> <p>SNPL's Comments:</p> <p>Explanatory Note does not match the actual NPA's FCL proposition. It introduces a restriction of UPRT to Multi-Pilot Operations, when the FCL.720.A actually makes it a requirement for any first Type Rating.</p> <p>While we do support URT to be a prerequisite before commencing <u>any</u> first Type Rating, including HPCA used in SP operations, we are not in favour of UPRT to be restricted to MP operations.</p> <p>This gap will create unacceptable discrepancies to training standards. The PC-12 and TBM types offer very explicit examples:</p> <p>PC-12: Require a Type rating. Thus an applicant will need:</p>



UPRT course completed before commencing his/her TR,
And additional type specific UPRT during the TR,

TBM-850: Require a Class Rating “SET” thus is not covered by the NPA.
- an applicant will need NO UPRT training, not before or even during the CR.

It must be also pointed out that talking of aircraft operational suitability - all Operational Evaluation Boards (**OEB**) **comments for transitioning from SP to MP operations and vice versa should be revised** and complemented with an appropriate UPRT sight and content (UPRT “in an aeroplane” when needed).

There is a need to also cover all *High Performance and Complex Aircraft* (HPCA) operations, including SP HPCA used in SP (when allowed by the OEB). Flight safety LOC-I events would benefit from requiring full UPRT training also for *HPA non-complex aircraft*

EASA’s intent to restrict UPRT to Multi-Pilot Operations must be clarified

response

Accepted

Thank you for your comment.

Please refer to Sections 2.3.10 and 2.3.11 of the Opinion.

comment

358

comment by: AEA

Figure 1 on page 18 may be misleading by imposing the realization of the same exercise during type rating and during conversion course. ATOs and operators view is to avoid duplicating the same exercise as required by both ORO.FC.220 and ORO.FC.230. If an exercise is done during the initial type rating it should be given credit in the conversion course.

response

Partially accepted

Thank you for your comment.

Please refer to Section 2.3.10 of the Opinion.

comment

369

comment by: ANPI

Most interventions, ICAO, EASA, National Authorities, address primarily CPL and ATPL training. We believe that an important part of skills needed for LOC prevention has to be done in early flight lessons. 50 years ago, instructors performed earlier UPRT, the situation is degrading.

Creating automatic human reaction right from first flight lessons permitting a pilot to protect his or her aircraft flight envelope, to detect the beginning of adverse LOC scenarios and to recover is fundamental for the private pilot himself AND valid for his/her entire pilot career.

The combination of first lessons effect and youth of students better prints neuronal connections.



Corresponding exercises are seldom repeated in airline pilots' career and simulators don't always replace real flight feeling, again for creating robust automatic reactions, valid with any aircraft. This statement doesn't reduce the merits of simulators, but highlight only some limits.

This position is backed by the PPL renewal tests, that our FEs perform for Airline pilots. Their reactions in unusual positions are often disappointing. Major issues are linked to near stall recovery and failure to detect high AoA associated with negative sink rate, and surprise effect, also a weak point in simulator training. There is also a negative training effect due to some stall recovery practices.

As a consequence, our instructors association would support deeper and more systematic UPRT at PPL level than foreseen in this NPA. Cooperation with cognitive sciences institutes would improve the definition of exercises and of teaching technique, with the view to obtain robust UPRT background valid for most LOC cases and most aircrafts.

It would be a good investment for all categories of pilots

It is like scales for music instruments, or grammar acquired at the elementary school, weaknesses are very difficult to correct afterwards.

ANPI think that setting up such training at PPL level, can be done with the percentage of our instructors having enough skills, resulting from their career (Fighters, aerobatic, etc). Selection and propagation of knowhow can be managed by ATOs.

"Non aerobatic" aircrafts can be used with respect of specific flight envelope. (Lufthansa training does UPRT with Bonanzas)

However, application guides are needed, pilot's performance criteria revisited.

In addition to that, for all kind of LOC, Authorities with cooperation of AAIBs and EASA have to publish complete scenarios of LOC accidents. Awareness of the sequence of events associated to each LOC category (Let's call them ESDs: Events Sequence Diagrams) allow pilots to detect the first events, then to decide to get out from a hazardous situation and save the day.

response

Noted

Thank you for your comment.

Please refer to Section 2.3.1 of the Opinion.

comment

376

comment by: CAE

(Page 7)

CAE notes EASAs request for industry proposals for performing full-stall training in an FSTD, and we encourage the continued co-operation with the FAA. CAE's proposal for full-stall training in an FFS is as follows:

- CAE consider that full-stall training on any platform should be done only where the OEM requires and/or recommends such training on their platforms.
- If an aircraft OEM does not support such training in an FSTD, it should liaise directly with the



	<p>Agency and inform all stakeholders (operators, training providers) of its position.</p> <ul style="list-style-type: none"> - If full-stall training is completed in an FSTD it must be evaluated by the AOC holder's/ATO's competent authority to be suitable for providing such training. - Aircraft OEMs should make available the data required to support such training to all stakeholders, i.e. training device manufacturers, operators and training providers - Aircraft OEMs should make available the necessary support to evaluate the training programs and associated equipment in support of such training.
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Sections 2.3.3 and 2.3.8 of the Opinion.</p>
comment	<p>377 comment by: CAE</p> <p>Page 8 (2.2)</p> <p>The objectives should also include recovery exercises from (impending) stall situations during cruise. Aerodynamic effects at high altitudes and the demonstration of reduced margins at cruise are critically important. As well, the high speed characteristics at high altitude must also be covered. Please see ICAO Doc 10011 Section 3.4.2.5 for a description of typical conditions for stall recovery training.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.8 of the Opinion.</p>
comment	<p>397 comment by: CAE</p> <p>Page 11 (2.4)</p> <p>There are training providers specialising in UPRT only, which may not be involved in licensing training. These providers may be sub-contracted by another ATO to conduct the relevant UPRT portion of an approved CPL or ATP course programme. Can the Agency please confirm that in these circumstances the specialist training provider does not need to hold an ATO approval but that the UPRT is being conducted under the control of the approved ATO in accordance with ORA.GEN.205 Contracted Activities?</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p>
comment	<p>399 comment by: CAE</p> <p>Explanatory Note</p>



response	<p>There are numerous references to the "ATPL(A) Training Course. To avoid confusion in interpretation the Agency should use the correct training course titles. There is no such thing as an ATPL(A) training course. There are only ATP and CPL integrated and modular courses.</p> <p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Sections 2.3.4 and 2.3.7 of the Opinion.</p>
comment	<p>400 comment by: CAE</p> <p>Page 14</p> <p>We would like to ask the Agency (and the RMG) to provide guidance material (examples of methods) of how they expect ATOs employing SFIs for UPRT in an FSTD to mitigate first-hand experience of the critical psychological and physiological human factors which are present during recoveries from developed upsets which can only be experienced during training in an aeroplane?</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.9 of the Opinion.</p>
comment	<p>404 comment by: CAE</p> <p>Page 15</p> <p>CAE agrees with the introduction of at least one go-around exercise during the base training part of the type rating to expose students to somatogravic illusion. However, the statement here on page 15 now proposes to completely amend the take-off and landing training to a more competency-based and balanced approach by requiring a minimum of three successive landings instead of the usual four or six. Is this really the intention here? We have also commented on this against the proposed amendment of the regulatory text.</p> <p>If the Agency is proposing this for type rating training programme, then it must proportionately propose amendments for a reduction in the take-off and landing training requirements on an MPL programme (which are in hard law, whereas for type ratings they are buried in the AMC) to a more competency-based and balanced approach. This is further reinforced since the MPL programme already includes on-aeroplane UPRT.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.14 of the Opinion.</p>

3. Proposed amendments

p. 20



comment	<p>298 comment by: <i>René Meier, Europe Air Sports</i></p> <p>Page 20 Article 2 Transitional provisions Commen Add the word “additional” before “upset prevention ...”. Twice.</p> <p>Rationale This is in-line with experience made in the past.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.13 of the Opinion.</p>
comment	<p>401 comment by: <i>Finnish Transport Safety Agency</i></p> <p>Article 2 point 1</p> <p>According to Explanatory Note p. 16 the Agency and the RMG propose the ‘grandfathering’ of existing CPL(A), ATPL(A) and MPL holders and, therefore, they will not be required to complete additional training, such as the upset recovery training in an aeroplane. This crediting should be clearly stated in the Cover Regulation.</p> <p>Please add clarifying text in the Cover Regulation regarding grandfathering of existing CPL(A), ATPL(A) and MPL holders.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.12 of the Opinion.</p>
comment	<p>402 comment by: <i>Finnish Transport Safety Agency</i></p> <p>Article 2 point 2</p> <p>The time to credit of prior aeroplane upset prevention and recovery training should be at least same as the time to commence integrated ATPL course i.e. 36 months.</p> <p>Proposed text: <i>In respect of issuing Part-FCL licences in accordance with Annex I to Commission Regulation (EU) No 1178/2011, aeroplane upset prevention and recovery training commenced prior to the application of this Regulation under the regulatory oversight of a Member State may be given credit until 36 months after the applicability of this Regulation.</i></p>
response	<p>Accepted</p> <p>Thank you for your comment.</p>



Please refer to Section 2.3.13 of the Opinion.

3. Proposed amendments - 3.1. Draft Regulation (Draft EASA Opinion)

p. 20

comment	<p data-bbox="352 456 406 492">131</p> <p data-bbox="1150 456 1493 492" style="text-align: right;">comment by: <i>DGAC France</i></p> <p data-bbox="352 515 726 548">Subject : Transition measures</p> <p data-bbox="352 582 630 616">Content of comment :</p> <p data-bbox="352 622 1493 728">The explanatory note (p. 16/35) proposes that existing CPL(A), ATPL(A) and MPL holders are "grandfathered". Therefore such holders will not be required to complete additional UPRT training in an aeroplane. DGAC France supports the proposal.</p> <p data-bbox="352 761 1493 866">Nevertheless the proposed draft regulation does not include any specific provision to ensure this "grandfathering" process. DGAC France suggests to add a specific provision in article 2 in order to clarify this point.</p>
response	<p data-bbox="352 891 470 927">Accepted</p> <p data-bbox="352 952 718 985">Thank you for your comment.</p> <p data-bbox="352 1008 901 1041">Please refer to Section 2.3.13 of the Opinion.</p>
comment	<p data-bbox="352 1120 406 1155">189</p> <p data-bbox="758 1120 1493 1155" style="text-align: right;">comment by: <i>International Development of Technology b.v.</i></p> <p data-bbox="352 1176 1324 1209">Regarding Article 2, Transitional provisions, for holders of instructor certificates:</p> <p data-bbox="352 1243 1493 1400">Someone who is currently an instructor should be trained to properly apply both prevention and recovery. I do not feel that this ensures an adequate level of safety, even if "prevention" exercises alone are carried out, as the airplane could enter a critical state that requires recovery (student pilot inputs, unexpected circumstances, disorientation, etc.)</p> <p data-bbox="352 1433 1493 1500">Only prevention training on an aeroplane, and prevention and recovery training in a FSTD does not seem to make sense.</p> <p data-bbox="352 1534 1493 1646">Generally speaking, the terms <i>prevention</i> and <i>recovery</i> are often used in various combinations through the NPA. It would be better to try to consolidate these and consistently use "UPRT". You really cannot do one without the other, in practical terms.</p>
response	<p data-bbox="352 1664 574 1700">Partially accepted</p> <p data-bbox="352 1724 718 1758">Thank you for your comment.</p> <p data-bbox="352 1780 1013 1814">Please refer to Sections 2.3.4 and 2.3.5 of the Opinion.</p>
comment	<p data-bbox="352 1892 406 1928">190</p> <p data-bbox="925 1892 1493 1928" style="text-align: right;">comment by: <i>Flightdeck Training Consultancy</i></p> <p data-bbox="352 1948 885 1982">Article 2, Transitional provisions. Chapter 1:</p> <p data-bbox="352 1993 1493 2027">There is mention of instructors receiving additional relevant training prior to delivering UPT</p>



on aircraft (a) and UPRT for FSTD (b), but not UPRT for on-aircraft training. What is the reason for this?
 Only prevention training on an aeroplane, and prevention and recovery training in a FSTD does not seem to make sense. What about recovery training in an aeroplane as indicated in FCL.745.A?
 Suggestion: Why not combine a) and b) in ‘...upset prevention and recovery training in an aeroplane or FSTD’?

response

Not accepted
 Thank you for your comment.
 Please refer to Sections 2.3.5 and 2.3.13 of the Opinion.

comment

244 comment by: *Royal Aeronautical Society (UK)*

Issue: Additional relevant instructor training

The NPA applies the terms “prevention” and “recovery” separately, whereas “prevention and recovery” would be more appropriate. For instance, on page 75 ‘Upset prevention exercises’ followed by Tables 1 and 2 with the recovery templates.

response

Accepted
 Thank you for your comment.
 Please refer to Section 2.3.4 of the Opinion.

comment

269 comment by: *Aviation Performance Solutions*

Ref	Issue	
Pg.20, Art. 1	Additional relevant instructor training	Training in the FSTD is listed as UPRT, while training on aeroplane is listed as UPT. Prevention only does not develop the redundancy required (recovery skills in addition to prevention) which provide resilience for flight crews when prevention efforts are overcome. Aeroplane training must develop recovery skills in order to provide a robust solution to eliminating LOC-I.
		Suggestion: Requirements a) and b) could be combined and treated in a similar fashion by simply calling for "upset prevention and recovery training in an aeroplane or FSTD.
		There is an unnecessary distinction between prevention and recovery, as they are merely pointing to different points on a spectrum of solutions to mitigating LOC-I. This distinction is counterproductive to the intent of the NPA which is LOC-I mitigation. Consistent application of the terminology "prevention and recovery" will provide a less ambiguous



	message regarding the intent of the NPA.
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.4 of the Opinion.</p>

3. Proposed amendments - 3.1. Draft Regulation (Draft EASA Opinion) - ANNEX I 'Proposed amendments to Annex I to Commission Regulation (EU) No 1178/2011'

p. 21-24

comment	<p>4</p> <p>FCL.745.A</p> <p>I am fully in support of this amendment and believe that it will be a valuable addition to a new pilot's skillset.</p> <p>However great care must be taken to ensure that the upset prevention course is delivered by appropriately qualified instructors. The danger being that the majority of light aircraft instructors will have had no exposure to multi-engine jet operations and the risk of negative transfer of training is high (as indicated in the explanatory note). In the perfect world the training would be given by instructors with both light aircraft instructional qualifications (FI/CRI) and multi-engine jet experience, ideally as SFI/TRI.</p>	comment by: <i>Nick Carr</i>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p>	
comment	<p>5</p> <p>FCL.915</p> <p>Does the agency propose to limit this to Flight Instructors? I would strongly be in support of CRIs being included in this (when conducted for licence holders) after having undergone the instructor training course.</p>	comment by: <i>Nick Carr</i>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p>	
comment	<p>13</p>	comment by: <i>IAOPA (EUROPE)</i>



	IAOPA (Europe) considers that suitable credit should be included for Flight Instructors who hold privileges to provide flight instruction for the Aerobatic Rating. The proposed UPRT exercises can be fully briefed in an appropriate seminar delivered by the ATO at which the UPRT will be conducted.
response	Partially accepted Thank you for your comment. Please refer to Section 2.3.7 of the Opinion.
comment	22 comment by: IAOPA (EUROPE) IAOPA (Europe) considers that pilots who hold FCL.800 Aerobatic Rating privileges should be credited 4 of the 5 hours of theoretical knowledge training proposed under FCL.745.A (a) (1) and 2 of the 3 hours of flight training proposed under FCL.745.A (a) (3).
response	Not accepted Thank you for your comment. Please refer to Section 2.3.7 of the Opinion.
comment	24 comment by: IAOPA (EUROPE) IAOPA (Europe) objects to the recency requirements of FCL.915(e)(3) and considers them to be disproportionate; furthermore, we remind the Agency that no parallel requirements exist for the provision of flight instruction for the Aerobatic Rating. Instead we recommend that, for FI and CRI with FCL.915 privileges, routine Assessments of Competence should include UPRT content in FCL.935(b)(2) and (3).
response	Partially accepted Thank you for your comment. Please refer to Section 2.3.7 of the Opinion.
comment	25 comment by: IAOPA (EUROPE) As a corollary of our comments regarding FCL.915(e)(3), IAOPA (Europe) also proposes the deletion of FCL.915(e)(4).
response	Not accepted Thank you for your comment. Please refer to Section 2.3.7 of the Opinion.
comment	26 comment by: IAOPA (EUROPE)



	<p>IAOPA (Europe) does not support the prerequisite 25 hours of UPRT experience of FCL.915(e)(5), considering that, in common with Aerobatic Rating instructor training requirements, an assessment of competence is sufficient. Hence we propose the following text for FCL.915(e)(5):</p> <p>(5) The privileges in (e)(1) may be extended to include the privilege to instruct in the upset recovery instructor training course, provided that the instructor has 25 hours of upset recovery instruction experience in an aeroplane and has completed the assessment of competence to demonstrate to a Flight Instructor Examiner (FIE) the ability to instruct in the course.</p>
response	<p>Not accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p>
comment	<p>54 comment by: CTC Aviation - Ab Initio</p> <p>FCL.915 General prerequisites and requirements for instructors</p> <p>(e)(3) - This is an overly restrictive requirement and not consistent with similar privilege maintainance requirements for other FI ratings. Failure to achieve (e)(3) as written results in significant re-training as described in paragraph (4). Suggest removal of paragraph (e)(3) or the extension of the recency requirement to 12 months.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p>
comment	<p>55 comment by: CTC Aviation - Ab Initio</p> <p>FCL.915 General prerequisites and requirements for instructors</p> <p>(e)(1)(iii) hold an aerobatic rating</p> <p>Request that this statement be extended to include "or equivalent ICAO aerobatic rating". This will facilitate delivery of UPRT at an ATO outside the Member States by instructors holding an EASA instructor certificate issued in accordance with FCL.900 Instructor certificates (c) Instruction outside the territory of the Member States.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p>
comment	<p>58 comment by: UK CAA</p>



	<p>Page No: 22</p> <p>Paragraph No: FCL.720.A</p> <p>Comment: FCL.720.A is not considered to be compatible with FCL.725.A. This paragraph makes UPRT a requirement for a “first type rating” whereas FCL.725.A refers specifically to MPA and SP HPCA operated multi-pilot. For example – the BN2T is a type rating, so it is unclear whether UPRT is required or not.</p> <p>Justification: If the requirement for UPRT is to be written into EU legislation, it should be absolutely clear when it is and isn’t mandatory.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Sections 2.3.7 and 2.3.10 of the Opinion.</p>
comment	<p>59 comment by: UK CAA</p>
	<p>Page No: 23</p> <p>Paragraph No: FCL.900</p> <p>Comment: A significant amount of type rating training for executive aircraft (business jets) occurs outside EASA member states (e.g. in the USA) and by instructors qualified in accordance with FCL.900 (c). It is recommended that consideration should be given to ensuring that they are required to meet the same requirements as EASA instructors and are equally qualified to deliver UPRT.</p> <p>Justification: Level playing field.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p>
comment	<p>60 comment by: UK CAA</p>
	<p>Page No: 23</p> <p>Paragraph No: FCL.915 (e)(1)(ii)</p> <p>Comment: It is unclear what the justification is for an instructor to have 500 hours flight time and 200 hours instruction in order to teach UPRT.</p> <p>Justification: If one has completed an instructor training course (as FI, CRI or TRI) and has been assessed as competent to instruct all events including UPRT, there should be no further restriction on minimum experience. There is no requirement for a minimal amount of instructional experience to instruct for the aerobatic rating.</p>



response	<p>Proposed Text: Delete FCL.915 (e)(1)(ii)</p> <p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Sections 2.3.5 and 2.3.7 of the Opinion.</p>
comment	<p>61 comment by: UK CAA</p> <p>Page No: 23</p> <p>Paragraph No: FCL.915(e)(1)(iii)</p> <p>Comment: It is recommended that FI and CRI training and testing in full spinning is mandated.</p> <p>Justification: Many training courses are conducted in aircraft in which full spins are prohibited. This prevents instructors from visiting the full spin and can foster a reluctance to develop the approaching stall in such a way as to promote the incipient spin. This results in the student pilot never seeing or understanding fully the symptoms of the incipient spin. Often the symptoms of the developed spin are never considered. These student pilots later become instructors and examiners. This creates a lack of competence in the instructor base. In turn, this cascades to cement the latent risk that pilots are unable to recognise safely, and in time, the symptoms of the developing stall/spin scenario.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>This recommendation will be considered in the context of the activities under RMT.0596 'Review of provisions for examiners and instructors (Subparts J & K of Part-FCL)'.</p>
comment	<p>62 comment by: UK CAA</p> <p>Page No: 23</p> <p>Paragraph No: FCL.915 (e)(3)</p> <p>Comment: It is unclear how the privilege to instruct UPRT is to be recorded on the licence e.g. perhaps an annotation in the remarks column of Section XII.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to paragraph 2.3.7 of the Opinion.</p>
comment	<p>63 comment by: UK CAA</p>



	<p>Page No: 23</p> <p>Paragraph No: FCL.915 (e)(3)</p> <p>Comment: The 3 month “currency” requirement is questioned There is no equivalent for teaching any other item/manoeuvre in a LAPL, PPL, CPL, class rating, type rating, IR or aerobatic rating syllabus.</p> <p>Justification: This part of the regulation seems overly prescriptive and is considered unworkable in practise.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p>
comment	<p>64 comment by: UK CAA</p> <p>Page No: 23</p> <p>Paragraph No: FCL.915 (e)(3)</p> <p>Comment: Notwithstanding the UK CAA previous comment on this paragraph, it is unclear how the maintenance of privileges i.e. the 3 month currency requirement is to be recorded.</p> <p>Justification: This part of the regulation seems overly prescriptive and is considered unworkable in practise.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p>
comment	<p>65 comment by: UK CAA</p> <p>Page No: 23</p> <p>Paragraph No: FCL.915 (e)(5)</p> <p>Comment: This paragraph is not understood; paragraph (e)(1) does not contain privileges that can be ‘extended’.</p> <p>Justification: Clarity.</p> <p>Proposed Text: Replace paragraph FCL.915 (e)(5) with the following:</p> <p><u>‘An instructor certificate</u> may be extended to include the privilege to instruct in the upset recovery instructor training course, provided that, <u>in addition to paragraph (e)(1)</u>, the instructor has 25 hours of upset recovery instruction experience in an aeroplane and has</p>



response	<p>completed the assessment of competence to demonstrate to a Flight Instructor Examiner (FIE) the ability to instruct in the course.'</p> <p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p>
comment	<p>67 comment by: <i>Finnish Aviation Academy</i></p> <p>Comment:</p> <p>In the FCL.915 (e) (3) the 3 months period is too short time. In northern countries the low temperature prevents more than half of the year the UPRT flights with the suitable aircraft for UPRT flight training.</p> <p>The instructor knowledge and skills will not disappear in 3 months.</p> <p>Proposed text:</p> <p>(3) In order to maintain the upset recovery privileges, the instructor shall have conducted within the preceding 12 months, at least one upset recovery exercise in an aeroplane during an upset recovery training course.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p>
comment	<p>69 comment by: <i>Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</i></p> <p>FCL.915(3), Ref page 23</p> <p>In order to maintain the upset recovery privileges, the instructor shall have conducted, within the preceding 3 months, at least one upset recovery exercise in an aeroplane during an upset recovery training course.</p> <p><i>Proposed action:</i></p> <p>In order to maintain the upset recovery privileges, the instructor shall have conducted, within the preceding 6 months, at least one upset recovery exercise in an aeroplane during an upset recovery training course or one upset recovery exercise in an aeroplane performed as instructor training supervised by an upset recovery instructor.</p> <p><i>Rationale:</i></p> <p>3 months is a very short time. ATOs need to have upset recovery training courses at regular intervals to avoid instructors losing their privileges.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p>



comment	<p data-bbox="363 273 395 309">86</p> <p data-bbox="1098 273 1476 309" style="text-align: right;">comment by: <i>Dassault-Aviation</i></p> <p data-bbox="363 331 805 367">Dassault-Aviation comment page 23:</p> <p data-bbox="363 405 422 436">Text:</p> <p data-bbox="363 441 450 472">FCL915</p> <p data-bbox="363 477 1484 544">(1) In addition to (b), in the case of flight instruction privileges for the upset recovery training course in FCL.745.A, the instructor shall:</p> <p data-bbox="363 548 402 580">[...]</p> <p data-bbox="363 584 702 616">(iii) hold an aerobatic rating.</p> <p data-bbox="363 654 491 685">Comment:</p> <p data-bbox="363 689 1484 757">Holding an FCL.800 aerobatic rating for an instructor is required for some in-flight upset demonstrations (eg.: spins – see AMC1 & GM1/2 to FCL 745A(a)(2)).</p> <p data-bbox="363 761 1484 864">Such a rating also means having a certain experience of flying outside the normal bank & pitch envelope (+/- 45° bank +25/-10°pitch), which represents the <u>lower level</u> of high maneuverability aircraft experience.</p> <p data-bbox="363 869 1484 1003">We think this point is paramount for delivering the good message (especially related to physiological domain and aircraft possibilities). But, a standard instructor shall keep the privilege to teach stalls during his course. This point is not clear in the first reading of the NPA.</p>
response	<p data-bbox="363 1034 438 1066">Noted</p> <p data-bbox="363 1093 718 1124">Thank you for your comment.</p> <p data-bbox="363 1151 1013 1182">Please refer to Sections 2.3.5 and 2.3.7 of the Opinion.</p>
comment	<p data-bbox="363 1227 411 1258">108</p> <p data-bbox="957 1227 1476 1263" style="text-align: right;">comment by: <i>European Cockpit Association</i></p> <p data-bbox="363 1326 577 1357">Commented text:</p> <p data-bbox="363 1361 1484 1429">FCL.720.A Experience requirements and prerequisites for the issue of class or type ratings – aeroplanes.</p> <p data-bbox="363 1467 395 1498">(h)</p> <p data-bbox="363 1503 1484 1570">In addition to (c) and (d), an applicant for the first type rating shall have completed the upset recovery training course in FCL.745.A prior to commencing the type rating course.'</p> <p data-bbox="363 1608 577 1639">ECA's Comments:</p> <p data-bbox="363 1680 746 1711"><u>Suggestion to amend as follow:</u></p> <p data-bbox="363 1715 395 1747">(h)</p> <p data-bbox="363 1751 1484 1863">In addition to (c) and (d), an applicant for the first type rating or class rating of High-performance Aeroplane shall have completed the upset recovery training course in FCL.745.A prior to commencing the rating course</p> <p data-bbox="363 1899 497 1930"><u>Reasoning:</u></p> <p data-bbox="363 1935 1484 2038">While we do support URT to be a prerequisite before commencing <u>any</u> first Type Rating, including HPCA used in SP operations, we are not in favour of UPRT to be restricted to MP operations or Complex HPA.</p>



This gap will create unacceptable discrepancies to training standards. **The PC-12 and TBM types offer very explicit examples:**

PC-12: Require a Type rating. Thus an applicant will need:
UPRT course completed before commencing his/her TR,
And additional type specific UPRT during the TR,

TBM-850: Require a Class Rating "SET" thus is not covered by the NPA.
an applicant will need NO UPRT training, not before or even during the CR.

Aviation safety would obviously benefit of the following requirements:
To have completed the URT course prior entry to **any Class Rating of HPA**, regardless of it being used in SPO or MPO.
To have completed the URT course prior entry to **any Type Rating**, regardless of it being used in SP or MP operations.

response

Partially accepted

Thank you for your comment.

Please refer to Sections 2.3.7 and 2.3.10 of the Opinion.

comment

109

comment by: *European Cockpit Association***Commented text:**

FCL.725.A Theoretical knowledge and flight instruction for the issue of class or type ratings – aeroplanes

(c) Single-pilot high-performance complex aeroplanes used in multi-pilot operations and multi-pilot aeroplanes type ratings. The training course for the first issue of the ~~multi-pilot~~ aeroplane type rating shall include theoretical knowledge and flight instruction in upset prevention and recovery.'

ECA's Comments:**Suggestion to amend as following:**

(c) High-performance aeroplanes and multi-pilot aeroplanes type ratings. The training course for the first issue of the aeroplane type rating shall include theoretical knowledge and flight instruction in upset prevention and recovery.'

Reasoning:

While we do support URT to be a prerequisite before commencing any first Type Rating, including HPCA used in SP operations, we are not in favour of UPRT to be restricted to MP operations or Complex HPA.

This gap will create unacceptable discrepancies to training standards. **The PC-12 and TBM types offer very explicit examples:**

PC-12: Require a Type rating. Thus an applicant will need:
UPRT course completed before commencing his/her TR,



	<p>And additional type specific UPRT during the TR,</p> <p>TBM-850: Require a Class Rating “SET” thus is not covered by the NPA. an applicant will need NO UPRT training, not before or even during the CR.</p> <p>Aviation safety would obviously benefit of the follow requirements: To have completed the URT course prior entry to any Class Rating of HPA, regardless of it being used in SPO or MPO. To have completed the URT course prior entry to any Type Rating, regardless of it being used in SP or MP operations.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Sections 2.3.7 and 2.3.10 of the Opinion.</p>
comment	<p>111 comment by: <i>European Cockpit Association</i></p> <p>Commented text: FCL.915 General prerequisites and requirements for instructors (e) Upset recovery instructor training course in an aeroplane. (1) In addition to (b), in the case of flight instruction privileges for the upset recovery training course in FCL.745.A, the instructor shall: have completed an upset recovery instructor training course at an ATO; (ii) have at least 500 hours of flight time as a pilot on aeroplanes, including 200 hours of flight instruction; and hold an aerobatic rating.</p> <p>ECA's Comments: Amend FCL.915 (e)(1)(ii) as following: <i>(ii) have at least 500 hours of flight time as a pilot on aeroplanes, including 200 hours of flight instruction as a FI or CRI</i></p> <p>Reasoning: (ii) 200 hours of flight instruction;</p> <p>The NPA proposes that “any instructor [...] should be able to extend their privileges” (p12) to instruct UPRT, which is positive.</p> <p>But the prerequisites do not discriminate any kind of flight instruction time from the prerequisite. For a TRI this could also be line-instruction time.</p> <p>It should be evidence that cruise time with Autopilot, or crew-rest time do not have the same value as flight time experience as an FI or a CRI.</p> <p>Despite in-aeroplane UPRT instructors would typically be FIs and CRIs (very few TRIs concerned), it seems necessary to complement the prerequisite by specifying that instruction time as a CRI or FI only is adequate.</p> <p>This would exclude credit of gross non-active flight instruction time such as described above.</p>



hold an **aerobatic rating**

We think this point is paramount for delivering an appropriate message with respect to aircraft capabilities.

The Agency needs to clarify its intent and make sure that non-UPRT instructors will keep the privilege to teach stalls and high bank turns (e.g. 60° of bank).

When it is understood that UPRT is not Aerobatic Training, it must also be understood that **aggravated unexpected LOC-I will be encountered during UPRT on-aeroplane instruction as well.**

Student-pilots' and instructors' safety could be at stake if additional content **that is NOT provided during the Aerobatic Training course**, is not added to the "UPRT Flight Instructor in an aeroplane course".

See additions to **AMC1 FCL.915(e)-(d)(1)** (p96) and to **AMC1 FCL915(e) Assessment of competence, "SECTION 1 – ORAL"** (p97) and **"SECTION 3 - FLIGHT"** (p98).

response

Partially accepted

Thank you for your comment.

Please refer to Section 2.3.7 of the Opinion.

comment

117

comment by: *European Cockpit Association*

Commented text:

FCL.915

(e)(1)(5) to demonstrate to a Flight Instructor Examiner....

ECA's Comment:

Suggestion: delete "*flight Instructor*"

The UPRT instructor, next to hold an aerobatic rating, may have or not have a Flight Instructor rating.

He/she could also have a TRI rating together with the aerobatic rating.

A Flight Instructor Examiner is not the appropriate Examiner to complete the AoC at all times and would pose a problem and burden to the system.

response

Partially accepted

Thank you for your comment.

Please refer to Section 2.3.7 of the Opinion.

comment

122

comment by: *DGAC France*

Subject : UPRT instructors on aeroplane (comment to be addressed in parallel with comment 123)

Regulatory reference: FCL.915 (e)



Content of comment :

The proposed amendment sets in FCL.915 (e) some additional requirements (including an additional instructor training) for the instructors willing to provide the part “upset recovery training” of the UPRT to be performed on an aeroplane. The implementation of these additional requirements will have as for consequences that the instructors who will not meet these requirements won't be authorized to instruct for the part “upset recovery training”. This proposal will lead to segregation in the population of instructors, with, on one side UPRT instructors, and the ones who are not, on the other side. This segregation could lead to a bad perception by pilot students of their instructors.

That being said, a first analysis shows that the training of a current flight instructor (FI(A) of FCL.930.FI A) and associated AMC1) already includes some elements related to the instruction of the part “upset recovery” of the UPRT training. We can quote in particular the following items of the FI(A) course :

- 10a “Slow flight”,
- 10b “Stalling” (in flight exercise (b) (3)),
- 11a “Spin recovery at the incipient stage” (in flight exercises (b) (3) and (4)),
- 11b “Spin recovery at the developed stage” (in flight exercises (b) (5) and (8)),
- 15 “Advanced turning” (in flight exercises (b) (2) to (5)).

Those exercises seem to already cover some of the elements for which an UPRT instructor has to have an expert knowledge, before providing a training such as defined in FCL.745.A (a) (AMC1 FCL.745.A (a) (1) and AMC1 FCL.745A (a) (2)). This is especially the case for the incipient spin, and the following types of stall : accelerated stall and secondary stall.

We can nevertheless mention that some aspects of UPRT are not covered in the basic training of the FI(A). This is especially the case of the fully developed spin.

Given those elements, we think a sharper analysis should be conducted in order to identify the elements of training that are not currently covered in the FI(A) initial theoretical and practical training.

Once this analysis completed, the content of the FI(A) theoretical and practical training (AMC1 FCL.930.FI A) should be reviewed for, on one side, to align the vocabulary currently employed with the one employed in the UPRT context, and on the other side, to include the elements of UPRT that are not currently addressed in the FI(A) training. The adjustment to be made to the current FI(A) training content could be based on the proposal of additional theoretical and practical training contained in the NPA (see FCL.915 e) (1) (i) and AMC1 FCL.915 e)).

This approach could ensure that all flight instructor for aeroplane (FI(A)) would de facto hold the privilege to instruct for UPRT.

response

Noted

Thank you for your comment.

Please refer to Sections 2.3.5 and 2.3.7 of the Opinion.

The suggested approach will be considered in the context of the activities under RMT.0596 ‘Review of provisions for examiners and instructors (Subparts J & K of Part-FCL)’.



comment	<p data-bbox="359 235 406 280">123</p> <p data-bbox="1149 235 1498 280" style="text-align: right;">comment by: <i>DGAC France</i></p> <p data-bbox="359 291 1436 336">Subject : UPRT instructors on aeroplane (to be addressed in parallel with comment 122)</p> <p data-bbox="359 358 766 403">Regulatory reference: FCL.915 (e)</p> <p data-bbox="359 436 638 481">Content of comment :</p> <p data-bbox="359 481 1498 548">The additional requirements for instructors in FCL.915 e) are generally speaking considered as very heavy, especially for general aviation.</p> <p data-bbox="359 582 1498 761">Firstly the necessity of holding an aerobatic rating can be questioned, given that UPRT instruction is never to be mistaken for aerobatic training (cf. Doc 9868 PANS-TRG Chapter 7, and FCL.915 e) (1) (iii)). However this requirement can be deemed acceptable considering it can ensure a high level of competency on the part of the instructor and thus improve the safety of UPRT training flights.</p> <p data-bbox="359 795 1498 940">Secondly FCL.915 (e) (1) (ii) requires the applicant instructor to demonstrate 500 hours of flight time as a pilot on aeroplanes including 200 hours of flight time instruction (generally speaking). It would be useful to specify (in the regulation or in an AMC) which type of instruction experience can be taken into account.</p> <p data-bbox="359 974 1498 1120">Thirdly, the recency requirement towards maintaining the UPRT instructor privileges for the “upset recovery training” part, that require at least “one upset recovery exercise” within the preceding months, is both imprecise (no clear vision of which exercises can be deemed acceptable) and too restrictive (especially for general aviation).</p>
response	<p data-bbox="359 1164 574 1209">Partially accepted</p> <p data-bbox="359 1232 718 1276">Thank you for your comment.</p> <p data-bbox="359 1288 1021 1332">Please refer to Sections 2.3.1 and 2.3.7 of the Opinion.</p>
comment	<p data-bbox="359 1388 406 1433">124</p> <p data-bbox="1149 1388 1498 1433" style="text-align: right;">comment by: <i>DGAC France</i></p> <p data-bbox="359 1456 798 1500">Subject : CRM and UPRT Instructors</p> <p data-bbox="359 1534 638 1579">Content of comment:</p> <p data-bbox="359 1579 1498 1680">The proposed amendment creates for UPRT instructors’ obligations in terms of knowledge and competencies consistent with the CRM proposal developed in NPA 2014-17 (instruction skills, ability to explain events...).</p> <p data-bbox="359 1713 1498 1859">In order to improve the regulatory proposal on this aspect, we suggest to include, in addition, a compulsory knowledge refresher training on CRM for instructors rating revalidations, in particular for TRI(A)/SFI(A). Without such a provision, the last specific CRM course attended by an instructor will be his/her “CRM captain” course.</p> <p data-bbox="359 1892 1498 2038">To this end we suggest the “refresher seminar” systematically includes a new CRM related item. It is suggested to use the AMC1 FCL.940.TRI/FCL.940.SFI that describes the content of the TRI/SFI “refresher seminar” that has been proposed in NPA 2014-29 (Doc B page 34 and 35/38). An additional CRM item could be added to the current 14 items list.</p>

	<p>In this way the CRM aspect will be systematically covered at each revalidation, either through the instructor assessment of competence (FCL.935), or through the “refresher seminar”.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Your suggestions will be considered in the context of the activities under RMT.0596 ‘Review of provisions for examiners and instructors (Subparts J & K of Part-FCL)’.</p>
comment	<p>125 comment by: DGAC France</p> <p>Subject : UPRT instructors on FSTD</p> <p>Regulatory references: AMC 3 FCL.930.TRI and FCL.900 (b)</p> <p>Content of comment:</p> <p>The regulatory proposal specifies that UPRT instructors on FSTD (TRI(A) and SFI(A)) will not be required to meet any specific prerequisites nor to hold specific privileges to instruct for the UPRT aspects of type rating training (page 16/135 of NPA). The core TRI training course (cf FCL.930.TRI) on FSTD will in itself include the UPRT instruction aspects in compliance with the new AMC3 FCL.930.TRI. Therefore the UPRT aspects of a type rating training can be taught by any TRI(A) or SFI(A).</p> <p>However the regulation proposal does not clearly indicates which instructors holding the privilege to instruct for the issue of a TRI/SFI certificate will be allowed to instruct for the UPRT aspects included in the TRI instructors training on FSTD (cf. FCL.930.TRI and the associated AMC3). Do they simply need to meet the same prerequisites as a standard TRI of TRI/SFI such as currently defined in the regulation (e.g. FCL.905.TRI (b))?</p> <p>Besides we are unclear about the instructors who, during the transition period, can be authorised to provide the further training to UPRT instruction on FSTD (cf. AMC1 Article 2 (1) (b)). This training will be necessary to extend the new system to all the current TRI(A) and SFI(A) who plan to become UPRT instructors on FSTD. At least a provision should be added to FCL.900(b) to allow the competent authority to designate instructors who will be authorised to provide instruction for the UPRT aspects described in AMC1 Article 2 (1) (b). It is suggested to insert a GM in the NPA on this matter. The said GM should refer to the transition provisions described in ICAO Doc 10011.</p> <p>We consider both previous questions need to be clarified in the final regulation proposal.</p>
response	<p>Noted</p> <p>Please refer to Sections 2.3.9 and 2.3.13 of the Opinion.</p> <p>Your comment will also be further considered by the Review Group when finalising the AMC/GM.</p>



comment

129

comment by: DGAC France

Subject : Recovery training UPRT (on an aeroplane) and prerequisites**Regulatory reference:** FCL.720.A (h) and FCL.745.A (a) (3)**Content of comment:**

DGAC France notices that the amendment is not coherent with the explanatory note in page 15/135. In the note it is written that upset recovery training/course in an aeroplane is a prerequisite for the first issue of a single-pilot high performance complex aeroplane type rating in multi-pilot operations (MPO) and the first issue of a multi-pilot aeroplane type rating.

The current drafting of FCL.720.A (h) makes a reference to FCL.720.A (d) that covers all single-pilot high performance complex aeroplanes without specifying the type of operation (SPO or MPO). As drafted the NPA will enforce UPRT recovery training as a pre-requisite for all single-pilot high performance complex aeroplanes.

The NPA needs to be clarified in order to define precisely the aeroplanes for which upset recovery training will have to be completed as a prerequisite before beginning the type rating course.

To this end France supports that upset recovery training shall be completed before beginning the type rating course for any:

- - single pilot high performance complex aeroplanes (both SPO and MPO privileges),
- - multi-pilot aeroplanes.

Moreover for safety consideration and coherence in terms of UPRT, France proposes that upset recovery training should be also be completed as a prerequisite before beginning any:

- - single-pilot aeroplane type rating course (in order to include HPA complex, HPA non-complex and non HPA complex both MPO and SPO)
- - high performance (HPA) class rating aeroplane (in order to include in particular TBM 700-A/B/C1/C2 and TBM 850)

Besides Frances notes that FCL.745.A (a) (3) defines a minimum of 3 hours of upset recovery training on the aeroplane. Considering the content of the UPRT defined in AMC1 FCL.745.A (a) (2), GM1/2/3 FCL.745.A (a) (2), it should be clarified that the 3 hours shall be a minimum of **effective** flight training to cover all the program.

response

Partially accepted

Thank you for your comment.

Please refer to Sections 2.3.7, 2.3.5, and 2.3.10 of the Opinion.

comment

139

comment by: F NAM

The explanatory note indicates that the aim is to enforce the recovery training part of the UPRT training (described in the FCL.745.A requirement) as a prerequisite for the first type rating of single-pilot high-performance complex aeroplanes in multi-pilot operations and multi-pilot aeroplanes. However, the new paragraph FCL.720.A (h) is not consistent with the



declared objective.

Indeed, as written, the paragraph FCL.720.A (h) would impose the recovery training part of the UPRT training as a prerequisite for all single-pilot high-performance complex aeroplane type ratings whatever the operating environment, SPO or MPO (indeed, the FCL.720.A (h) paragraph refers to the paragraph FCL.720.A (c) which is applicable to all high-performance complex aeroplane).

Therefore, the regulatory proposal shall be clarified in order to show more clearly the types of aeroplanes for which the recovery training part of the UPRT training is actually a prerequisite for the first type rating.

For that purpose, it is suggested that the recovery training part of the UPRT training is enforced as a prerequisite for all single-pilot high-performance complex aeroplane type ratings whatever the operating environment, SPO or MPO.

Beyond the high-performance complex aeroplanes, it would be preferable to include as well single-pilot aeroplanes belonging to the following categories :

- Either, a type rating (which includes all high-performance complex aeroplanes in MPO/SPO, non-high-performance complex aeroplanes and non-complex high-performance aeroplanes)
- Or, a class rating if the latter is categorized as “High performance” (HPA).

response

Partially accepted

Thank you for your comment.

Please refer to Sections 2.3.7 and 2.3.10 of the Opinion.

comment

140

comment by: *FNAM*

The length of the training course which is approximately 1 day (5 hours of theoretical knowledge instruction and 3 hours of upset recovery training in an aeroplane qualified for the training task), might be a bit too long and could be reduced to half a day.

response

Noted

Thank you for your comment.

Please refer to Section 2.3.5 of the Opinion.

comment

141

comment by: *FNAM*

Within the paragraph ‘FCL.745.A’ there is a need for clarification regarding the 3 hours of upset recovery training. Indeed, the following question is raised: are we dealing with 3 hours of effective training or 3 hours block to block?

response

Accepted

Thank you for your comment.



Please refer to Section 2.3.5 of the Opinion.

comment 142

comment by: *FNAM*

In the paragraph FCL.915 it is stated that an upset recovery instructor shall “have at least 500 hours of flight time as a pilot on aeroplanes, including 200 hours of flight instruction”. The experience of the instructor should be taken into account and should not be quantified with a minimum number of hours of flight instruction. It is essential that at the end of his training, an instructor is able to begin the training and does not need to wait for the 200 hours of flight instruction.

Besides, one might wonder whether holding an aerobatic rating is relevant since the UPRT training should not be confused with aerobatic training. Indeed, a standard instructor shall keep the privilege to teach stalls during his course.

response Not accepted

Thank you for your comment.

Please refer to Section 2.3.7 of the Opinion.

comment 143

comment by: *FNAM*

The requirement of having conducted within the preceding 3 months, at least one upset recovery exercise in an airplane during an upset recovery training course in order to keep the privilege of UPRT instructor seems too restrictive (in particular for general aviation).

response Accepted

Thank you for your comment.

Please refer to Sections 2.3.1 and 2.3.7 of the Opinion.

comment 186

comment by: *Center Air Pilot Academy*

Regarding *NPA - Loss of control prevention and recovery training*

Deleted text is marked with ~~strike~~ through;

New or amended text is highlighted in grey;

An ellipsis (...) indicates that the remaining text is unchanged in front or following the reflected amendment.

We propose the following 2 changes (with explanatory notes):

Regarding **FCL.915** (p 23, 2nd section)

e)

(..)

(1) ~~(iii) Hold an aerobatic rating.~~

(...)

(3) In order to maintain the upset recovery privileges, the instructor shall have conducted, within the preceding **12 months**, at least one upset recovery exercise in an aeroplane,



either during an upset recovery training course or phase 1 of ATP integrated training course. (...)

The above suggestions regarding recency and AoC are put forth, in part, due to the low amount of Flight Instructor Examiners available, with the requirement of aerobatic rating, further reducing this amount.

*The above suggestion regarding removal of aerobatic rating as a requirement for Upset recovery instructor training course in an aeroplane, is put forth for 2 reasons; 1. The additional cost of having to train the staff of instructors to obtain an aerobatic rating, on top of the UPRT instructor training course will be a significant financial burden to many of the smaller ATO's throughout Europe. 2. If training within the suggested envelope during UPRT training (AMC4 to Appendix 3, p 74), the attitudes required can be attained in non aerobatic approved aeroplanes, whereby the reason for an aerobatic rating to instruct on UPRT training seems a needless requirement. Note: it may be considered advisable to add the requirement for aerobatic rating in **FCL.915 e) (5)**, before being able to instruct on the Upset recovery instructor training course.*

response Partially accepted

Thank you for your comment.

Please refer to Section 2.3.7 of the Opinion.

comment 193 comment by: *Flightdeck Training Consultancy*

Suggestion: Rename FCL.745.A to “upset prevention and recovery training course”. Also replace “upset recovery training course” in 1) and 3) with “upset prevention and recovery training”.

response Accepted

Thank you for your comment.

Please refer to Section 2.3.5 of the Opinion.

comment 194 comment by: *Flightdeck Training Consultancy*

FCL.915 (e)(4)

In case of lapsed UPRT privileges, the instructor would be required to go to a competing ATO for revalidation. Is this practical?

response Noted

Thank you for your comment.

Please refer to Section 2.3.7 of the Opinion.

comment 195 comment by: *Flightdeck Training Consultancy*

FCL.915: Where will the UPRT instruction privilege show up on the certificate? As an endorsement?



response	Noted Thank you for your comment. Please refer to Section 2.3.7 of the Opinion.
comment	196 comment by: <i>International Development of Technology b.v.</i> Why only recovery in this case? Like the previous comment I made, here it indeed refers to a "recovery" course. Again, thinking back, I feel it would have been more consistent to apply UPRT throughout.
response	Accepted Thank you for your comment. Please refer to Sections 2.3.4 and 2.3.5 of the Opinion.
comment	197 comment by: <i>Flightdeck Training Consultancy</i> FCL.915 (e)(3): Revalidation requirements: No other EASA certificate or rating whatsoever has revalidation requirements as strict as these ones. Aerobatics licensing does not have these requirements; so why are they applied to UPRT in this way? Practically, it would be difficult to remain qualified, especially during winter or periods of non-training. Suggest removing "during an upset recovery training course", or changing "3 months" to "one year".
response	Accepted Thank you for your comment. Please refer to Section 2.3.7 of the Opinion.
comment	198 comment by: <i>International Development of Technology b.v.</i> Regarding FCL.745.A Suggest to rename FCL.745.A to "upset prevention and recovery training course". Also replace "upset recovery training course" in 1) and 3) with "upset prevention and recovery training". Rationale: The two are highly integrated, and instructors must develop the competencies to teach both during these specialized courses.
response	Accepted Thank you for your comment. Please refer to Sections 2.3.4 and 2.3.5 of the Opinion.



comment	<p>208 comment by: <i>International Development of Technology b.v.</i></p> <p>FCL.915 e) 3)</p> <p>Revalidation requirements: No other EASA certificate or rating whatsoever has revalidation requirements as strict as these. Aerobatics licensing does not have these requirements; so why are they applied to UPRT in this way? Practically, it would be difficult to remain qualified, especially during winter or periods of non-training. Suggest removing “during an upset recovery training course”, or changing “3 months” to “one year”.</p> <p>In case of lapsed UPRT privileges, the instructor would be required to go to a competing ATO for revalidation. Is this practical?</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p>
comment	<p>211 comment by: <i>International Development of Technology b.v.</i></p> <p>FCL.915 - Where will the UPRT instruction privilege show up on the certificate? As an endorsement? Can this be clarified here?</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p>
comment	<p>229 comment by: <i>AEROFUTUR (ATO FR 0053)</i></p> <p><u>References:</u> NPA's FCL.720.A and NPA's FCL.725.A.</p> <p><u>Aerofutur's comment:</u></p> <p>From our point of view, it would not seem wise:</p> <ul style="list-style-type: none"> - to make the UPRT course a prerequisite for commencement of the first <u>Type Rating only</u>, - to require aircraft specific UPRT to be included in training for <u>Type Ratings of aircraft operated in Multi Pilot only</u>. <p><u>Rational:</u></p> <p>There is a need to highlight the following elements:</p> <ul style="list-style-type: none"> - Accidentology of HPA and HPA-Complex aircraft show a <u>high rate of LOC-I</u> (often flown Single Pilot) ; - An increasing number of HPA turbine aircraft is flown with <u>Class Rated Pilots</u>, - Single Pilots Operations prevail for <u>turbine</u> aircraft in General Aviation. <p>LOC-I accidents rate are high for HPA and SP operations. Indeed, their low fatality figures are only due to these aircraft low seat numbers. This statement alone cannot be a wise</p>



justification, or an acceptable reason for keeping a no-training standard or increasing a high discordance to pilots' competencies.

As a result, introducing UPRT for *Multi-Pilot-Operations-Type-Ratings only* would leave apart an **area of aviation for which UPRT is just essential: HPA Class Ratings**.

Thus, our opinion is that it's of the highest importance for student-pilots to have completed the URT course prior entry to any first **Class Rating of HPA**, regardless of it being complex or not, used in SPO or MPO, as well as any Type Rating as presently stated in the NPA's FCL.720.A.

Aerofutur's suggestions:

To amend the **FCL.720.A** proposal as follow:

(...)

(h) In addition to (c) and (d), an applicant for the first type rating **or class rating of a High-Performance Aeroplane** shall have completed the upset recovery training course in FCL.745.A prior to commencing the rating course.

(...)

To amend the **FCL.725.A** proposal as follow:

(...)

(c) High-performance aeroplanes and aeroplanes requiring a type rating. The training for the **first issue of the aeroplane type rating or class rating** shall include theoretical knowledge and flight instruction in upset prevention and recovery.

response

Partially accepted

Thank you for your comment.

Please refer to Sections 2.3.7 and 2.3.10 of the Opinion.

comment

231

comment by: *AEROFUTUR (ATO FR 0053)*

ICAO Doc 10011 and the present NPA explicitly show how demanding is UPRT. Yet, some parties would like to take the duty to instruct UPRT out of ATOs, to so-called STOs (Small Training Organizations).

It might be necessary to recall that training organizations without a SMS, without an approved training program, without instruction Quality Assurance, without aircraft airworthiness oversight requirements, **would by no means offer a security level matching the demanding activity that UPRT actually is.**

Instructors' and student-pilots' safety would at stake.
The whole UPRT intent and LOC-I issue would be at stake.

Without any commercial intent or ulterior motive, **we here urge the Agency to keep its high-mindedness by maintaining the requirement for UPRT courses to be completed at an ATO (FCL.745.A, FCL.915).**



response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Sections 2.3.7, 2.3.5, and 2.3.7 of the Opinion.</p>
comment	<p>234 comment by: <i>Estonian CAA</i></p> <p>Comment about amendment to FCL.915 (e) (1) (iii): holding of an aerobatic rating by instructors definitely supports overall safety, however considering the requirement to hold an aerobatic rating may put burden to small ATOs and may be unproportional and have negative effect to existence of smaller ATOs.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p>
comment	<p>235 comment by: <i>Estonian CAA</i></p> <p>Comment to amendment of FCL.915 (e) (3) and (4): intended requirement may be difficult to meet by smaller ATOs and their instructors. If there is a small ATO with small number of student pilots, it can be difficult to follow the regulations, as a consequence it can be difficult for the instructors of same ATO to maintain the rating. Requirement about refresher training may be difficult to fulfill as there are not enough competent instructors to give the necessary training.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Sections 2.3.7 and 2.3.6 of the Opinion.</p> <p>Your comment will also be further considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>245 comment by: <i>Royal Aeronautical Society (UK)</i></p> <p>Issue: FCL.745.A</p> <p>Suggestion to rename FCL.745.A to “upset prevention and recovery training course”. Also replace “upset recovery training course” in 1) and 3) with “upset prevention and recovery training”.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Sections 2.3.4, 2.3.7, and 2.3.5 of the Opinion.</p>



comment 270 comment by: *Aviation Performance Solutions*

Pg. 22	FCL.745.A	Unlike the previous reference in comment 1, here the terminology "upset recovery training course" requires training in recovery. If FCL.745.A is renamed "upset prevention and recovery training course" consistent application of the full spectrum of LOC-I mitigation will be consistently communicated, as in items 1) and 3).
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response Accepted
 Thank you for your comment.
 Please refer to Sections 2.3.4, 2.3.7, and 2.3.5 of the Opinion.

comment 272 comment by: *Aviation Performance Solutions*

pg. 23	FCL.915	It is unclear how the UPRT instruction privilege will be documented. Will this be an endorsement or will it be indicated on a certificate?
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response Accepted
 Thank you for your comment.
 Please refer to Section 2.3.7 of the Opinion.

comment 273 comment by: *Aviation Performance Solutions*

pg. 24	Appendix 3' - Under "4". Flight instruction for the issue of a CPL(A) or ATPL(A) shall include upset prevention training'.	Consistent application of terminology demands that this should read "upset prevention and recovery training". Item 4.1(d) of this article requires that the course include upset recovery training in an aeroplane, therefore the overall instruction required is for 'upset prevention and recovery training" not just "upset prevention training".
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response Accepted
 Thank you for your comment.
 Please refer to Sections 2.3.4 and 2.3.7 of the Opinion.

comment 299 comment by: *René Meier, Europe Air Sports*



	<p>Page 21 ANNEX I, proposed amendments to... Comment We think think most of the Agency’s proposals are not appropriate to our operations.</p> <p>Rationale The use of “flight crew” in the two definitions clearly shows that this NPA is directly concerning the “multi-pilot” operations.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>
	<p>300 comment by: <i>René Meier, Europe Air Sports</i></p> <p>Page 22 FCL-725.A Theoretical knowledge and flight instruction for the issue of class and type ratings — aeroplanes Comment All these provisions should only concern MPL and ATPL(A). In the headline, change “aeroplanes” into “MPL and ATPL(A)”.</p> <p>Rationale This would be appropriate to the operations undertaken.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p>
	<p>301 comment by: <i>René Meier, Europe Air Sports</i></p> <p>Page 23 FCL.900 Instructor certificates Comment All these provisions should only concern MPL and ATPL(A). In the proposed text, add “as regards training towards MPL and ATPL(A)”.</p> <p>Rationale This would be appropriate to the operations undertaken.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p>
comment	<p>302 comment by: <i>René Meier, Europe Air Sports</i></p>



	<p>Page 23 FCL.915 General prerequisites and requirements for instructors Comment on FCL.915 (e) All these provisions should only concern MPL and ATPL(A). In the proposed text, change “aeroplane “ into “as regards training towards MPL and ATPL(A)”.</p> <p>Rationale To correctly reflect the situation.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p>

comment 359 comment by: SNPL FRANCE ALPA

Commented text:

FCL.720.A Experience requirements and prerequisites for the issue of class or type ratings – aeroplanes.

(h)

In addition to (c) and (d), an applicant for the first type rating shall have completed the upset recovery training course in FCL.745.A prior to commencing the type rating course.’

SNPL's Comments:

Suggestion to amend as follow:

(h)

In addition to (c) and (d), an applicant for the first **type rating or class rating of High-performance Aeroplane** shall have completed the upset recovery training course in FCL.745.A prior to commencing **the rating course**

Reasoning:

While we do support URT to be a prerequisite before commencing any first Type Rating, including HPCA used in SP operations, we are not in favour of UPRT to be restricted to MP operations or Complex HPA.

This gap will create unacceptable discrepancies to training standards. **The PC-12 and TBM types offer very explicit examples:**

PC-12: Require a Type rating. Thus an applicant will need:

UPRT course completed before commencing his/her TR,
And additional type specific UPRT during the TR,

TBM-850: Require a Class Rating “SET” thus is not covered by the NPA.

an applicant will need NO UPRT training, not before or even during the CR.

Aviation safety would obviously benefit of the following requirements:

To have completed the URT course prior entry to **any Class Rating of HPA**, regardless of it



being used in SPO or MPO.

To have completed the URT course prior entry to **any Type Rating**, regardless of it being used in SP or MP operations.

response Partially accepted

Thank you for your comment.

Please refer to Sections 2.3.7, 2.3.10, and 2.3.11 of the Opinion.

comment 360

comment by: SNPL FRANCE ALPA

Commented text:

FCL.725.A Theoretical knowledge and flight instruction for the issue of class or type ratings – aeroplanes

(c) Single-pilot high-performance complex aeroplanes used in multi-pilot operations and multi-pilot aeroplanes type ratings. The training course for the first issue of the ~~multi-pilot~~ aeroplane type rating shall include theoretical knowledge and flight instruction in upset prevention and recovery.'

SNPL's Comments:

Suggestion to amend as following:

(c) High-performance aeroplanes and multi-pilot aeroplanes type ratings. The training course for the first issue of the aeroplane type rating shall include theoretical knowledge and flight instruction in upset prevention and recovery.'

Reasoning:

While we do support URT to be a prerequisite before commencing any first Type Rating, including HPCA used in SP operations, we are not in favour of UPRT to be restricted to MP operations or Complex HPA.

This gap will create unacceptable discrepancies to training standards. **The PC-12 and TBM types offer very explicit examples:**

PC-12: Require a Type rating. Thus an applicant will need:
UPRT course completed before commencing his/her TR,
And additional type specific UPRT during the TR,

TBM-850: Require a Class Rating "SET" thus is not covered by the NPA.
an applicant will need NO UPRT training, not before or even during the CR.

Aviation safety would obviously benefit of the follow requirements:

To have completed the URT course prior entry to **any Class Rating of HPA**, regardless of it being used in SPO or MPO.

To have completed the URT course prior entry to **any Type Rating**, regardless of it being used



response	<p>in SP or MP operations.</p> <p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Sections 2.3.7, 2.3.10, and 2.3.11 of the Opinion.</p>
comment	<p>361 comment by: SNPL FRANCE ALPA</p> <p>Commented text: FCL.915 General prerequisites and requirements for instructors (e) Upset recovery instructor training course in an aeroplane. (1) In addition to (b), in the case of flight instruction privileges for the upset recovery training course in FCL.745.A, the instructor shall: have completed an upset recovery instructor training course at an ATO; (ii) have at least 500 hours of flight time as a pilot on aeroplanes, including 200 hours of flight instruction; and hold an aerobatic rating.</p> <p>SNPL's Comments: Amend FCL.915 (e)(1)(ii) as following: <i>(ii) have at least 500 hours of flight time as a pilot on aeroplanes, including 200 hours of flight instruction as a FI or CRI</i></p> <p>Reasoning: (ii) 200 hours of flight instruction;</p> <p>The NPA proposes that “any instructor [...] should be able to extend their privileges” (p12) to instruct UPRT, which is positive.</p> <p>But the prerequisites do not discriminate any kind of flight instruction time from the prerequisite. For a TRI this could also be line-instruction time.</p> <p>It should be evidence that cruise time with Autopilot, or crew-rest time do not have the same value as flight time experience as an FI or a CRI.</p> <p>Despite in-aeroplane UPRT instructors would typically be FIs and CRIs (very few TRIs concerned), it seems necessary to complement the prerequisite by specifying that instruction time as a CRI or FI only is adequate.</p> <p>This would exclude credit of gross non-active flight instruction time such as described above.</p> <p>hold an aerobatic rating We think this point is paramount for delivering an appropriate message with respect to aircraft capabilities.</p> <p>The Agency needs to clarify its intent and make sure that non-UPRT instructors will keep the privilege to teach stalls and high bank turns (e.g. 60° of bank).</p>



When it is understood that UPRT is not Aerobatic Training, it must also be understood that **aggravated unexpected LOC-I will be encountered during UPRT on-aeroplane instruction as well.**

Student-pilots' and instructors' safety could be at stake if additional content **that is NOT provided during the Aerobatic Training course**, is not added to the "UPRT Flight Instructor in an aeroplane course".

See additions to **AMC1 FCL.915(e)-(d)(1)** (p96) and to **AMC1 FCL915(e) Assessment of competence, "SECTION 1 – ORAL"** (p97) and **"SECTION 3 - FLIGHT"** (p98)

response

Partially accepted

Thank you for your comment.

Please refer to Section 2.3.7 of the Opinion.

comment

362

comment by: *SNPL FRANCE ALPA***Commented text:****FCL.915**(e)(1)(5) to demonstrate to a Flight Instructor Examiner....**SNPL's Comment:**Suggestion: delete "flight Instructor"

The UPRT instructor, next to hold an aerobatic rating, may have or not have a Flight Instructor rating.

He/she could also have a TRI rating together with the aerobatic rating.

A Flight Instructor Examiner is not the appropriate Examiner to complete the AoC at all times and would pose a problem and burden to the system.

response

Not accepted

Thank you for your comment.

Please refer to Section 2.3.7 of the Opinion.

comment

370

comment by: *AEA*

In order to avoid duplicate prevention and recovery training on each type for pilots and instructors (e.g. A330/A340) a flexibility for Mixed Fleet Flying (MFF) should be introduced related to FCL.710 Class and type ratings - variants and to ORO.FC.240 Operation on more than one type or variants including AMC/GM.

response

Noted

Thank you for your comment.

Please refer to Section 2.3.11 of the Opinion.



comment	<p>374 comment by: <i>FlightSafety International</i></p> <p>Per page 20, Article 3 of the NPA, the entry into force date is 8 Apr 2018. Page 22 of the NPA shows an added paragraph (c) to FCL.725.A that says: "(c) Single-pilot high-performance complex aeroplanes used in multi-pilot operations and multi-pilot aeroplanes type ratings. The training course for the first issue of the multi-pilot aeroplane type rating shall include theoretical knowledge and flight instruction in upset prevention and recovery."</p> <p>However, there is already a paragraph (c) of FCL.725.A that was added by Commission Regulation 445/2015 in Mar 2015. This paragraph states: "(c) Multi-pilot aeroplanes. The training course for the issue of the multi-pilot aeroplane type rating shall include theoretical knowledge and flight instruction in upset prevention and recovery."</p> <p>Is this already required for MPA type rating courses, or does it take effect on 8 Apr 2018?</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Sections 2.3.3 and 2.3.13 of the Opinion.</p>
comment	<p>375 comment by: <i>FlightSafety International</i></p> <p>Pg 23, FCL.915 General prerequisites and requirements for instructors:</p> <p>Please clarify if the requirements in the new FCL.915 (e) (1)(i) for having completed an upset recovery instructor training course at an ATO, only applies to instructors who will be conducting such training in an aeroplane and not required for FSTD only instructors. For an SFI that does not have a medical, he/she would not be able to comply with the requirement.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.9 of the Opinion.</p>
comment	<p>403 comment by: <i>Finnish Transport Safety Agency</i></p> <p>FCL.720.A</p> <p>The applicant should be credited if he/she has already completed the upset recovery training during his/her earlier training. This might be also for example integrated ATPL course, not only FCL.745.A training course.</p> <p>Proposed text: <i>(h) In addition to (c) and (d), an applicant for the first type rating shall hold a certificate of course completion for upset recovery training in an aeroplane have completed the upset recovery training course in FCL.745.A prior to commencing the type rating course.</i></p>



response Partially accepted
Thank you for your comment.
Please refer to Section 2.3.7 of the Opinion.

comment 405 comment by: Finnish Transport Safety Agency
FCL.915 point (e)(1)
It is unclear whether the instructors giving upset recovery training during ATPL, MPL or CPL courses need to have this additional training as the text refers only to training course in FCL.745.A and not to other upset recovery training. Please clarify the intention of the rule.
The requirement for an instructor to hold an aerobatic rating in (e)(1)(iii) should be reconsidered. The instructor's competency and ability to instruct on upset recovery course should be confirmed via the training course and assessment of competence.

response Partially accepted
Thank you for your comment.
Please refer to Sections 2.3.5 and 2.3.7 of the Opinion.

comment 408 comment by: Finnish Transport Safety Agency
FCL.915 point (e)(3) and (4)
The recency period of 3 months should be deleted. The ATO should define via its SMS system what is the refresher training needed for the instructors
Proposed text
~~(3) In order to maintain the upset recovery privileges, the instructor shall have conducted, within the preceding 3 months, at least one upset recovery exercise in an aeroplane during an upset recovery training course.~~
~~(4) If the instructor has not fulfilled the requirement in (e)(3), before exercising the privilege to conduct flight instruction for the upset recovery course, he/she shall receive theoretical and practical refresher training as defined in the management system of the ATO responsible for the training course at an ATO to reach the required level of competence.~~

response Partially accepted
Thank you for your comment.
Please refer to Section 2.3.7 of the Opinion.

3. Proposed amendments - 3.1. Draft Regulation (Draft EASA Opinion) - ANNEX I 'Proposed amendments to Annex I to Commission Regulation (EU) No 1178/2011' - Appendix 1 'Crediting of theoretical knowledge'

p. 24



comment 132 comment by: DGAC France

Subject : Theoretical credit for "Communications"

Content of comment :

DGAC France believes that some credit provisions are missing in the amended Appendix 1.

Due to merging VFR and IFR Theoretical subject "Communications" the following situation shall be added in appendix 1:

- An applicant for IR(A) theory having passed the relevant examination for CPL(A) theory is credited towards theoretical knowledge requirement in subject "Communications"
- An applicant for a CPL(A) theory having passed the relevant examination for IR(A) theory is credited towards theoretical knowledge requirement in subject "Communications"

response Accepted

Thank you for your comment.

The proposal is reflected in the revised Part-FCL Appendix 1 (new point 2.4 and revised point 4.1).

comment 144 comment by: F NAM

One consistency issue that is not addressed within this NPA is the MFF (Mixed Fleet Flying). Indeed, the proposed amendment does not give any flexibility (no flexibility in part OPS also) for operators performing MFF.

This issue is important because operator may have to duplicate prevention and recovery training on each type for pilots and instructors (eg A330/A340).

The consequences are an increase of training costs without safety enhancement.

The Agency should produce flexibility concerning ORO.FC.240 Operation on more than one type or variants and related AMC/GM.

This flexibility should be published in a very short term because Part OPS requirements are applicable on the 04 of May 2016.

response Noted

Thank you for your comment.

Please refer to Section 2.3.11 of the Opinion.

3. Proposed amendments - 3.1. Draft Regulation (Draft EASA Opinion) - ANNEX I 'Proposed amendments to Annex I to Commission Regulation (EU) No 1178/2011' - Appendix 3 'Training courses for the issue of a CPL and an ATPL' p. 24-25

comment 110 comment by: European Cockpit Association

Commented text:



Appendix 3**A.ATP integrated course - Aeroplanes**

5. An applicant **failing or being unable to complete the entire ATP(A) course may apply** to the competent authority for the theoretical knowledge examination and skill test **for a licence with lower privileges and an IR if the applicable requirements are met.**

ECA's Comments:**Amend the text:**

Restrict pilots who failed in the UPRT fields of an ATP course to:

a PPL, restricted to SEP or MEP (thus excluding SET, MET, and all aircraft requiring a TR),

(2) (or) a CPL excluding entry to any TR, and any CR of HPA.

Reasoning:

We believe that simply allowing a pilot who failed the UPRT training of an ATP course (CPL-IR-MCC) to be **granted a lower level license** will open **huge gaps in pilots' proficiency**. From our point of view the safety impact to the operations of those turbine aircraft mentioned above is unacceptable.

Would it be leisure, corporate, or commercial flying activities this NPA proposal opens more than a breach in flight safety **by leading UPRT incompetent pilots to those specific airplanes.**

response

Partially accepted

Thank you for your comment.

Please refer to Section 2.3.5 of the Opinion. The UPRT course in accordance with the new FCL.745.A will be a prerequisite for certain class and type ratings in any case.

comment

121 ❖

comment by: DGAC France

Subject : Readability of the new UPRT provisions**Content of comment :**

The regulatory proposal of this NPA lacks of readability and gives an impression of complexity. This particularly comes from the fact that the elements of training introduced in matter of UPRT (prevention and recovery) are spread through different parts of the text, sometimes in a too prescriptive way.

For instance the appendice 3 (and related AMCs), describing professional licences training courses (integrated ATP, integrated CPL(A)/IR, integrated CPL(A), modular CPL(A)), is amended in a very detailed manner to include UPRT elements at every stage of the training. We admit these elements could be of a precious help for ATOs wishing to get detailed elements for the implementation of UPRT throughout their training programme.

Nevertheless, we think it would be efficient to leave to the ATOs wishing to do so, more flexibility as for the timing of UPRT elements in their training courses. Indeed, ATOs are actually best placed to know, depending on each student's profile, how and when to



program the UPRT instruction, in an efficient and adapted manner, during the training provided

For that purpose, the appendice 3 could simply provide for ATOs the obligation to integrate the UPRT elements in their training without being prescriptive as for the timing.

response

Not accepted

Thank you for your comment.

Please refer to Sections 2.3.4 and 2.3.7 of the Opinion.

comment

145

comment by: *FNAM*

It is suggested to allow more flexibility for ATOs which are the best suited to determine the best timing to insert these UPRT items in the most efficient and adapted way for the candidate. This appendix should only make reference to the obligation of implementing UPRT elements without being prescriptive regarding the position of these elements within the training. The ATO is the one the best suited to teach UPRT according to the candidate's profile. However, such a program could be helpful for the ATO that does not have implemented an UPRT training yet.

Therefore, a mandatory program should not be given for the ATO but should be included in the form of a guide.

response

Not accepted

Thank you for your comment.

Please refer to Section 2.3.7 of the Opinion.

comment

199

comment by: *International Development of Technology b.v.*

Appendix 3' - Under "4". Flight instruction for the issue of a CPL(A) or ATPL(A) shall include upset prevention training':

I believe that 'flight training' also includes the use of simulators.

Hence, in this section, why is *recovery* training not included? Item 4.1 of the same article does specify recovery training in an airplane.

response

Accepted

Thank you for your comment.

Please refer to Sections 2.3.4 and 2.3.7 of the Opinion.

comment

200

comment by: *International Development of Technology b.v.*

4.1 (d) upset recovery training in an aeroplane



response	<p>Here, we do talk about recovery training in an ATP integrated course. Concerned about consistency of training, whereas (see previous comment on 'Appendix 3'), we only mention upset prevention training under CPL(A) or ATPL(A).</p> <p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Sections 2.3.4 and 2.3.7 of the Opinion.</p>
comment	<p>202 comment by: <i>Flightdeck Training Consultancy</i></p> <p>Appendix 3, training courses.....</p> <p>4.upset prevention and recovery training.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Sections 2.3.4 and 2.3.7 of the Opinion.</p>
comment	<p>230 comment by: <i>AEROFUTUR (ATO FR 0053)</i></p> <p>'Appendix 3' ATP integrated course - Aeroplanes, GENERAL, 5.1:</p> <p>Yet lightly modified, this section of the NPA might open a window for bad practices that raise our concerns.</p> <p>Let's consider what happened in France with the FCL.055 examinations where LPOs (FCL.055) showed how training can go astray, in today's market-competition:</p> <ul style="list-style-type: none"> • Some candidates having difficulties to reach a level 4 elected to enter for as many exam sessions as they could. Within a few trials they knew many of the exam questions. Their CAA had to trace candidates' exams history in order to make sure they could not be tested twice with the exact same questions. • Today, candidates having difficulties just slip away to other countries where they're likely to find less particular, less carefull, LPOs. <p>Talking about UPRT, candidates might first be headed to low bidder ATOs. But when facing difficulties candidates will go chose an ATO with a high-pass-rate reputation. CBT is well-intentioned. But subjective appreciation of UPRT competencies and the kind of "partial-pass" introduced here in the NPA, leading to lower-level licenses, must be very carefully considered. Member States, NAA Inspectors and their oversight is paramount.</p> <p><u>Aerofutur's suggestion:</u></p> <p>In such a case of "<i>an applicant failing or being unable to complete the entire ATP(A)</i>" for <u>UPRT non-competency reasons</u>, we suggest the following measures be taken:</p>



1. The CAA pursuing the ATO's oversight should make a record of this initial failure to achieve UPRT competency;
2. If this candidate, later on, enters again a training for a licence with higher privileges (CPL if PPL was granted) or for any first supplemental class rating :
 - as a prerequisite, the candidate should take a UPRT course in an ATO,
 - this ATO should be approved by this specific CAA which recorded the initial UPRT non-competency,
 - the license or supplemental class rating skill test should be conducted by an NAA inspector of this specific CAA which recorded the initial UPRT non-competency.

response Not accepted

Thank you for your comment.

Please refer to Section 2.3.7 of the Opinion.

comment 246 comment by: Royal Aeronautical Society (UK)

Issue: Appendix 3 - Under '4'. Flight instruction for the issue of a CPL(A) or ATPL(A) shall include prevention training

Why does this not include recovery training? Item 4.1 of the same article specifies recovery training in an airplane.
Note that 'flight training' also includes simulators.

response Accepted

Thank you for your comment.

Please refer to Sections 2.3.4 and 2.3.7 of the Opinion.

comment 247 comment by: Royal Aeronautical Society (UK)

Issue: 4.1 (d) upset recovery training in an aeroplane

Here, we do talk about recovery training in an ATP integrated course. Concerned about consistency of training.

response Accepted

Thank you for your comment.

Please refer to Sections 2.3.4 and 2.3.7 of the Opinion.

comment 363 comment by: SNPL FRANCE ALPA

Appendix 3



A.ATP integrated course - Aeroplanes

5. An applicant **failing or being unable to complete the entire ATP(A) course may apply to the competent authority for the theoretical knowledge examination and skill test for a licence with lower privileges and an IR if the applicable requirements are met.**

SNPL's Comments:**Amend the text:**

Restrict pilots who failed in the UPRT fields of an ATP course to:

((1) a PPL, restricted to SEP or MEP (thus excluding SET, MET, and all aircraft requiring a TR),

((2) *(or) a CPL excluding entry to any TR, and any CR of HPA.*

Reasoning:

We believe that simply allowing a pilot who failed the UPRT training of an ATP course (CPL-IR-MCC) to be **granted a lower level license** will open **huge gaps in pilots' proficiency**.

From our point of view the safety impact to the operations of those turbine aircraft mentioned above is unacceptable.

Would it be leisure, corporate, or commercial flying activities this NPA proposal opens more than a breach in flight safety **by leading UPRT incompetent pilots to those specific airplanes.**

response

Not accepted

Thank you for your comment.

Please refer to Section 2.3.7 of the Opinion.

3. Proposed amendments - 3.1. Draft Regulation (Draft EASA Opinion) - ANNEX I 'Proposed amendments to Annex I to Commission Regulation (EU) No 1178/2011' - Appendix 9 'Training, skill test and proficiency checks for MPL, ATPL, type and class ratings, and proficiency checks for IR'

p. 26-38

comment

66

comment by: UK CAA

Page No: 33**Paragraph No:** Appendix 9, items 3.7 and 3.71

Comment: The constraint on using only FFS is considered overly restrictive. Some aircraft types are perfectly capable of undertaking these items safely e.g. the C510 Mustang. Also, there are still some "in aircraft" type rating courses available where these exercises must be completed in the aircraft otherwise they will not be covered at all.

Justification: These items should be available to the instructor/ examiner in the aeroplane following the risk assessment and guidance in the ATO operations and training manuals, and as specified in the OEM.

response

Not accepted



Thank you for your comment.
Please refer to Section 2.3.10 of the Opinion.

comment

71 comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Appendix 9 Training, skill test and proficiency checks for MPL, ATPL, type and class ratings, and proficiency checks for IRs, Ref page 34

Relevant Text: 3.98.3.4*

Manually, with one engine simulated inoperative; engine failure has to be simulated during final approach before passing the Outer Marker (OM) until touchdown or through the complete missed approach procedure

Proposed action:

3.98.3.4*

Manually, with one engine simulated inoperative; engine failure has to be simulated during final approach before passing the Outer Marker (OM), or equivalent point, until touchdown or through the complete missed approach procedure

Rationale:

Not every airport has an outer marker

response

Accepted

Thank you for your comment.

For consistency reasons, also the newly introduced exercise of an engine failure after passing 4NM from touchdown is now included in the latest resulting text. Please refer to Section 2.3.14 of the Opinion.

comment

78

comment by: AIRBUS

Regarding paragraph 3.1.1 At different speeds (including slow flight) and altitudes ~~within the normal/full flight envelope~~

“Within flight envelope” should be kept in the definition of the exercise.

The question is: does EASA wish to allow a pilot to fly and be trained by an ATO outside the flight envelope of the simulator or the aircraft?

EASA should clarify its position regarding the Full Flight Simulator envelope

response

Noted

Thank you for your comment.

Please refer to Sections 2.3.8 and 2.3.14 of the Opinion.

comment

79

comment by: AIRBUS

Regarding the paragraph 3.7 page 33, "Recovery from stall events":



response	<p>The previous exercises defined in 3.7 were more realistic than the new ones. Especially the previous exercises requested to highlight the early recognition and counter measures on approaching stall.</p> <p>"Recovery from stall events": EASA should clarify the definition of "stall event" mentioned in GM3 FCL.010 p47 of the NPA. where both notions are applicable: approach to stall and stall.</p> <p>Does EASA position is that if at least one of the two notions is fulfilled, the pedagogical objectives are reached? Otherwise, If "stall events" refers to both approach to stall and full stall, according to FFS actual capabilities, item 3.7 pedagogical objectives cannot be reached.</p> <p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.8 of the Opinion.</p>
comment	<p>80 comment by: AIRBUS</p> <p>Regarding paragraph 3.7.1 page 33</p> <p>EASA should define a precise envelope for those exercises, or follow the OEM recommendations.</p> <p>What are the nose high/low limits and what are the associated maximum acceptable bank angles to reach pedagogical objectives?</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Sections 2.3.8 and 2.3.14 of the Opinion.</p>
comment	<p>87 comment by: Dassault-Aviation</p> <p>Dassault-Aviation comment page 29</p> <p>Text: Appendix 9 3.1.2 Steep turns using 45° bank, 180° to 360° left and right</p> <p>Comment: If available (some aircraft are bank limited), applicants should take great benefits in experiencing turns with more than 45° of bank, <u>for upset recovery training purposes</u>. Turns >45° are inside the upset domain, but we think absolutely fundamental to practice such exercises to be more able to recover from an upset or to react faster and more naturally when facing nose-high upset, emergency descent, trim runaway, etc.</p> <p>Proposal: "Item 3.1.2: Steep turns using 45° bank then 60° if available (aircraft without FCS bank limitation), 180° to 360° left and right"</p>



response Not accepted

Thank you for your comment.

Please refer to Section 2.3.8 of the Opinion.

comment 128 comment by: DGAC France

Subject : Feasibility of stall recovery exercises in current FFS

Regulatory reference: Appendix 9 section 3.7

Content of comment:

The NPA amends appendix 9 by introducing a new section 3.7 “recovery from stall events” to be conducted on FFS for multipilot and single-pilot HPA complex aeroplanes. The definition of “stall event” introduced by GM3 FCL.010 covers both approach-to-stall and stall. It should be noted that the common FFS used today (Level C or level D) cannot reproduce stall recovery and can only be used for approach-to-stall.

DGAC France supports to change of appendix 9 in accordance with UPRT introduced in the NPA. Nevertheless, generally speaking, DGAC France believes that introduction of any exercise in appendix 9 should be done having in mind the capabilities of current FFS. The NPA shall avoid introduction of exercises for which no or very few FFS exist. The regulatory proposal shall remain pragmatic and assess the impact on training organisations and operators.

The same kind of problematic was encountered with regulatory provisions for HPA complex aeroplanes. DGAC France notified an AltMoC to recommend the use of FTD 2 + FNPT II simulators (in place of FFS) to perform some of the exercises contained in appendix 9.

response Noted

Thank you for your comment.

Please refer to Sections 2.3.8 and 2.3.10 of the Opinion.

comment 130 comment by: DGAC France

Subject : UPRT and Operation on more than one type or variant

Regulatory reference: Appendix 9

Content of comment:

DGAC France is concerned about the impact of this regulation for operators employing pilots qualified on more than one type of aeroplane (ORO.FC.240). The NPA imposes that the student pilot should be trained for each type rating on UPRT elements described in Appendix 9 and AMC3 Appendix 9. This has a direct impact on training costs without any substantial benefits in terms of safety.



DGAC France considers essential to add some provisions in this NPA to allow operators using different type of aeroplanes to optimize training of their flight crew. DGAC suggests to introduce an AMC to define a classification of UPRT exercises in two categories:

- - Generic: exercises could be performed only one time (it does not depend on the aircraft type)
- - Specific: exercises should be performed for each type rating because it depends on the aircraft type.

DGAC France suggests that the same approach could be adopted for training of TRI(A) providing instruction on different type of aeroplanes.

This flexibility could also be validly introduced in ORO.FC.240 of the regulation (EU) n°965/2012.

response

Noted

Thank you for your comment.

Please refer to Section 2.3.11 of the Opinion.

comment

146

comment by: *FNAM*

The regulatory proposal modifies the Appendix 9 in order to add complementary exercises to cover UPRT aspects in the training programs and practical exam for multi-pilot and single pilot complex HPA. In the paragraph 3.7, exercises entitled “Recovery from stall events” are added and shall be realised on FFS.

However, some HPA complex do not have EASA certified FFS and for others, the FFS currently on the market (level C or D) are not able to mimic the recovery from stall exercises in question. (The definition of the “stall event” includes both the approach-to-stall and the stall itself).

The same type of problematic has been encountered with the implementation of the European Regulation 1178 / 2011 which provides the use of FFS in the HPA complex Type ratings training context. This led the DSAC to apply for an AltMoC advocating the use of an FTD 2 + FNPT II simulator (in the absence of FFS) to realize those type of exercises. The EASA is strongly encouraged not to reproduce this type of situation through a modification of the regulation.

In the absence of a mere FFS, or of a FFS allowing to simulate this type of manoeuver, alternative means on another FTD or on the aeroplane shall be considered.

response

Noted

Thank you for your comment.

Please refer to Sections 2.3.8 and 2.3.10 of the Opinion.

comment

147

comment by: *FNAM*

If available (some aircraft are bank limited), applicants should take great benefits in experiencing turns with more than 45° of bank, for upset recovery training purposes. Turns



	<p>>45° are inside the upset domain, but we think absolutely fundamental to practice such exercises to be more able to recover from an upset or to react faster and more naturally when facing nose-high upset, emergency descent, trim runaway, etc.</p> <p>Proposal: "Item 3.1.2: Steep turns using 45°bank then 60° if available (aircraft without FCS bank limitation), 180° to 360° left and right"</p>
response	<p>Not accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.8 of the Opinion.</p>
comment	<p>201 comment by: <i>International Development of Technology b.v.</i></p> <p>"Manual Flight" definition:</p> <p>EASA should define 'Manual Flight' (e.g. "A/P & A/T OFF") in FCL.010 'Definitions' instead of only at item 3.1 in this FTS. Consistency would be very helpful, and would simplify such a table.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>The 'manual flight' definition will be considered for inclusion in GM to FCL.010 by the Review Group when finalising the AMC/GM. Please refer to Section 2.3.14 of the Opinion.</p>
comment	<p>209 comment by: <i>Flightdeck Training Consultancy</i></p> <p>Flight Test Schedule, section 3, item 3.1:</p> <p>EASA should define 'Manual Flight' (e.g. "A/P & A/T OFF") in FCL.010 'Definitions', or in the general text of Appendix 9, instead of only here at item 3.1 in this FTS. It is also valid for other items in this FTS and other FTS's as well.</p> <p>During profchecks and exams it is very important that the candidate shows control of the flightpath AND the energy level of the aircraft/airplane.</p> <p>It would also simplify the FTS.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>The 'manual flight' definition is added to GM3 to FCL.010.</p>
comment	<p>212 comment by: <i>International Development of Technology b.v.</i></p> <p>Manual Flight definition:</p> <p>EASA could instead simply define 'Manual Flight' (e.g. "A/P & A/T OFF") in FCL.010 'Definitions' instead of only at item 3.1 in this FTS. Consistency would be very helpful, and would simplify such a table.</p>



response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>The 'manual flight' definition is added to GM3 to FCL.010.</p>
comment	<p>248 comment by: <i>Royal Aeronautical Society (UK)</i></p> <p>Issue: Manual Flight definition</p> <p>EASA should define 'Manual Flight' (e.g. "A/P & A/T OFF") in FCL.010 'Definitions' instead of only at item 3.1 in this FTS. Consistency would be very helpful, and would simplify such a table.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>The 'manual flight' definition is added to GM3 to FCL.010.</p> <p>Your comment will also be further considered by the Review group when finalising the AMC/GM.</p>
comment	<p>346 comment by: <i>ATR</i></p> <p>Regarding paragraph 3.1.1 At different speeds (including slow flight) and altitudes within the normal/full flight envelope</p> <p>"Within flight envelope" should be kept in the definition of the exercise. The question is: does EASA wish to allow a pilot to fly and be trained by an ATO outside the flight envelope of the simulator or the aircraft? EASA should clarify its position regarding the Full Flight Simulator envelope</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Sections 2.3.8 and 2.3.14 of the Opinion.</p>
comment	<p>347 comment by: <i>ATR</i></p> <p>Regarding the paragraph 3.7 page 33, "Recovery from stall events":</p> <p>The previous exercises defined in 3.7 were more realistic than the new ones. Especially the previous exercises requested to highlight the early recognition and counter measures on approaching stall.</p> <p>"Recovery from stall events": EASA should clarify the definition of "stall event" mentioned in GM3 FCL.010 p47 of the NPA. where both notions are applicable: approach to stall and stall.</p> <p>Does EASA position is that if at least one of the two notions is fulfilled, the pedagogical</p>



objectives are reached? Otherwise, If "stall events" refers to both approach to stall and full stall, according to FFS actual capabilities, item 3.7 pedagogical objectives cannot be reached.

In addition EASA should provide: Realistic training scenarii that contain take-off and approach stall situations. It is common to see exercises performed at 5000ft or above, and different configuration exercises are link together. To reach pedagogical objectives, it should be recommended that exercises should be realized in a realistic situation:

- At take-off, the aircraft should be in take-off configuration and the exercise should be initiated after liftoff.
- During approach, the aircraft should be in approach and/or landing configuration, established on a well-defined position (e.g. 1000ft AGL, 200ft AGL, 50ftAGL...)

response

Partially accepted
Thank you for your comment.
Please refer to Section 2.3.8 of the Opinion.

comment

348 comment by: ATR
Regarding Item 3.7.1 page 33:

EASA should define a precise envelope for those exercises, what are the nose high/low limits and what are the associated maximum acceptable bank angles to reach pedagogical objectives? or to mention to follow the manufacturers recommendations.

e.g. Controlling an aircraft with a 60° roll is different from controlling an aircraft reaching 90° roll.
Does EASA refers to the flight parameters mentioned in the "Aeroplane upset" definition mentioned in GM3 FCL.010 p47 of the NPA?

response

Not accepted
Thank you for your comment.
Please refer to Section 2.3.8 of the Opinion.

comment

406 comment by: CAE
Page 29

Section 3 of Appendix 9

Competency at the test and check should be demonstrated in all flight control laws - normal, abnormal, direct. We suggest the deletion of 'possible' and insert 'applicable' instead.

response

Accepted



Thank you for your comment.
Please refer to Section 2.3.8 of the Opinion.

3. Proposed amendments - 3.1. Draft Regulation (Draft EASA Opinion) - ANNEX III 'Proposed amendments to Annex VI to Commission Regulation (EU) No 1178/2011'

p. 40

comment	378	comment by: <i>AOPA Finland</i>
	(b) In the case of the ATPL, MPL, commercial pilot licence (CPL), and instrument ratings, those procedures shall comply with all of the following:	
response	Not accepted Thank you for your comment. The Agency, in consultation with the Review Group, decided to retain the original proposal, as there is no reason why examinations for CPL and IR should be treated differently from other commercial licences.	

3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - AMC1 Article 2(1)(b)

p. 41

comment	70	comment by: <i>Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</i>
	AMC1 Article 2(1)(b), Ref page 41 <i>Proposed action:</i> Spell the word correctly: ADDITIONAL <i>Rationale:</i> ADDITIONNAL	
response	Accepted Thank you for your comment.	
comment	81	comment by: <i>AIRBUS</i>
	Regarding Paragraph 3.2 Airbus concurs with the objectives but EASA should clarify how the objectives can be achieved.	
response	Noted Thank you for your comment.	



comment	<p data-bbox="360 241 395 271">88</p> <p data-bbox="1094 241 1477 271" style="text-align: right;">comment by: <i>Dassault-Aviation</i></p> <p data-bbox="360 300 794 329">Dassault-Aviation comment page 41</p> <p data-bbox="360 369 523 398">AMC1 2(1)(b)</p> <p data-bbox="360 443 488 472">Comment:</p> <p data-bbox="360 479 1485 616">The additional training actions described in this AMC deal with knowledge, understanding and pedagogy. They are not dictated by requirements with regards to UPRT practical experience. We have to keep in mind that instructors represent a mean for improving or optimizing UPRT training:</p> <ul data-bbox="360 622 1485 972" style="list-style-type: none"> - From a pedagogic point of view, UPRT instructors shall not be considered less qualified by applicants than the regular flight or FSTD instructors - Moreover, they should have an advanced in-flight experience with regards to UPRT so as to mitigate the risk of negative training. During briefings or debriefings they should speak about g's effect, physiological and psychological consequences only perceived in-flight. Only a couple of dedicated flights performed when training ATPL does not seem to be sufficient enough to master upset prevention and recovery techniques. - Finally, instructors should be able to share their own experiences during flight preparation, briefing or debriefing. Appropriate experience must not solely be based on simulated flight. <p data-bbox="360 978 1238 1008">So, we suggest that all instructors, even on FSTD, shall follow FCL 915 (e).</p> <p data-bbox="360 1014 1485 1115">Possibly (for FSTD TRI only), we could suggest to require minimum training "on airplane" which at least could be two flights during initial training and one flight during each 3 years recurrent TRI training, without any aerobatic rating.</p>
response	<p data-bbox="360 1144 523 1173">Not accepted</p> <p data-bbox="360 1202 711 1232">Thank you for your comment</p> <p data-bbox="360 1261 1015 1290">Please refer to Sections 2.3.7 and 2.3.9 of the Opinion.</p>
comment	<p data-bbox="360 1379 411 1408">148</p> <p data-bbox="1233 1379 1477 1408" style="text-align: right;">comment by: <i>FNAM</i></p> <p data-bbox="360 1438 1485 1574">The additional training actions described in this AMC deal with knowledge, understanding and pedagogy. They are not dictated by requirements with regards to UPRT practical experience. We have to keep in mind that instructors represent a mean for improving or optimizing UPRT training:</p> <p data-bbox="360 1581 1485 1644">From a pedagogic point of view, UPRT instructors shall not be considered less qualified by applicants than the regular flight or FSTD instructors.</p> <p data-bbox="360 1650 1485 1823">Moreover, they should have an advanced in-flight experience with regards to UPRT so as to mitigate the risk of negative training. During briefings or debriefings they should speak about g's effect, physiological and psychological consequences only perceived in-flight. Only a couple of dedicated flights performed when training ATPL does not seem to be sufficient enough to master upset prevention and recovery techniques.</p> <p data-bbox="360 1830 1485 1892">Finally, instructors should be able to share their own experiences during flight preparation, briefing or debriefing. Appropriate experience must not solely be based on simulated flight.</p> <p data-bbox="360 1935 1485 2036">Possibly (for FSTD TRI only), we could suggest to require minimum training "on airplane" which at least could be two flights during initial training and one flight during each 3 years recurrent TRI training, without any aerobatic rating.</p>



response	<p>Not accepted</p> <p>Thank you for your comment</p> <p>Please refer to Sections 2.3.7 and 2.3.9 of the Opinion.</p>
comment	<p>203 comment by: <i>International Development of Technology b.v.</i></p> <p>ADDITIONAL INSTRUCTOR TRAINING FOR UPRT IN AN FSTD</p> <p>It is good that "UPRT" is used here in the preamble.</p> <p>Howeve, later on, the text suggests that "Prior to conducting UPRT training, existing TRI(A), TRI(SPA), SFI(A), SFI(SPA) should:</p> <p>be able to demonstrate application of the type-specific upset recovery procedures and recommendations developed by the OEMs..."</p> <p>Clearly, prevention is <i>also</i> mandatory here!</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Sections 2.3.4 and 2.3.13 of the Opinion.</p>
comment	<p>210 comment by: <i>Flightdeck Training Consultancy</i></p> <p>3.2. AMC1 Article 2(1)(b):</p> <p>The term UPRT is used in the title. But in the whole description the word prevention does not occur.</p> <p>It is important that instructors in FSTD's have a good knowledge about prevention as well. This is not adressed in the additional training requirements.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Sections 2.3.4 and 2.3.13 of the Opinion.</p>
comment	<p>249 comment by: <i>Royal Aeronautical Society (UK)</i></p> <p>Issue: AMC1 Article 2(1)(b) Item (a)</p> <p>Prior to conducting UPRT training, existing TRI(A), TRI(SPA), SFI(A), SFI(SPA) should:</p> <ul style="list-style-type: none"> • be able to demonstrate application of the type-specific upset recovery procedures and recommendations developed by the OEMs



Clearly, prevention is mandatory here! Missing in the whole description of instructor training, but in the introduction the term “UPRT” is used.

response Partially accepted
Thank you for your comment.
Please refer to Sections 2.3.4 and 2.3.13 of the Opinion.

comment 275 comment by: Aviation Performance Solutions

pg. 41	AMC1 Article 2(1)(b) Item (a) and (b)	These items mention only recovery, where prevention is warranted as well.
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response Partially accepted
Thank you for your comment.
Please refer to Sections 2.3.4 and 2.3.13 of the Opinion.

comment 276 comment by: Aviation Performance Solutions

pg. 41	AMC1 Article 2(1)(b) Item (i)'understand the missing critical human factor aspects due to the limitations of the FSTD and convey this to the student pilot(s) receiving the training.'	While it is essential to convey the missing critical human factor aspects due to the limitations of the FSTD to the student pilots receiving the training, it is not possible for instructors delivering training to understand it adequately themselves if they have not recieved UPRT in an aeroplane. In qualifying instuctors, it is not possible to use an FSTD to illustrate critical human factor aspects which an FSTD is in fact missing.
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response Noted
Thank you for your comment.
Please refer to Sections 2.3.7 and 2.3.9 of the Opinion.

3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - GM1 FCL.010 Definitions p. 41-47

comment 85 comment by: Dassault-Aviation



	<p>Dassault-Comment page 47</p> <p>GM3 FCL.010 Definitions: Note:</p> <p>Comment: This note is confusing. First of all, we shall not understand that an upset is solely a stall event and rules shall not focus on stalls.. Secondary, the note introduces inverted stalls, which are very unlikely on transport airplanes. It is useless to mention this technical notion. Definition of stall in the next page is more than enough. So, we suggest deleting this note.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Your comment will also be further considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>89 comment by: <i>Dassault-Aviation</i></p> <p>Dassault-Aviation comment page 47</p> <p>GM3 FCL.010</p> <p>Comment: There is an important missing point in the definition of energy state: the mention that almost all aircraft have features (AB, flaps, spoilers, etc.) to decrease total energy. So, instead of talking about chemical energy, it should be more pedagogic and realistic to make mention of the <i>ratio between Thrust and Drag</i>. <u>Proposition</u> : “Energy state means how much of each kind of energy (kinetic, potential and effect of thrust-drag ratio on the total energy) the aeroplane has available at any given time”.</p>
response	<p>Not accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.14 of the Opinion.</p>
comment	<p>90 comment by: <i>Dassault-Aviation</i></p> <p>Dassault-Aviation comment page 47</p> <p>GM3 FCL.010</p> <p>Comment: The LOCI definition does not point out that deviation is not under control :</p> <p><u>Proposal</u>:</p>



response	<p>'Loss of Control In-flight (LOCI)' means a categorization of an accident or incident resulting from a not controlled deviation from the intended flight path.</p> <p>Not accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.14 of the Opinion.</p>
comment	<p>116 comment by: <i>European Cockpit Association</i></p> <p>Commented text:</p> <p>Definitions: <i>FFS Full Flight Simulator</i></p> <p>ECA's Comment: Amend the text: <u><i>Full Flight Simulator qualified for the training task</i></u></p> <p>Suggestion: add "<i>qualified for training task</i>" To get definition in line with Appendix 9</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>In consultation with RMT.0188, it is proposed that users of Part-FCL Appendix 9 refer to the provisions of CS-FSTD to determine which devices may be used for which training tasks..</p>
comment	<p>180 comment by: <i>European Transport Workers Federation - ETF</i></p> <p>Page 44, the Agency omits the definition of the acronym IOS (Instructor Operating Station) used page 41: "(f) understand and be able to use the IOS of the FSTD in the context of effective UPRT delivery;"</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.14 of the Opinion.</p>
comment	<p>181 comment by: <i>European Transport Workers Federation - ETF</i></p> <p>Page 47, the ETF proposes to the Agency to add the definition of the acronym VTE (Valid Training Envelope) used page 100: "(d) FSTD: understands the Valid Training Envelope (VTE) of the device in use and appreciates the potential of negative training that may exist when training beyond the boundaries of this VTE.</p> <p>Moreover, the ETF proposes that students, and not only instructors, be made aware about the notion of VTE and negative training to enable them to make the difference between</p>



response	<p>simulation tools and "real life".</p> <p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.14 of the Opinion. Moreover, it is the task of the instructor to avoid negative training and negative transfer of training and to ensure students are informed when they have been subjected to this adverse training.</p>			
comment	<p>279 comment by: <i>Aviation Performance Solutions</i></p> <table border="1" data-bbox="363 667 1481 786"> <tr> <td data-bbox="363 667 427 786">pg. 47</td> <td data-bbox="427 667 555 786">GM3 FCL.010</td> <td data-bbox="555 667 1481 786">The level of detail provided under UPRT DEFINITIONS is inappropriate for the purpose of this document. Academic material such as this is unnecessary in this context.</td> </tr> </table>	pg. 47	GM3 FCL.010	The level of detail provided under UPRT DEFINITIONS is inappropriate for the purpose of this document. Academic material such as this is unnecessary in this context.
pg. 47	GM3 FCL.010	The level of detail provided under UPRT DEFINITIONS is inappropriate for the purpose of this document. Academic material such as this is unnecessary in this context.		
response	<p>Not accepted</p> <p>Thank you for your comments.</p> <p>Please refer to Section 2.3.14 of the Opinion.</p>			
comment	<p>364 comment by: <i>SNPL FRANCE ALPA</i></p> <p>Commented text:</p> <p>Definitions: <i>FFS Full Flight Simulator</i></p> <p>SNPL's Comment: Amend the text: <u><i>Full Flight Simulator qualified for the training task</i></u></p> <p>Suggestion: add "<i>qualified for training task</i>" To get definition in line with Appendix 9</p>			
response	<p>Not accepted</p> <p>Thank you for your comments.</p> <p>Please refer to Section 2.3.14 of the Opinion.</p>			
comment	<p>407 comment by: <i>CAE</i></p> <p>Page 42</p> <p>Include in the abbreviations list AURTA - Airplane Upset Recovery Training Aid.</p>			



response Accepted
Thank you for your comments.
Please refer to Section 2.3.14 of the Opinion.

comment 409 comment by: CAE
Page 42
Add abbreviations CL and CD
Page 45
OEM = Original Equipment Manufacturer
Page 46
Include in the list of abbreviations VTE - Validated Training Envelope

response Accepted
Thank you for your comments.
Please refer to Section 2.3.14 of the Opinion.

**3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material
(Draft EASA Decision) - GM3 FCL.010 Definitions**

p. 47-50

comment 27 comment by: Boiffier
The definition of the 'Angle of Attack' α is, as far as I know, relative to the aircraft reference line, usually the fuselage generatrix, and the projection of the aerodynamic velocity on the symmetrical plane of the aircraft. This definition is the definition of the 'Angle of Attack' measured in the aircraft, onboard. The reference line on the wing is only used by aerodynamicist an not in the aircraft.

response Not accepted
Thank you for your comments.
Please refer to Section 2.3.14 of the Opinion.

comment 28 comment by: Boiffier
The definition of 'stall', page 48 :
‘Stall’ means loss of lift caused by exceeding the aeroplane’s critical AoA.
is dangerous.
Most of stall regime does not create a loss of lift.
Remember the lift is the product of $1/2$ density ρ , wing surface S , square Velocity V^2 , Lift



coefficient C_z .

For low speed the stall could create a small loss of Lift coefficient C_z , but a small one. We are far from the lift.

For example, during the demonstration of VS1g, it is almost an equilibrium regime, and then the lift is equal to the weight and CONSTANT.

For high speed regime, during the cruise flight, there is not even a loss of Lift coefficient C_z . When the angle of attack increases, even after the critical AoA, during the buffeting, the Lift coefficient C_z continue to increase.

The stall is not at all a problem due to a loss of Lift, or even a loss of Lift coefficient. It is a problem of an increase of Drag coefficient, this increase could be considerable, and the consequence is a considerable descent rate.

response

Not accepted

Thank you for your comments.

Please refer to Section 2.3.14 of the Opinion.

comment

39 comment by: *Prof. Dr. Bernd Hamacher, University of Applied Sciences Osnabrueck*

Definitions given show fundamental weaknesses in aeronautical knowledge and need a major revision (page 48ff)

The definitions section in the NPA show alarming weaknesses in aeronautical knowledge. Substantial parts of the definitions and notes presented are inappropriate, incomplete and misleading. This section needs a fundamental revision. If the Agency is unable to do this, it is recommended to delete this section to avoid the dissemination of improper statements. It is agreed that proper definitions are result of hard work and sometimes difficult to reach. But in this case the Agency should follow the academic tradition to open the floor for discussions, rather setting inappropriate statements.

As the most significant weaknesses are in the definitions and the understanding of stall & spin, this will be further elaborated here:

It is a popular belief that “stall” means loss of lift at an AoA greater than the critical AoA. Nevertheless this belief is not correct. An aeroplane – as a system - may stall before reaching the critical AoA as well as beyond the critical AoA. The critical AoA just denotes at what AoA the coefficient of lift (Cl) peaks – full stop.

A stall is defined as **loss of controllability**. That is an important difference to the definition given in the NPA. Clear, comprehensive and accepted definitions of stalls are available in the Certification Specifications of the Agency (see CS23.201ff & CS25.201ff). These are the accepted and valid references. It is recommended that the Agency follows their own definitions rather issuing definitions based on popular belief.

These concerns are also valid for the other definitions related to stall: The term “Post stall regime” is obviously unnecessary in this NPA as never used outside the definition-Section. Why a definition, if not used? Even worse is the definition “Stall event”, amalgamating



“approach-to-stall” and “stall” into one term. There is a world of difference between approaching a stall, being at the stall and going dynamically well into it. There is also a difference between a 1G stall and an accelerated stall. Each of these situations have their own aerodynamic properties, risks, options and recovery needs. This must be carefully distinguished. To subsume this into one term is not reasonable and give the impression that the dimensions of hazards associated with are not properly understood.

But the most significant weaknesses show the NPA in the definition and notes on “spin” on pages 49/50:

Firstly the document summarizes that the conditions for a spin are (a) stall and (b) yaw and/or roll. This is wrong! Initial spinning condition are stall and yaw! Roll is the consequence of a yaw not a spin-condition. A coordinated roll, even in stall condition, does not lead to a spin. Every LAPL-student learns to perform a coordinated roll in a turning stall without entering a spin. A spin requires asymmetric lift of the wings, which is not necessarily caused by a roll. So the last three words of (b) must be withdrawn to be correct.

It raises serious concerns that this mistake is published here and was not discovered during editing as this harms the reputation of the Agency not being aware on basics in aeronautical knowledge.

Secondly the distinction between “Incipient spin”, “Developing spin” and “Developed spin” does not follow existing standards and the content of the definitions does not reflect existing aeronautical knowledge and Certification Specifications. It is common in literature to distinguish between an entry-phase, an incipient phase, a developed phase and a recovery phase. The incipient spin is a transitional phase during an aeroplane progresses from an uncoordinated stall to autorotation. This phase is usually pilot-driven. In contrast a developed spin phase represents a state of equilibrium between aerodynamic forces, inertia forces and gyroscopic moments. This spin phase is aerodynamically driven and tends to stabilize rotation rate, airspeed and vertical speed. The most important difference between an incipient spin and a developed spin is that the incipient spin is aerodynamically driven whereas the developed spin is equilibrium of aerodynamic forces and inertia/gyroscopic-forces. Without reference to inertia and gyroscopic moments a developed spin and the difference between an incipient spin a developed spin cannot be understood. This is totally omitted in the NPA-definitions. In contrast the NPA issues a “developing spin” without significant as a phase from flight dynamics theory. Of course a spin is a sequence of phases and transitions and there are transitions in between these phases. But these are states of a dynamic process, not different phases. The key of understanding the spin is advent of inertia and gyroscopic moments and their potential to overcome aerodynamic control forces. But this is totally missing in these definitions, which makes them erroneous and useless. Finally the rotation angles mentioned in these definitions are not relevant. According CS 23.221 a normal category aeroplane must be able from a 360°-turn spin or a three-second spin, whichever takes longer and an aerobatic category aeroplane must be able to recover up to six turns. This reflects the conditions stated for the incipient end developed phases above. Moreover is s not so that than an aeroplane has likely rolled through at least 540° during a developed spin. If an aeroplane enters a flat spin, it may not roll at all. So there are enough reasons that these definitions are weak and need rework.

The third set of criticism against this “Definitions” refers to the diagram and the note at the end of the chapter: Despite the fact that the diagram presented is popular even in



publications of high reputation, it is pretty inappropriate to explain autorotation in spin. This is simply as the diagram shows the coefficients of lift and drag, not lift and drag as forces. But lift and drag as a force is a product of the coefficients times the square of speed time the density of air time times the size of the wing area. It is not simply a function of the coefficients. The diagram shows the coefficients of an airfoil and this is simply the wrong diagram to explain autorotation. But already the attempt to explain autorotation by a two-dimensional approach must be inappropriate as it disregards the effects of induced drag and of turbulences caused by the fuselage to the inner wing. So at least a three-dimensional analysis is required apart from the consideration of inertia an gyroscopic moments as mentioned above.

So in summary it is recommended not to proceed with this NPA until the Agency has a proper understanding of spins and the flight dynamics associated with. It was certainly a very ambitious attempt to explain spin and autorotation in one paragraph. But this attempt has failed. So a more comprehensive approach is imperatively recommended.

response

Partially accepted

Thank you for your comments.

Please refer to Sections 2.3.1 and 2.3.14 of the Opinion.

comment

50

comment by: *Transport Canada Civil Aviation Standards Branch***GM3 FCL.010 Definitions** (Pages 47 to 50)

UPSET PREVENTION AND RECOVERY TRAINING (UPRT) DEFINITIONS

Comment 1 – Provide a requirement for special emphasis training (where appropriate in the proposed rulemaking) to ensure pilots and flight crews are fully conversant with the operational indications of a Stall and Aeroplane Upset as provided in the definitions. **Rationale** – Prompt recognition of a developing stall or upset will potentially minimize confusion and startle and hopefully promote more timely recovery action.

‘Stall’ means loss of lift caused by exceeding the aeroplane’s critical AoA.

Note: A stalled condition can exist at any attitude and airspeed, and may be recognised by continuous stall warning activation accompanied by at least one of the following:

- (a) buffeting, which could be heavy at times;*
- (b) lack of pitch authority and/or roll control; ~~and~~*
- (c) inability to arrest the descent rate*

‘Aeroplane upset’ means an aeroplane in flight unintentionally exceeding the parameters normally experienced in line operations or training, normally defined by the existence of at least one of the following parameters:

- (a) pitch attitude greater than 25 degrees nose up;*
- (b) pitch attitude greater than 10 degrees nose down;*
- (c) bank angle greater than 45 degrees; or*
- (d) within the above parameters, but flying at airspeeds inappropriate for the conditions.*

response

Noted

Thank you for your comment.



comment	149	comment by: <i>FNAM</i>
	<p>The note in the GM3 FCL.010 paragraph is confusing. First of all, we shall not understand that an upset is solely a stall event and rules shall not focus on stalls... Secondary, the note introduces inverted stalls, which are very unlikely on transport airplanes. It is useless to mention this technical notion. Definition of stall in the next page is more than enough. So, we suggest deleting this note.</p>	
response	<p>Accepted</p> <p>Thank you for your comment.</p>	
comment	150	comment by: <i>FNAM</i>
	<p>There is an important missing point in the definition of energy state: the mention that almost all aircrafts have features (AB, flaps, spoilers, etc.) to decrease total energy. So, instead of talking about chemical energy, it should be more pedagogic and realistic to make mention of the <i>ratio between Thrust and Drag</i>.</p> <p><u>Proposal:</u> “Energy state means how much of each kind of energy (kinetic, potential and effect of thrust-drag ratio on the total energy) the aeroplane has available at any given time”.</p>	
response	<p>Not accepted</p> <p>Thank you for your comments.</p> <p>Please refer to Section 2.3.14 of the Opinion.</p>	
comment	151	comment by: <i>FNAM</i>
	<p>The LOCI definition does not point out that the deviation is not under control.</p> <p><u>Proposal:</u> ‘Loss of Control In-flight (LOCI)’ means a categorization of an accident or incident resulting from a not controlled deviation from the intended flight path.</p>	
response	<p>Not accepted</p> <p>Thank you for your comments.</p> <p>Please refer to Section 2.3.14 of the Opinion.</p>	
comment	152	comment by: <i>FNAM</i>
	<p>The academical and technical abstract in the note regarding spin development does not have his place in a regulation text (even in a GM). Courses have to be only <u>guided</u> by regulation, but <u>written</u> by ATOs with national standards then approved by OEMs and NAAs.</p>	



response	<p>This GM goes too far in details, so we suggest deleting the note.</p> <p>Accepted</p> <p>Thank you for your comments.</p>
comment	<p>182 comment by: <i>European Transport Workers Federation - ETF</i></p> <p>Pages 47-49, the ETF requests the Agency to add the definition of the following terms:</p> <ul style="list-style-type: none"> - Buffeting low speed - Buffeting high speed - Deep stall - Shock stall - Lowspeed stall - Stall at high altitude <p>See comment 178 for the purpose.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Your suggestions will be further considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>213 comment by: <i>Flightdeck Training Consultancy</i></p> <p>GM3 FCL.010 Definitions</p> <p>Guidance Material is typically developed to accompany AMC material in order to provide additional explanation to assist the application of the ‘Basic Regulation’ and its Parts, and to help illustrate the meaning of specifications and requirements. Most of this text does not meet that definition but is academic background information that belongs in a course manual and not in an explanation of legislation. Important definitions belong in FCL 010.</p> <p>Placing this academic information in these articles can lead to negative training if misunderstood by the reader.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Some of the more detailed information, such as the spin, has been deleted. Nevertheless, many of the definitions are in line with ICAO Doc 10011 and will be kept for consistency. The Agency considers the GM level appropriate as it is too detailed for implementing rule or AMC level, but essential for facilitating UPRT. Please also refer to Section 2.3.14 of the Opinion.</p>
comment	<p>214 comment by: <i>International Development of Technology b.v.</i></p>



In the DEFINITIONS of UPRT, there appears more detail than necessary. The level of detail of the UPRT DEFINITIONS is too high for placement in an EASA Rule.

Guidance Material is typically developed to accompany AMC material in order to provide additional explanation to assist the application of the ‘Basic Regulation’ and its IR’s, and to help illustrate the meaning of specifications and requirements. Most of this text does not meet that definition but is academic background information that belongs in a course manual and not in an explanation of legislation. Important definitions belong in FCL 010.

The same applies to the definition on pg. 48 on 'stalls'; pg. 48 'stall warning definition' and pg. 50 'knowledge on stall'. Important information, but maybe there's a better place for it.

response

Not accepted

Thank you for your comments.

Please refer to Section 2.3.14 of the Opinion.

comment

237

comment by: AIRBUS

Comment related to **GM3 FCL.010 Definitions : stick pusher**

‘Stick pusher’ means a device that automatically applies a nose-down movement and pitch force to an aeroplane’s control columns to attempt to decrease the aeroplane’s AoA. Device activation may occur before or after aerodynamic stall, depending on the aeroplane type. Device may be implemented as an Angle Of Attack Protection system.

Make it explicit that Aircraft equipped with protection system, such as fly by wire Airbus, are fitted with a “stick-pusher”-like device.

response

Not accepted

Thank you for your comments.

Please refer to Section 2.3.14 of the Opinion.

comment

280

comment by: Aviation Performance Solutions

pg. 48	Stall definition	The level of detail provided under UPRT DEFINITIONS is inappropriate for the purpose of this document. Academic material such as this is unnecessary in this context.
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response

Partially accepted

Thank you for your comment.

Some of the more detailed information, such as the spin, has been deleted. Nevertheless, many of the definitions are in line with ICAO Doc 10011 and will be kept for consistency. The Agency considers the GM level appropriate as it is too detailed for implementing rule or AMC level, but essential for facilitating UPRT. Please also refer to Section 2.3.14 of the Opinion.

comment

281

comment by: *Aviation Performance Solutions*

pg. 48	Stall warning definition	The level of detail provided under UPRT DEFINITIONS is inappropriate for the purpose of this document. Academic material such as this is unnecessary in this context.
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response

Partially accepted

Thank you for your comment.

Some of the more detailed information, such as the spin, has been deleted. Nevertheless, many of the definitions are in line with ICAO Doc 10011 and will be kept for consistency. The Agency considers the GM level appropriate as it is too detailed for implementing rule or AMC level, but essential for facilitating UPRT. Please also refer to Section 2.3.14 of the Opinion.

comment

283

comment by: *Aviation Performance Solutions*

pg. 50	Knowledge on stalls	The level of detail provided under UPRT DEFINITIONS is inappropriate for the purpose of this document. Academic material such as this is unnecessary in this context.
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response

Partially accepted

Thank you for your comment.

Some of the more detailed information, such as the spin, has been deleted. Nevertheless, many of the definitions are in line with ICAO Doc 10011 and will be kept for consistency. The Agency considers the GM level appropriate as it is too detailed for implementing rule or AMC level, but essential for facilitating UPRT. Please also refer to Section 2.3.14 of the Opinion.



comment	<p>303</p> <p>comment by: <i>René Meier, Europe Air Sports</i></p> <p>Page 47 GM3 FCL.010 Definitions (1)</p> <p>Comment Please clarify the definition with a note insisting on the word “unintentionally” to avoid that normal manoeuvres such as a turn performed by a light aeroplane with a 60° bank angle be declared as an upset.</p> <p>Rationale The three parameters – especially the third one – are clearly concerning the large transport aeroplanes. These definitions are inter alia encompassing the current UPRT exercises for LAPL(A) and PPL(A). As a result, existing UPRT exercises for LAPL(A) and PPL(A) should continue to be provided by existing FIs without any mandatory additional UPRT training and certificate.</p>
response	<p>Partially accepted</p> <p>Thank you for your comments.</p> <p>Please refer to Sections 2.3.1 and 2.3.14 of the Opinion. Whilst occasional unintentional excursions beyond 45 degrees could be expected, performing turns intentionally at greater angles, such as 60 degrees, will likely reduce the safety margins in many aeroplanes.</p> <p>Your concerns will also be further considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>349</p> <p>comment by: <i>ATR</i></p> <p>Regarding Definitions for “Aeroplane upset” page 47:</p> <p>Definitions for “Aeroplane upset” are acceptable but pedagogical exercises/objectives associated with those definitions should be clearly defined.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p>
comment	<p>412</p> <p>comment by: <i>CAE</i></p> <p>Page 48</p> <p>The Note under 'Stall'</p> <p>The note states that a stall condition may be recognised by a "continuous stall warning". It is possible that in icing situations the stall warning does not activate! Add an additional note to state that under certain icing conditions it is possible that the stall warning may not activate.</p>
response	<p>Noted</p> <p>Thank you for your comments.</p>



Please refer to Section 2.3.14 of the Opinion.

Your suggestions will be further considered by the Review Group when finalising the AMC/GM.

comment 413 comment by: CAE

Page 50

Insert and clarify the exact meaning of Validated Training Envelope (VTE)

response Accepted

Thank you for your comment.

Please refer to Section 2.3.14 of the Opinion.

**3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material
(Draft EASA Decision) - AMC1 FCL.110.A LAPL(A) — Experience requirements and crediting**

p. 50-51

comment 14 comment by: IAOPA (EUROPE)

IAOPA (Europe) considers that the words 'of less than 45 deg' should be deleted. If the aeroplane rolls to 46deg of bank, would training be suspended?

response Noted

Whilst occasional unintentional excursions beyond 45 degrees could be expected, performing turns intentionally at greater angles, such as 60 degrees, will likely reduce the safety margins in many aeroplane.

Your comment will be further considered by the Review Group when finalising the AMC/GM.

comment 16 comment by: IAOPA (EUROPE)

IAOPA (Europe) objects to the proposal to include 'instructor demonstration of developing or developed spin' in Ex11. Many RF/ATO delivering LAPL training do not use aircraft cleared for intentional spinning, neither do most FIs have sufficient recency in delivering such a demonstration to be able to do so with competence and with sufficient safety. The proposal would incur considerable additional cost and risk to RF/ATO delivering LAPL training; moreover, it would only apply to ab initio pilots under training.

Instead, we recommend that refresher training required under FCL.140.A should include stall/spin awareness and avoidance revision, but without any specifically prescribed content.

response Partially accepted

Thank you for your comment.

Please refer to Section 2.3.1 of the Opinion.



comment	<p>40 comment by: <i>Prof. Dr. Bernd Hamacher, University of Applied Sciences Osnabrueck</i></p> <p>Instructor demonstration of developing or developed spin (page 51/60)</p> <p>This provision as part of the regular flight instruction syllabus for LAPL/PPL courses is a major change deviating from the ICAO standard. FAA and ICAO have excluded these maneuvers from the PLL-training due to the risks involved and due to numerous fatal accidents during training. The Agency now introduces this maneuver in to LAPL/PPL-Training based on a belief rather based on knowledge. As the analysis of the Definitions chapter in this NPA has shown the Agency has a weak understanding of this maneuver and the flight dynamics associated with. This raises serious concerns that this proposal is really well justified. Additional to the concerns raised already, it should be noted that demonstration of spins implies the hazard that aeroplanes swap into a spiral dive. Spiral dive is the brother of spin and many type of aeroplanes tend to swap from a developed spin into a spiral dive. Spins and spiral dives are by nature hazardous maneuvers. It is irritating that this flight-state is not part of theoretical instruction in the context of upset. This may be an indication that not only spins, but also spiral dives are properly assessed and understood by the Agency. But in context of Upset consideration this is a must.</p> <p>Apart from the fact that spins are hazardous maneuvers the NPA does not reflect that the execution of such maneuvers requires aeroplanes certified in the category of aerobatic aeroplanes and instructors holding a rating in aerobatics. The vast majority of training aeroplanes and the vast majority of flight instructors do not fulfill these requirements. So the NPA will produce a bottleneck not discussed here. This will lead to situation that the majority of ATO's on this level must close. Especially for ATO's just offering LAPL-training purchasing and operating a training aeroplane in the aerobatic category is far beyond their budget. So they have to close in success of this regulation.</p> <p>The proposal is also incomplete in so far as it not discusses the preconditions for a safe aerobatic maneuver. Aerobatic maneuvers like spins require a proper flight briefing including using parachutes. Flight students must be instructed on the usage of parachutes and escape procedures and instructed on the risks associated to exit an aeroplane by parachute. This unfortunately is not discussed in this NPA.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>
comment	<p>92 comment by: <i>Dassault-Aviation</i></p> <p>Dassault-Aviation comment page 50</p> <p>GM3 FCL.010 Note: spin development</p> <p>Comment: This academical and technical abstract does not have his place in a regulation text (even in a GM).</p>



response	<p>Courses have to be only <u>guided</u> by regulation, but <u>written</u> by ATOs with national standards then approved by OEMs and NAAs. This GM goes too far in details, so we suggest deleting the note.</p> <p>Accepted</p> <p>Thank you for your comment.</p>
comment	<p>304 comment by: René Meier, Europe Air Sports</p> <p>Page 51 AMC1 FCL.110.A LAPL(A) (b) (1) Comment Change the text as follows: “ ... include threat and error management and upset prevention and recovery:”</p> <p>Rationale The wording you propose is a bit sophisticated and the human factors are also embedded in the TEM.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>
comment	<p>305 comment by: René Meier, Europe Air Sports</p> <p>Page 51 AMC1 FCL.110.A LAPL(A) (c) (2) (xiii) (D) Comment Exercise description is a bit long and confusing. “Approach-to-stall” and “stall” are of different nature and they should be distinguished.</p> <p>Proposal Split the text as follows: “(D1) recovery during the approach-to-stall in the clean configuration with power” “(D2) recovery following a stall in the clean configuration with power”</p> <p>Rationale This makes it more readable.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>
comment	<p>306 comment by: René Meier, Europe Air Sports</p> <p>Page 51</p>



	AMC1	FCL.110.A	LAPL(A)	(c)	(2)	(xiii)	(E)	
	<p>Comment</p> <p>The exercise should not require an aerobatic plane as all exercises under “Exercise 10b Stalling”. So, the wing drop should be limited. Read “(E) recovery following a stall with a wing drop of less than 20°”</p> <p>Rationale</p> <p>Our proposal is appropriate to the training needs.</p>							
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p> <p>Your comment will be further considered by the Review Group when finalising the AMC/GM.</p>							
comment	307						comment by: <i>René Meier, Europe Air Sports</i>	
	Page						51	
	AMC1	FCL.110.A	LAPL(A)	(c)	(2)	(xiii)	(F)	
	<p>Comment</p> <p>According to Safety Manuals, only one failure or upset is experienced at a time. In other terms, a stall should not be combined with an engine failure. Read “(F) recovery during the approach-to-stall in the approach and in the landing configurations with power”</p> <p>Rationale</p> <p>We should limit the risk also when training for emergencies.</p>							
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>							
comment	379						comment by: <i>AOPA Finland</i>	
	(b)	Flight				instruction		
	<p>(1) The LAPL(A) flight instruction syllabus should include take into account the principles of threat and error management, integrate upset prevention elements and associated human factors, and also cover:</p> <p>(D) clean stall and recovery without power and with power; recovery during the approach-to-stall and following a stall, in the clean configuration, during flight without power and with power;</p> <p>(E) recovery when following a stall with a wing drops of less than 45°;</p> <p>(F) recovery during the approach-to-stall in the approach and in the landing configurations, during flight with and without power and with power.</p> <p>xiv) Exercise 11: Spin avoidance: (A) safety checks; (B) instructor demonstration of developing or developed spin;</p>							



	(C) stalling and recovery during the incipient spin stage; (D) instructor-induced distractions during the stall.
response	Noted Thank you for your comment. Please refer to Section 2.3.1 of the Opinion.

3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - GM1 FCL.125 LAPL — Skill test	p. 52
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comment	308	comment by: René Meier, Europe Air Sports
	Page	52
	GM1	FCL.125
		LAPL
		—
		Skill
		test
	Comment	
	Keep the wording simple and understandable. We propose:	
	-flight	path
	-upset	management,
	-threat and error management”	prevention,
	Rationale	
	The TK program should be proportionate to the level of risk and the pilot licence. A LAPL and an ATPL holder should not be treated alike.	
response	Partially accepted	
	Thank you for your comment.	
	Please refer to Section 2.3.1 of the Opinion.	
	Your comment will be further considered by the Review Group when finalising the AMC/GM.	

comment	380	comment by: AOPA Finland
	‘GM1	FCL.125
	ABILITY TO MAINTAIN CONTROL OF THE AEROPLANE OR TMG	LAPL
	The applicant for the LAPL(A) should be able to demonstrate correct	— Skill
	application	test
	of:	— upset
	—upset	prevention
	—energy	techniques
	—flight	and
	—threat and error management.’	strategies,
		management,
		management,
response	Partially accepted	
	Thank you for your comment.	
	Please refer to Section 2.3.1 of the Opinion.	



**3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material
(Draft EASA Decision) - AMC1 FCL.210; FCL.215**

p. 53-55

comment 183

comment by: *European Transport Workers Federation - ETF*

The ETF proposes to the Agency to amend the "SYLLABUS OF THEORETICAL KNOWLEDGE FOR THE PPL(A) AND PPL(H)" (page 53) as well as the Syllabus of theoretical knowledge for the LAPL by adding in the chapter "2. HUMAN PERFORMANCE", a sub-chapter "Air Safety Report" in order to introduce the importance of reading and writing feedbacks and learning from the past mistakes. In this chapter, some typical accidents or incidents should be introduced. These typical accidents or incidents should be "localized" ie. related to the country/region where the student is training. Moreover, these typical accidents should be chosen so that students can project themselves and understand that "this does not happen only to others".

In CPL and ATPL theoretical courses, the ETF proposes to the Agency to add the same kind of chapter "Air Safety Report" at a deeper level and to list some "world famous cases of study" that should be known by students. Any student should be able to "tell the story" for any of them and to make a TEM oriented analysis.

response

Partially accepted

Thank you for your comment.

Please refer to Section 2.3.1 of the Opinion.

Your comment will be further considered by the Review Group when finalising the AMC/GM.

comment 309

comment by: *René Meier, Europe Air Sports*

Page	54
AMC1	FCL.210; FCL.215
Syllabus of TK for PPL(A)	
Comment	

In our view it is not necessary to split energy management and flight path management.

Rationale

We operate in a segment where such a differentiation is not required. Make it simple and short for non-commercial pilots.

response

Partially accepted

Thank you for your comment.

Please refer to Section 2.3.1 of the Opinion.

Your comment will be further considered by the Review Group when finalising the AMC/GM.

**3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material
(Draft EASA Decision) - GM1 FCL.210.A**

p. 55-56



comment	<p>72 comment by: <i>Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</i></p> <p>GM1 FCL.210.A, Ref page 55</p> <p>A8 Icing and contamination effects and C1 Safety review of accidents and incidents relating to aeroplane upsets</p> <p><i>Proposed action:</i> Delete flight instruction in the table for A8 and C1.</p> <p><i>Rationale:</i> It is very difficult to do flight instructions for these items</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p> <p>Your comment will be further considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>204 comment by: <i>International Development of Technology b.v.</i></p> <p>Under "GM FCL.210.A THEORETICAL KNOWLEDGE AND FLIGHT INSTRUCTION FOR THE LAPL(A) AND PPL(A) OPERATIONAL PROCEDURES - UPSET PREVENTION TRAINING"</p> <p>There is no harm (and actually benefit) in discussing "recovery" in theory (like in the AURTA). This section covers theoretical knowledge requirements only, and should also include RECOVERY as well as prevention.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>
comment	<p>250 comment by: <i>Royal Aeronautical Society (UK)</i></p> <p>Issue: FCL.210.A Theoretical Knowledge and Flight Instruction for the LAPC(A) and PPL(A) Operational Procedures - Upset Prevention Training</p> <p>This covers theoretical knowledge requirements only, and should include RECOVERY as well as prevention.</p> <p>Why a separate new table in GM? Theoretical requirements should be included in table AMC 1 to FCL.210. and the instruction in AMC 1 to FCL.210.A</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p>



Please refer to Section 2.3.1 of the Opinion.

comment	<p>310</p> <p>Page 55</p> <p>GM1 FCL.210.A</p> <p>THEORETICAL KNOWLEDGE AND FLIGHT INSTRUCTION FOR THE LAPL(A) AND PPL(A)</p> <p>OPERATIONAL PROCEDURES — UPSET PREVENTION TRAINING</p> <p>Comment</p> <p>Table 1 presents the elements and components, including TK and flight instruction at high altitudes. This is not applicable to LAPL and PPL holders.</p> <p>Lines A.2 and A.3.: delete the words into brackets.</p> <p>Table 1 presents the elements and components, including TK and flight instruction on icing and contamination effects and propeller slipstream. This is not applicable to LAPL and PPL holders.</p> <p>Lines A.8. and A.9.: to be deleted.</p> <p>Table 1 presents the elements and components, including TK and flight instruction on safety review. This is not applicable to LAPL and PPL holders.</p> <p>Line C.1.: delete the bullet point in the right column.</p> <p>Table 1 presents the elements and components, including TK and flight instruction on energy management. What is the chemical energy ?</p> <p>Line E.1.: delete the words “and chemical”.</p> <p>Rationale</p> <p>We believe our proposals for deletion better cover our needs.</p>	comment by: <i>René Meier, Europe Air Sports</i>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p> <p>Your comment will be further considered by the Review Group when finalising the AMC/GM.</p>	

comment	<p>312</p> <p>Page 56</p> <p>GM1 FCL.210.A</p> <p>TK and flight instruction for LAPL(A) and PPL(A)</p> <p>Comment</p> <p>Table 1 presents the elements and components, including TK and flight instruction on flight management. This is not applicable to LAPL and PPL holders. It presents the elements and components, including TK and flight instruction on system malfunctions. This is not fully applicable to LAPL and PPL holders.</p>	comment by: <i>René Meier, Europe Air Sports</i>
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	<p>Proposal Lines F.3. and F.4.: to be deleted. Line G.2.: change into “pitch/bank/power”. Lines H.5.: to be deleted.</p> <p>Rationale This is adequate to our operations.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p> <p>Your comment will be further considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>381 comment by: <i>AOPA Finland</i></p> <p>Theoretical knowledge of upset <i>prevention</i> training should be integrated into existing aeroplane licence training courses.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>

**3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material
(Draft EASA Decision) - GM2 FCL.210.A**

p. 57-59

comment	<p>15 comment by: <i>IAOPA (EUROPE)</i></p> <p>IAOPA (Europe) welcomes the clear and concise section of GM2 FCL.210.A and asks that this section may be used in industry textbooks without restriction.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>
comment	<p>41 comment by: <i>Prof. Dr. Bernd Hamacher, University of Applied Sciences Osnabrueck</i></p> <p>THEORETICAL KNOWLEDGE AND FLIGHT INSTRUCTION FOR THE LAPL(A) AND PPL(A) OPERATIONAL PROCEDURES — UPSET PREVENTION TRAINING (page 57ff)</p> <p>The listed subjects of theoretical knowledge listed here are redundant, incomplete and of little systematic for a so called “upset prevention training” of LAPL/PPL-training.</p> <p>The dependency of stall speeds on bank angles in horizontal terms is redundant as well</p>



known und is regularly published in each AFM since decades. But the shortcoming of this presentation is, not to demonstrate that this relationship is also valid for vertical turns. This shortcoming is not corrected and the Agency missed the chance to reevaluate exiting material on completeness and appropriateness.

It is even misleading to narrow down this relationship to bank angles. The general case is that G-loads >1 and masses > MTOM will increase the stall speed and G-loads <1 as well as masses < MTOM will reduce the stall speeds and related approach speeds. This message must be transferred as many pilots do not know this general basic relationship on mass, load and stall speed. Instead of replication of known stuff the Agency should tackle the shortcomings in existing theoretical instructions.

The consideration of the physiological effects of G-loading is indeed relevant as this subject is sometimes neglected in theoretical training. Therefore this is valuable to mention here. Nevertheless this does not justify to omit the whole stuff on the effects of acceleration loads and aerodynamic forces on the structure of an aeroplane. Load factors and load limits are essential parameters for the design of an aeroplane. Upset situations are not dangerous by the fact that an aeroplane exceeds 45° bank angle, but by the fact that this bank angle may cause that the limit load factor the aeroplane is designed for is exceeded. In this context it raises major concerns that a document of the Agency dealing with situations at the edges on a flight envelope is obviously not aware on relevance of load factors for categorization of aeroplanes in the certification specification issued by the Agency. The authors of this document obviously are not aware that load factors and load limits are the cornerstones for the categorization and certification of aeroplanes. This is central stuff in the context of so called upset situations.

Accidents reports show that accidents have happened as pilots were unable to interpret a V-n diagram properly and were not aware on the meaning of maneuvering speeds, allowable gusts, allowable control inputs, maximum structural speeds and maximum load limits. The direct consequence of these observed deficits would be to expand the required body of theoretical knowledge in theoretical training rather to omit this.

It is not comprehensible why in a document dealing with upsets this fundamental body of knowledge was excluded from consideration. The considerations on the physiological effects of G-loadings are not a compensation for this.

This is also true with regard to the lower end of speed range and the relationship of energy, drag and degraded stability behind the power-curve. Experience show that many pilots are not aware of the concept of the power-curve, the reduced stability of an aeroplane operated behind the power-curve and the elements determining the power-curve. But as accidents reports have shown that this lack of knowledge was the cause for many accidents it is not understandable that these issues are not part of the theoretical body of so called upset recovery programs.

response

Partially accepted

Thank you for your comment.

Please refer to Section 2.3.1 of the Opinion.

comment

216

comment by: *Flightdeck Training Consultancy*

	<p>GM2 FCL.210.A Guidance Material is typically developed to accompany AMC material in order to provide additional explanation to assist the application of the 'Basic Regulation' and its IR's, and to help illustrate the meaning of specifications and requirements. Most of this text does not meet that definition but is academic background information that belongs in a course manual and not in explanation of legislation. Important definitions belong in FCL 010.</p>
response	<p>Not accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>
comment	<p>313 comment by: René Meier, Europe Air Sports</p> <p>Page 57 GM2 FCL.210.A THEORETICAL KNOWLEDGE AND FLIGHT INSTRUCTION FOR THE LAPL(A) AND PPL(A) OPERATIONAL PROCEDURES — UPSET PREVENTION TRAINING Comment Delete any reference which is not relevant to light aeroplanes flying at low altitudes. Reconsider the contents to focus on light aviation.</p> <p>Rationale The explanations are referring to medium altitudes, high altitudes, Mach numbers, large aeroplanes, transport aeroplanes. This is not applicable to LAPL and PPL holders.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>
comment	<p>382 comment by: AOPA Finland</p> <p>Theoretical knowledge of upset <i>prevention</i> training should be integrated into existing aeroplane licence training courses.</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>
comment	<p>414 comment by: CAE</p> <p>Page 57</p> <p>Include the V-n(G) diagram to show load factors vs speed.</p>



response Partially accepted
Thank you for your comment.
Please refer to Section 2.3.1 of the Opinion.

**3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material
(Draft EASA Decision) - AMC1 FCL.210.A PPL(A) — Experience requirements and crediting**

p. 59-60

comment 17 comment by: IAOPA (EUROPE)
IAOPA (Europe) recommends that the wording of Ex 10b (D) to (F) should also be used for the LAPL(A) flight training syllabus.

response Partially accepted
Thank you for your comment.
Please refer to Section 2.3.1 of the Opinion.
Your comment will be further considered by the Review Group when finalising the AMC/GM.

comment 18 comment by: IAOPA (EUROPE)
IAOPA (Europe) objects to the proposal to include 'instructor demonstration of developing or developed spin' in Ex11. Many RF/ATO delivering PPL training do not use aircraft cleared for intentional spinning, neither do most FIs have sufficient recency in delivering such a demonstration to be able to do so with competence and with sufficient safety. The proposal would incur considerable additional cost and risk to RF/ATO delivering PPL training; moreover, it would only apply to ab initio pilots under training.

Instead, we recommend that refresher training required under FCL.740.A(b)(1)(ii) should include stall/spin awareness and avoidance revision, but without any specifically prescribed content.

response Partially accepted
Thank you for your comment.
Please refer to Section 2.3.1 of the Opinion.

comment 42 comment by: Prof. Dr. Bernd Hamacher, University of Applied Sciences Osnabruock
Instrumentation (page 59)

It is a common belief that the AoA can be deduced from airspeed, thrust, flight path attitude and configuration. It can be easily shown that this is a misconception and not possible. The AoA is depended from various parameters, which are not covered by the parameters given above. Even, if it would be possible, to deduct the AoA from these parameters, this would be quite worthless as usually AFM's do not provide information of the shape of the lift curve for



a specific aeroplane. On the margins cannot be determined properly yet. It is up to Agency to improve the certification specifications in this way that these information will be available to the pilot. In this course it is recommended to request also that the AFM should provide information of the power-curve of an specific type as well as the flight envelope (v-n diagram) of a type. These are important information to understand the aerodynamic behavior of an aeroplane type and the dynamic limitations. These information are not available as not requested in the CS yet.

There are several accident reports showing that the misbelief of the crew that it is possible to deduct the AoA from the parameters above are the cause of fatal accidents. We also follow BEA and NTSB in the finding that only a specific AoA-indicator can provide valid and current information on the AoA of an aeroplane.

We recommend therefore to re-phrase the 2nd paragraph on page 59 as follows:

“There is a common misbelief that the AoA can be deducted from airspeed, thrust, flight path, attitude and configuration of an aeroplane. This is not true. In-flight the AoA can only be deducted from a specific AoA-indicator. The Agency emphasis this as an important fact and advises ATO and operators to take actions that this fact is properly stated in training materials. In the context of UPRT the Agency recommends to install AoA-indicators in training-aeroplanes and to develop procedures to use AoA Indicators for proper Recognition and recovery of Upset situations.”

Furthermore we recommend a further discussion on proper instrumentation for upset prevention and recovery. Apart from AoA-indicator we recommend to consider a G-meter and a backup Attitude Indicator.

Advanced avionics are often designed to use three groups of sensors independently to provide redundancy in case of malfunctions. The logic is usually that in case of discrepancies the reading of two sensors out of three wins. This is a good logic in normal cases. But what happens if all three groups of sensors show different readings and was this certified at the edges or even beyond a flight-envelope? A conventional gyro-based AI, certified for aerobatic maneuvers, could be used as a backup system to provide crew independent information for the proper recognition of upsets.

The recommendation of a G-meter as additional instrumentation is justified by the fact that a common threat of various upset-situations is to exceed the maximum allowable acceleration loads the aeroplane is designed for. Therefore it is useful to see this value and to learn what maneuvers at what airspeeds will cause what load factors. Without this instrumentation a proper assessment of available margins to load limits are not possible.

Therefore the alignment of instrumentation and AFM to UPRT in the certification specification is seen as an issue.

response

Noted

Thank you for your comment.

Please refer to Section 2.3.1 of the Opinion.

Your comment will be further considered by the Review Group when finalising the AMC/GM.



comment	135	comment by: <i>DGAC France</i>
	Subject :Syllabus of PPL flight instruction	
	Content of comment: In the paragraph 'Flight Instruction for the PPL(A)', it is asked from the instructor to include the demonstration of a developed spin. However, this is part of the training of an aerobatic instructor. Therefore, the scope should be limited to the developing spin and should not deal with the developed spin.	
response	Accepted Thank you for your comment. Please refer to Section 2.3.1 of the Opinion.	
comment	164	comment by: <i>FNAM</i>
	In the paragraph 'Flight Instruction for the PPL(A)', it is asked from the instructor to include the demonstration of a developed spin. However, this is part of the training of an aerobatic instructor. Therefore, the scope should be limited to the developing spin and should not deal with the developed spin.	
response	Accepted Thank you for your comment. Please refer to Section 2.3.1 of the Opinion.	
comment	205	comment by: <i>International Development of Technology b.v.</i>
	AMC1 FCL.210.A PPL(A) — Experience requirements and crediting Item (a) Flight instruction, (1) should include TEM, integrate upset prevention elements..., (iv) flight at critically low air speeds, recognition of, and recovery from stall events during the approach-to-stall and during the incipient spin stage following a stall; "Following a stall" by definition <i>cannot</i> be a prevention exercise. It is by definition a recovery.	
response	Accepted Thank you for your comment. Please refer to Section 2.3.1 of the Opinion.	
comment	251	comment by: <i>Royal Aeronautical Society (UK)</i>
	Issue: AMC1 FCL.210.A PPL(A) — Experience requirements and crediting Item (a) Flight instruction, (1) should include TEM, integrate upset prevention elements...,	



(iv) flight at critically low air speeds, recognition of, and recovery from stall events during the approach-to-stall and during the incipient spin stage following a stall;

“Following a stall” by definition cannot be a prevention exercise. It is by definition a recovery.

response

Accepted

Thank you for your comment.

Please refer to Section 2.3.1 of the Opinion.

Your comment will be further considered by the Review Group when finalising the AMC/GM.

comment

285 comment by: *Aviation Performance Solutions*

pg. 59	AMC1 FCL.210.A PPL(A) — and crediting	Item (a) calls for Flight instruction integrating upset prevention elements, but specifies (iv) flight at critically low air speeds, recognition of, and recovery from stall events during the approach-to-stall and during the incipient spin stage following a stall. By definition, this would constitute recovery rather than prevention.
	Item (a) Flight instruction, (1) should include TEM, integrate upset prevention elements...,	
	(iv) flight at critically low air speeds, recognition of, and recovery from stall events during the approach-to-stall and during the incipient spin stage following a stall;	

response

Accepted

Thank you for your comment.

Please refer to Section 2.3.1 of the Opinion.

comment

314 comment by: *René Meier, Europe Air Sports*

Page 59
 AMC1 FCL.210.A PPL(A) — Experience requirements and crediting



	<p>FLIGHT INSTRUCTION FOR THE PPL(A) Comment This paragraph is much more detailed than the rest of FCL.201A.</p> <p>Our question Why?</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>

comment	<p>315 comment by: <i>René Meier, Europe Air Sports</i></p> <p>Page 59 AMC1 FCL.210.A PPL(A) (a) (1)</p> <p>Comment Change the text as follows: “ ... include threat and error management and upset prevention and cover:”</p> <p>Rationale The wording is a bit sophisticated and the human factors are also embedded in the TEM.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p> <p>Your comment will be further considered by the Review Group when finalising the AMC/GM.</p>

comment	<p>316 comment by: <i>René Meier, Europe Air Sports</i></p> <p>Page 59 AMC1 FCL.210.A PPL(A) (c) (2) (xiii) (D)</p> <p>Comment Split the text as follows: “(D1) recovery during the approach-to-stall in the clean configuration with power” “(D2) recovery following a stall in the clean configuration with power”</p> <p>Rationale Exercise description is a bit long and confusing. “Approach-to-stall” and “stall” are of different nature and they should be distinguished.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p>



Please refer to Section 2.3.1 of the Opinion.

comment	317	comment by: René Meier, Europe Air Sports
	Page	59
	AMC1	FCL.210.A
	PPL(A) (c) (2) (xiii)	(E)
	Comment	
	The exercise should not require an aerobatic plane as all exercises under “Exercise 10b Stalling”.	
	Rationale	
	The wing drop should be limited. Read “(D) recovery following a stall with a wing drop of less than 20°”	
response	Partially accepted	
	Thank you for your comment.	
	Please refer to Section 2.3.1 of the Opinion.	

comment	318	comment by: René Meier, Europe Air Sports
	Page 59	
	AMC1	FCL.210.A
	PPL(A) (c) (2) (xiii)	(F)
	Comment	
	A stall should not be combined with an engine failure. Read “(F) recovery during the approach-to-stall in the approach and in the landing configurations with power”.	
	Rationale	
	According to Safety Manuals, only one failure or upset is experienced at a time. Training for possible incidents should not end in accidents.	
response	Accepted	
	Thank you for your comment.	
	Please refer to Section 2.3.1 of the Opinion.	

comment	383	comment by: AOPA Finland
	All change proposals rejected, requirements should be same as earlier.	
response	Not accepted	
	Thank you for your comment.	
	Please refer to Section 2.3.1 of the Opinion.	



3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - AMC2 FCL.210.A p. 61

comment	<p>320</p> <p>comment by: <i>René Meier, Europe Air Sports</i></p> <p>Page 61 AMC2 Flight instruction for LAPL(A) and FCL.210.A PPL(A) Comment Keep the wording simple and understandable.</p> <p>Proposal -flight path management, -upset prevention, -threat and error management”</p> <p>Rationale The flight instruction should be proportionate to the level of risk and the pilot licence. A LAPL or PPL and an ATPL holders should not be treated alike.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>

comment	<p>384</p> <p>comment by: <i>AOPA Finland</i></p> <p>All change proposals rejected, requirements should be same as earlier.</p>
response	<p>Not accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>

3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - GM1 FCL.235 PPL(A) — Skill test p. 61

comment	<p>321</p> <p>comment by: <i>René Meier, Europe Air Sports</i></p> <p>Page 61 GM1 FCL.235 PPL(A) Ability to maintain control of the aeroplane Comment Keep the wording simple and understandable.</p> <p>Proposal -flight path management, -upset prevention,</p>
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-threat and error management”

Rationale

The flight instruction should be proportionate to the level of risk and the pilot licence. A LAPL or PPL and an ATPL holders should not be treated alike.

response Partially accepted

Thank you for your comment.

Please refer to Section 2.3.1 of the Opinion.

comment 385 comment by: AOPA Finland

All change proposals rejected, requirements should be same as earlier.

response Not accepted

Thank you for your comment.

Please refer to Section 2.3.1 of the Opinion

**3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material
(Draft EASA Decision) - AMC1 to Appendix 3 Training courses for the issue of a CPL and an ATP**

p. 61-71

comment 68 comment by: Finnish Aviation Academy

Comment:

The Upset Recovery exercises (Phase five) should be required also in all CPL(A) courses to be consistent with the ATPL(A) courses. It is difficult to find differences in the risk-based approach between CPL(A) and ATPL(A) flight training.

Proposed texts:

Add the text from ATP integrated course (5) phase 5 (i) in Page 63 to all CPL(A) courses

response Not accepted

Thank you for your comment.

Please refer to Section 2.3.7 of the Opinion.

comment 121 ❖ comment by: DGAC France

Subject : Readability of the new UPRT provisions

Content of comment :

The regulatory proposal of this NPA lacks of readability and gives an impression of complexity. This particularly comes from the fact that the elements of training introduced in matter of UPRT (prevention and recovery) are spread through different parts of the text, sometimes in a too prescriptive way.



For instance the appendice 3 (and related AMCs), describing professional licences training courses (integrated ATP, integrated CPL(A)/IR, integrated CPL(A), modular CPL(A)), is amended in a very detailed manner to include UPRT elements at every stage of the training. We admit these elements could be of a precious help for ATOs wishing to get detailed elements for the implementation of UPRT throughout their training programme.

Nevertheless, we think it would be efficient to leave to the ATOs wishing to do so, more flexibility as for the timing of UPRT elements in their training courses. Indeed, ATOs are actually best placed to know, depending on each student's profile, how and when to program the UPRT instruction, in an efficient and adapted manner, during the training provided

For that purpose, the appendice 3 could simply provide for ATOs the obligation to integrate the UPRT elements in their training without being prescriptive as for the timing.

response

Partially accepted

Thank you for your comment.

Please refer to Section 2.3.5 of the Opinion.

comment

133

comment by: DGAC France

Subject : Consistency of the content of CPL/IR and CPL integrated courses

Content of comment :

There is two inconsistencies in AMC 1 to Appendix 3:

- For CPL/IR integrated course the flying instruction is divided into five phases. Nevertheless there is no phase 5 in the proposed text.

- For CPL integrated course the flying instruction is divided into five phases. Nevertheless there is no phase 5 in the proposed text.

The text should be corrected accordingly.

response

Accepted

Thank you for your comment.

comment

215

comment by: International Development of Technology b.v.

On pg. 63 under the ATP Integrated Course: aeroplanes, item "(5) phase 5: (i) instruction in upset recovery exercises..." is mentioned.

However, on pg. 64 under the CPL/IR integrated course: aeroplanes, item "FLYING TRAINING, (1) phase 1: (v) the upset prevention exercises specified in AMC4 to Appendix 3, and...." There is no logic behind this difference. Please change to "upset prevention and recovery" in both cases.



response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Your comment will be considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>217 comment by: <i>International Development of Technology b.v.</i></p> <p>On pg. 68, under “CPL modular course: aeroplanes”, interpretation of “recognition of and recovery from stall events” could lead to misinterpretation and/or insufficient training</p> <p>Under (vii), recognition of and recovery from stall events” could permit training up to only first indication of stall, or “approach-to-stall”. We feel this is not wise as we need to develop these recovery skills as early as possible in the pilot’s career.</p> <p>In ATPL, UPRT is referred to. However, in integrated CPL and ALL other courses, there is only UPT.</p> <p>A simple solution would be to simply refer to ‘FCL.745.A’ on page 22, where “The upset recovery training course shall comprise at least; (3) 3 hours of upset recovery training in an aeroplane qualified for the training task”.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Your comment will be considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>236 comment by: <i>Estonian CAA</i></p> <p>Comment to amendment of CPL/IR integrated course: aeroplanes (AMC1 to Appendix 3): in point (d) amendment is about establishing five phases. However, the content of fifth phase has not been included to the point (d).</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Your comment will be considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>238 comment by: <i>Estonian CAA</i></p> <p>Comment to amendment of CPL integrated course: aeroplanes (AMC1 to Appendix 3): in point (d) amendment is about establishing five phases. However, the content of fifth phase has not been included to the point (d).</p>
response	<p>Accepted</p> <p>Thank you for your comment.</p>
comment	<p>241 comment by: <i>Estonian CAA</i></p>



Comment to amendment of CPL modular course: aeroplanes (AMC1 to Appendix 3): in the point (d) (2) (i), duration of module is 10 hours. However, the duration of exercises based on calculation is 8 h 45 min. Therefore, rule in (2) (i) about module being identical to the 10-hours basic instrument flight module is not correct as AMC2 to Appendix 6 is not being amended.

response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

252

comment by: *Royal Aeronautical Society (UK)*

Issue: Definition of 'stall event'

Introduction of the term 'stall event', without defining training for both the response to stall warning or full stall separately and explicitly does not serve any purpose; it could lead to misunderstanding or ambiguity.

Note that the AURTA also refers to "stall", and is the reference source on this subject.

response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

286

comment by: *Aviation Performance Solutions*

pg. 64	CPL/IR Integrated Course inconsistency	On pg. 63 under the ATP Integrated Course: aeroplanes, item "(5) phase 5: (i) instruction in upset recovery exercises..." is mentioned. However, on pg. 64 under the CPL/IR integrated course: aeroplanes, item "FLYING TRAINING, (1) phase 1: (v) he upset prevention exercises specified in AMC4 to Appendix 3, and...." There is no logic behind this difference. Please change to "upset prevention and recovery" in both cases.
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response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

288

comment by: *Aviation Performance Solutions*

pg.	Under "CPL modular course:	The use of the term stall event in this case would allow
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68	aeroplanes”, interpretation of “recognition of and recovery from stall events” could lead to insufficient training	for the recovery at the first indication of stall (the point of initiation of a stall event). This training is inadequate to build the full range of recognition of important cues which occur after the first indication of stall, to include buffeting, lack of pitch authority, lack of roll control, and the inability to arrest a rate of descent, as identified by the AURTA. Proper knowledge and skill development requires recovery from stalls, not stall events.
		In ATPL, UPRT is referred to. However, in integrated CPL and ALL other courses, there is only UPT.
		A simple solution would be to simply refer to ‘FCL.745.A’ on page 22, where “The upset recovery training course shall comprise at least; (3) 3 hours of upset recovery training in an aeroplane qualified for the training task”.

response

Noted
 Thank you for your comment.
 Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

319 comment by: *René Meier, Europe Air Sports*

Page 61
 AMC1 to Appendix 3 Training courses for the issue of a CPL and an ATPL
 Comment
 We propose to set up a GA UPRT redrafting group which might further become a GA UPRT advisory board.

Rationale
 This would bring more proportionate results.

response

Partially accepted
 Thank you for your comment.
 Please refer to Section 2.3.1 of the Opinion.

comment

386 comment by: *AOPA Finland*

AMC1 to Appendix 3 Training courses for the issue of a CPL and an ATPL

response

Not accepted
 CPL(A) and ATP(A) training courses include UPRT with main emphasis on prevention, which



the Agency and group expert consider to be essential. The more challenging UPRT course in FCL.0745.A does not apply to the CPL(A) training courses.

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment 410 comment by: Finnish Transport Safety Agency

AMC1 to Appendix 3
C. CPL/IR integrated course: aeroplanes (d)

Editorial: the course only contains four phases not five.

response Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment 411 comment by: Finnish Transport Safety Agency

AMC1 to Appendix 3
D. CPL integrated course: aeroplanes (d)

Editorial: the course only contains four phases not five.

response Accepted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment 415 comment by: CAE

Page 64

(d)

There are only four flying instruction phases to the CPL/IR integrated course. Delete 'five'.

Page 65

(3) phase 3 (ii)

recognition of and recovery from spiral dives has been deleted and moved to the upset PREVENTION exercises only of AMC4 to Appendix 3. This means that recovery training from spiral dives which is currently included in the CPL/IR integrated course is no longer applicable - only the prevention exercises. Is that really the intention because this appears to lower the existing standards?



Page 66

(d)

There are only four flying instruction phases to the CPL integrated course. Delete 'five'.

Page 67

(3) phase 3 (c)

recognition of and recovery from spiral dives has been deleted and moved to the upset PREVENTION exercises only of AMC4 to Appendix 3. This means that recovery training from spiral dives which is currently included in the CPL integrated course is no longer applicable - only the prevention exercises. Is that really the intention because this appears to lower the existing standards?

response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - AMC2 to Appendix 3 Training courses for the issue of a CPL and an ATPL

p. 71

comment

220

comment by: *Flightdeck Training Consultancy*

The title addresses the CPL and ATPL course, whereas the text only addresses the ATPL-course.

response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

289

comment by: *Aviation Performance Solutions*

pg. 71	AMC2 to Appendix 3 Training courses for the issue of a CPL and an ATPL; Possible inconsistency.	Reference to FCL.745.A. is related to crediting prior experience in URT course in an aeroplane. Here, it indicates that the ATO should give full credit towards the URT course... in accordance with FCL.745.A. The title addresses the CPL and ATPL course, whereas the text only addresses the ATPL-course. Adoption of the terminology of upset prevention and recovery would provide a clearer message and statement of purpose.
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response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

387

comment by: *AOPA Finland*

AMC2 to Appendix 3 Training courses for the issue of a ~~CPL~~ and an ATPL.

response

Not accepted

CPL(A) and ATP(A) training courses include UPRT with main emphasis on prevention. The more challenging UPRT course in FCL.745.A does not apply to the CPL(A) training courses.

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - AMC3 to Appendix 3; AMC1 to Appendix 5

p. 71-74

comment

259

comment by: *FAA*

The flying training box is checked for causes and contributing factors of upsets, safety review of accidents and incidents, and the human factors elements. It is not practical or even possible to teach these items in an airplane or FSTD. LOCART also did not recommend these items for flight training.

response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

290

comment by: *Aviation Performance Solutions*

pg. 71	AMC to Appendix 3. Inconsistency.	Here the text includes both CPL(A), ATP(A), and MPL, but addresses only upset prevention, not recovery. The distinction between prevention and recovery is an artificial construct not found in the actual delivery of training. Consistent terminology and clarity of purpose would be better served through the overall adoption of an upset prevention and recovery strategy and approach.
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response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Your comment will be considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>388 comment by: <i>AOPA Finland</i></p> <p>AMC3 to Appendix 3; AMC1 to Appendix 5 UPSET PREVENTION TRAINING FOR CPL(A), ATPL(A) and MPL training courses</p>
response	<p>Not accepted</p> <p>CPL(A) and ATP(A) training courses include UPRT with main emphasis on prevention. The more challenging UPRT course in FCL.0745.A does not apply to the CPL(A) training courses.</p> <p>Thank you for your comment.</p> <p>Your comment will be considered by the Review Group when finalising the AMC/GM.</p>

3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - AMC4 to Appendix 3 Training courses for the issue of a CPL and an ATPL p. 74-75

comment	<p>219 comment by: <i>Flightdeck Training Consultancy</i></p> <p>AMC4 to appendix 3: This AMC only talks about 'prevention exercises'. Also the GM1 to this appendix only speaks about 'prevention exercises' and it references to tables 1 and 2. In those tables and all other named references templates are given for RECOVERY. So inconsistent use of the terms prevention and recovery. Suggestion; Change to “upset prevention and recovery” where applicable.</p>			
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Your comment will be considered by the Review Group when finalising the AMC/GM.</p>			
comment	<p>291 comment by: <i>Aviation Performance Solutions</i></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; padding: 2px;">Pg 75</td> <td style="width: 20%; padding: 2px;">Subject of GM</td> <td style="padding: 2px;">Adoption of the terminology of upset prevention and recovery would provide a clearer message and statement of purpose.</td> </tr> </table>	Pg 75	Subject of GM	Adoption of the terminology of upset prevention and recovery would provide a clearer message and statement of purpose.
Pg 75	Subject of GM	Adoption of the terminology of upset prevention and recovery would provide a clearer message and statement of purpose.		
response	<p>Noted</p>			



Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

416

comment by: CAE

Page 74

AMC4 to Appendix 3

The diagram could be misread to suggest that with negative pitch attitude the roll limits are zero. Correct the diagram, e.g. add a dotted line "V" showing the bank angle limits at the pitch thresholds (+25 and -10) or similar.

response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - GM1 to Appendix 3 Training courses for the issue of a CPL and an ATPL

p. 75-77

comment

51

comment by: Transport Canada Civil Aviation Standards Branch

Comments to GM1 to Appendix 3 Training courses for the issue of a CPL and an ATPL (Pages 75 to 77)

Note: Tables 1 and 2 for PF actions transcribed side by side for comparison purposes.

Comment 1 – Is there any intention to provide a Stall Event recovery template? [rm1]

Comment 2 – Steps 4 and 5; Table 1. It is suggested that Step 4 be exchanged with Step 5 to have the step to Adjust the Roll precede the step to Adjust Thrust/Power. **Rationale:** This change would make the sequence of steps in the Nose-High Recovery Template consistent with steps in the Nose-Low Recovery Template. This would also promote more consistent, simpler and effective training, since recognizing the difference between a nose-high upset and stall event can be difficult. Lastly, this would make this template more consistent with the sequence of steps in FAA AC's 120-09 and 120-111. [rm2]

Comment 3 – Step 5; Tables 1 and 2 – Suggest use of terminology Thrust/Power vs. Power to consider both turbojet and propeller driven aeroplanes. [rm3]

Comment 4 – Notes; Table 1 – Suggest inclusion of Note (2) and renumber existing Note (2) to (3) [rm4]

GM1 to Appendix 3 Training courses for the issue of a CPL and an ATPL

UPSET PREVENTION EXERCISES

Step	Table 1: Recommended nose-high recovery strategy template	Table [rm1] : - Stall Recovery	Table 2: Recommended nose-low recovery strategy template
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	Nose-high recovery strategy template	Event?	Nose-low recovery strategy template
1.	AUTOPILOT — DISCONNECT (A large out-of-trim condition could be encountered when the AP is disconnected)		AUTOPILOT — DISCONNECT (A large out-of-trim condition could be encountered when the AP is disconnected)
2.	AUTOTHRUST/AUTOTHROTTLE — OFF (if applicable)		AUTOTHRUST/AUTOTHROTTLE — OFF (if applicable)
3.	APPLY as much nose-down control input as required to obtain a nose-down pitch rate		RECOVERY from stall (if required)
4.	POWER — ADJUST (if required) ROLL [rm2] — ADJUST (if required) (Avoid exceeding 60-degree bank)		ROLL in the shortest direction to wings level (It may be necessary to reduce the G-loading by applying forward control pressure to improve roll effectiveness)
5.	ROLL — ADJUST (if required) (Avoid exceeding 60-degree bank) THRUST/POWER [rm3] — ADJUST (if required)		THRUST/POWER and DRAG — ADJUST (if required)
6.	When airspeed is sufficiently increasing — RECOVER to level flight (Avoid the secondary stall due to premature recovery or excessive G-loading)		RECOVER to level flight Avoid the secondary stall due to premature recovery or excessive G-loading)
	NOTE: (1) Recovery to level flight may require use of pitch trim. (2) [rm4] If necessary, consider reducing thrust in aeroplanes with underwing-mounted engines to aid in achieving nose-down pitch rate. (2) (3) WARNING: Excessive use of pitch trim or rudder may aggravate the upset situation or may result in high structural loads.		NOTE: (1) Recovery to level flight may require use of pitch trim. (2) WARNING: Excessive use of pitch trim or rudder may aggravate the upset situation or may result in high structural loads.



response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

206

comment by: *International Development of Technology b.v.*

Subject of GM:

The subtitle indicates that these are “upset prevention exercises”, however Tables 1 and 2 appear to be upset recovery templates.

response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

253

comment by: *Royal Aeronautical Society (UK)*

Issue: Subject of GM

The subtitle indicates that these are “upset prevention exercises”, however Tables 1 and 2 are upset recovery templates.

response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - AMC1 to Appendix 4 B. 3.(e)Content of the skill test for the issue of a CPL — Aeroplanes

p. 77

comment

389

comment by: *AOPA Finland*

~~AMC1 to Appendix 4 B. 3. (e) Content of the skill test for the issue of a CPL — Aeroplanes~~
~~ABILITY TO MAINTAIN CONTROL OF THE AEROPLANE~~
~~During the skill test, the applicant should be able to demonstrate correct application of:~~
~~—upset prevention techniques and strategies,~~
~~—energy management,~~
~~—flight path management,~~



~~—threat and error management~~

response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - AMC1 FCL.725(a) Requirements for the issue of class and type ratings

p. 79

comment

91

comment by: *Dassault-Aviation*

Dassault-Aviation comment page 79

AMC3 FCL.725(a);AMC3 to appendix 9

Comment:

It should be extremely important to introduce the Flight envelopes diagrams of the aircraft (in general and for type characteristics). At least, aerodynamic and structural flight envelopes should be showed and explained during the course.

response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

93

comment by: *Dassault-Aviation*

Dassault-Aviation comment page 79

Text:

**AMC3 FCL.725(a); AMC3 to appendix 9
Table 1**

E. Energy management

1. Relationship between kinetic, potential and chemical energy

Comment:

There is an important missing point in E.1: the mention that almost all aircraft have features (AB, flaps, spoilers, etc.) to decrease total energy. So, instead of talking about chemical energy, it should be more pedagogic to make mention of the *ratio between Thrust and Drag*

Proposition:

“1. Kinetic energy vs potential energy vs effect of thrust-drag ratio on the total energy.”



response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

94

comment by: *Dassault-Aviation*

Dassault-Aviation comment page 79

Text:

**AMC3 FCL.725(a); AMC3 to appendix 9
Table 1**

E. Energy management

1. Relationship between kinetic, potential and chemical energy

Comment:

Some avionic features are used to display specific symbols in PFDs or HUDs which give energy state and trajectory information to the pilot.

During a TR course, it is important to describe to applicants how they could use all the information they have at their disposal.

An added item should be inserted:

“E 2.: Type specific characteristics

response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

95

comment by: *Dassault-Aviation*

Dassault-Aviation comment page 79

**AMC3 FCL.725(a); AMC3 to appendix 9
Table 1**

Comment:

Spatial disorientation is not mentioned in the table; whereas it could be an aggravating factor during go around. GM1 to appendix 9 emphasizes the TEM principles et mentioned spatial disorientation, but the importance of the subject would lead to insert it in the AMC as a theoretical knowledge item. Moreover, a Human Factor item should be added:

Proposal :



	<p>“1. Human factors 1. : Spatial disorientation 2. : ...”</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Your comment will be considered by the Review Group when finalising the AMC/GM.</p>

**3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material
(Draft EASA Decision) - AMC3 FCL.725(a); AMC3 to Appendix 9**

p. 79-80

comment	<p>73 comment by: <i>Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</i></p> <p>AMC3 FCL.725(a);AMC3 to Appendix 9, Ref page 79</p> <p>A 12 Icing and contamination effects</p> <p><i>Proposed action:</i></p> <p>A 12 Icing and contamination effects (FSTD only)</p> <p><i>Rationale:</i> Add (FSTD only) after effects</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Your comment will be considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>74 comment by: <i>Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</i></p> <p>AMC3 FCL.725(a);AMC3 to Appendix 9, Ref page 79</p> <p>C1 Safety review of accidents and incidents relating to aeroplane upsets</p> <p><i>Proposed action:</i> Delete flight instruction in the table for C1.</p> <p><i>Rationale</i> It is very difficult to do flight instruction for this item.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p>



Your comment will be considered by the Review Group when finalising the AMC/GM.

comment	154	comment by: <i>FNAM</i>
	<p>There is an important missing point in E.1: the mention that almost all aircraft have features (AB, flaps, spoilers, etc.) to decrease total energy. So, instead of talking about chemical energy, it should be more pedagogic to make mention of the <i>ratio between Thrust and Drag</i>.</p> <p><u>Proposal:</u> "1. Kinetic energy vs potential energy vs effect of thrust-drag ratio on the total energy."</p>	
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Your comment will be considered by the Review Group when finalising the AMC/GM.</p>	
comment	350	comment by: <i>ATR</i>
	<p>When mentioning "Fly-by-wire protection degradations": Precise "when applicable"</p>	
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Your comment will be considered by the Review Group when finalising the AMC/GM.</p>	
comment	417	comment by: <i>CAE</i>
	<p>Page 79</p> <p>AMC3 FCL.725(a)</p> <p>1. Separate the FSTD and Aeroplane Columns 2. Clearly separate which "type-specific" aeroplane elements so as to differentiate which elements maybe completed in a non-type specific training.</p> <p>Amend the equivalent ORO.FC requirements if applicable.</p>	
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Your comment will be considered by the Review Group when finalising the AMC/GM.</p>	

**3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material
 (Draft EASA Decision) - GM1 to FCL.725(a); GM1 to Appendix 9**

p. 80-81

comment 165 comment by: *FNAM*



Specific “Upset Prevention” scenarios should be proposed in Appendix 9 (practical training):
(new item of the appendix 9) “ITEM 3.7.2 operational scenarios like encounter of heavy wake turbulence or heavy turbulence during approach or high altitude cruise, SAT increasing with storm front ahead and heavy aircraft, loss of reliable airspeed, etc...”

response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

207

comment by: *International Development of Technology b.v.*

Note that the AURTA Rev. 2 does not discuss "stalle vent"; only "stall".

response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

418

comment by: *CAE*

Page 81

The paragraph directly under "IMPORTANT" could be misleading as secondary stall is normally associated with an "aerodynamic/full" stall and therefore infers that full stall training is included. However, the preceding paragraphs read that training in "current or grandfathered" devices is limited to approach to stall. CAE understands the rationale regarding the use of "stall event" and this is consistent with ICAO Doc 10011. In using this term it carries the risk of misinterpretation that full stall is allowed.

Within these regulations why not use "approach to stall" and "aerodynamic or full stall".

We also note in the stall recovery templates "RECOVERY from stall if required" - is this full stall or approach to stall?

We propose to change 'stall event' to 'approach to stall' or 'stall' as applicable through the affected NPA.

response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

**3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material
 (Draft EASA Decision) - GM1 Appendix 9**

p. 81-84



comment

52

comment by: Transport Canada Civil Aviation Standards Branch

Comments to GM1 to Appendix 9 - UPSET RECOVERY TRAINING FOR SINGLE-PILOT HIGH-PERFORMANCE COMPLEX AEROPLANES IN MULTI-PILOT OPERATIONS AND MULTI-PILOT TYPE RATINGS (Pages 81 to 84)

Note: Tables 1, 2 and 3 for PF actions transcribed side by side for comparison purposes.

Comment 1 – Step 2; Tables 1, 2, and 3. Added (*if applicable*) to be consistent with previous tables [rm1]

Comment 2 – Steps 4 and 5; Table 2. It is suggested that Step 4 be exchanged with Step 5 to have the step to Adjust the Roll precede the step to Adjust Thrust/Power. **Rationale:** This change would make the sequence of steps in the Nose-High Recovery Template consistent with steps in the Stall Event Recovery Template and Nose-Low Recovery Template. This would also promote more consistent, simpler and effective training, since recognizing the difference between a nose-high upset and stall event can be difficult. Lastly, this would make this template more consistent with the sequence of steps in FAA AC’s 120-09 and 120-111. [rm2]

Comment 3 – Step 4; Table 1 – Suggest replacing *Bank* with *Roll* for consistency with Tables 2 and 3. [rm3]

Comment 4– Step 5; Tables 1, 2 and 3 – Suggest use of terminology *Thrust/Power* vs. *Thrust* to consider both turbojet and propeller driven aeroplanes. [rm4]

Comment 5 – Steps 5 and 6; Table 1 – Suggest combining steps 5 and 6 into one (Thrust/Power and Drag Adjust) [i.e. Speedbrakes/ Spoilers-Retract] and moving Step 7 into Step 6 to be consistent with Tables 2 and 3. [rm5]

Comment 6 – Notes; Table 1 – Suggest inclusion of Notes from Table 2 as they are applicable. [rm6]

Comment 7 – Consider combining Tables 1 and 2 into a combined Stall Event/Nose-High Recovery Procedure since the principal steps are essentially the same from recovering from a nose-high/high AOA condition. [rm7]

GM1 Appendix 9 UPSET RECOVERY TRAINING FOR SINGLE-PILOT HIGH-PERFORMANCE COMPLEX AEROPLANES IN MULTI-PILOT OPERATIONS AND MULTI-PILOT TYPE RATINGS

Step	Table 1: Recommended stall event recovery template Stall event recovery template	Table 2: Recommended nose-high recovery strategy template Nose-high recovery strategy template [rm7]	Table 3: Recommended nose-low recovery strategy template Nose-low recovery strategy template
1.	AUTOPILOT — DISCONNECT (A large out-of-trim condition could be encountered when the AP is disconnected)	AUTOPILOT — DISCONNECT (A large out-of-trim condition could be encountered when the AP is disconnected)	AUTOPILOT — DISCONNECT (A large out-of-trim condition could be encountered when the AP is disconnected)
2.	AUTOTHRUST/	AUTOTHRUST/	AUTOTHRUST/AUTOTHROTTLE —



	AUTOTHROTTLE — OFF (if applicable [rm1])	AUTOTHROTTLE — OFF (if applicable)	OFF (if applicable)
3.	(a) NOSE-DOWN PITCH CONTROL apply until stall warning is eliminated (b) NOSE-DOWN PITCH TRIM (as needed) (Reduce the AoA whilst accepting the resulting altitude loss.)	APPLY as much nose-down control input as required to obtain a nose-down pitch rate	RECOVERY from stall (if required)
4.	BANKROLL — WINGS LEVEL	THRUST — ADJUST (if required) (Thrust reduction for aeroplanes with underwing-mounted engines may be needed) ROLL — ADJUST (if required) (Avoid exceeding 60-degree bank) [rm2]	ROLL in the shortest direction to wings level (It may be necessary to reduce the G-loading by applying forward control pressure to improve roll effectiveness)
5.	THRUST/POWER — ADJUST (as needed) / SPEEDBRAKES/SPOILERS — RETRACT [rm5] (Thrust reduction for aeroplanes with underwing mounted engines may be needed)	ROLL — ADJUST (if required) (Avoid exceeding 60-degree bank) THRUST/POWER — ADJUST (if required) (Thrust reduction for aeroplanes with underwing-mounted engines may be needed)	THRUST/POWER and DRAG — ADJUST (if required)
6.	SPEEDBRAKES/SPOILERS — RETRACT When airspeed is sufficiently increasing — RECOVER to level flight (Avoid the secondary stall due to premature recovery or excessive G-loading)	When airspeed is sufficiently increasing — RECOVER to level flight (Avoid the secondary stall due to premature recovery or excessive G-loading)	RECOVER to level flight Avoid the secondary stall due to premature recovery or excessive G-loading)
7.	When airspeed is sufficiently increasing — RECOVER to level flight (Avoid the secondary stall		



	<p>due to premature recovery or excessive G-loading)</p>		
	<p>NOTE[rm6] :</p> <p>(1) Recovery to level flight may require use of pitch trim.</p> <p>(2) If necessary, consider reducing thrust in aeroplanes with underwing-mounted engines to aid in achieving nose-down pitch rate.</p> <p>(3) WARNING: Excessive use of pitch trim or rudder may aggravate the upset situation or may result in high structural loads.</p>	<p>NOTE:</p> <p>(1) Recovery to level flight may require use of pitch trim.</p> <p>(2) If necessary, consider reducing thrust in aeroplanes with underwing-mounted engines to aid in achieving nose-down pitch rate.</p> <p>(3) WARNING: Excessive use of pitch trim or rudder may aggravate the upset situation or may result in high structural loads.</p>	<p>NOTE:</p> <p>(1) Recovery to level flight may require use of pitch trim.</p> <p>(2) WARNING: Excessive use of pitch trim or rudder may aggravate the upset situation or may result in high structural loads.</p>

response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

96

comment by: *Dassault-Aviation*

Dassault-Aviation comment page 83

Table 2 item 5

Comment:

In a recommended nose-high recovery strategy, it is important not to impose a bank target during maneuvers for those reasons:

- The recovery could be more effective with more than 60° of bank (real-life example of a pitch trim runaway);
- The pilot workload could be heavier with a piloting limitation;



	<p>- If the recommendation is to avoid exceeding 60° bank, the result could be to stop far before this value and probably to be less efficient. We suggest to delete “avoid exceeding 60° bank” <u>Remark:</u> the note just above the table in this GM is paramount.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Your comment will be considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>221 comment by: <i>International Development of Technology b.v.</i></p> <p>Recovery strategies:</p> <p>Statement made “APPLY as much nose-down control input as required...” This is important to train correctly, and not apply abrupt control inputs, or cause unintended consequences.</p> <p>It is important to check ALL the strategies listed, so that negative training is not applied!</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Your comment will be considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>254 comment by: <i>Royal Aeronautical Society (UK)</i></p> <p>Issue: Reference to AURTA Revision 2</p> <p>Refer to Revision 2 of AURTA for a detailed explanation and rationale of the stall event recovery template...”. The AURTA Revision 2 makes no mention of “stall event”; only “stall”.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Your comment will be considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>351 comment by: <i>ATR</i></p> <p>Regarding Note 1: “in order to avoid negative training...” EASA should clarify the frame of the associated exercises. Modern simulators are unable to demonstrate the aircraft behaviours outside the flight envelop and above all accelerations. In addition, obtaining representative flight data is unrealistic since aircraft behavior in full stall condition will be influenced by too many parameters. Thus a typical behavior might not be possible to identify which may lead to negative transfer of training.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p>



Your comment will be considered by the Review Group when finalising the AMC/GM.

comment	352	comment by: <i>ATR</i>
	Regarding the introduction of the rationale p82: A recommended callout eg “STALL” could be used for flight crew situation awareness.	
response	Noted	
	Thank you for your comment.	
	Your comment will be considered by the Review Group when finalising the AMC/GM.	
comment	353	comment by: <i>ATR</i>
	Regarding Rationale 5. “ROLL... page 83: EASA could provide the same kind of "limit" in all exercises required.	
response	Noted	
	Thank you for your comment.	
	Your comment will be considered by the Review Group when finalising the AMC/GM.	
comment	354	comment by: <i>ATR</i>
	Regarding Rational 6. “When airspeed is... page 83: Emphasis shall be given on the fact g-loads are not simulated in the simulators. In addition to the excessive g-loading manoeuvre, EASA could add a mention on the dynamic of the recovery that could lead to this situation.	
response	Noted	
	Thank you for your comment.	
	Your comment will be considered by the Review Group when finalising the AMC/GM.	
comment	355	comment by: <i>ATR</i>
	Regarding note (3) page 83: To cover the pedagogical exercises/objectives, should the exercises be done in VMC, in IMC or both conditions?	
response	Noted	
	Thank you for your comment.	
	Your comment will be considered by the Review Group when finalising the AMC/GM.	



(Draft EASA Decision) - AMC1 FCL.745.A(a)(2); Appendix 5

comment 260

comment by: FAA

The maneuvers table for Upset Recovery Training includes recovery from incipient spin. In the US, this maneuver is only required for the flight instructor certificate due to the number of accidents which occurred when it was previously required for other certificates. This was discussed at LOCART and spin training was not a recommendation of the group.

response Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

**3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material
(Draft EASA Decision) - GM2 FCL.745.A(a)(2); Appendix 5**

p. 87-92

comment 167

comment by: Boeing

Page: 89

Paragraph: GM2 FCL.745.A(a)(2);Appendix 5 UPSET RECOVERY TRAINING EXERCISES

Table: Exercise A.1 & A.2

THE PROPOSED TEXT STATES:***“Completion standards:***

— *Recognizes and confirms the situation.*

— *Initiates recovery by:*

- *identifying airspeed trend, verifying that the autopilot and autothrottle/autothrust are disconnected, and sets thrust accordingly (bearing in mind the engine configuration of the aeroplane):*
 - *o speed high and increasing: reduce thrust;*
 - *o speed low and reducing: increase thrust;*
 - *o speed stable: no change to thrust setting;*
- *initiating roll to the nearest horizon;*
- *once ‘wings level’ condition is achieved, initiating pitch change sufficient to arrest climb or descent rate (caution to be aware of ‘rolling G’).*

— *When control is re-established, proper recovery consists of up to full forward movement of the control column to achieve nose-down elevator and by using stabilizer trim, if required. A steady nose-down pitch rate should be achieved, and it should be noted that the aeroplane would be less than 1G and the associated characteristics of such.*



— When approaching the horizon, the pilot checks airspeed, adjusts thrust and establishes the appropriate pitch attitude and stabilizer trim setting for level flight.

— The manoeuvre is considered complete once a safe speed is achieved and the aeroplane is stabilized.

— Satisfactory crew coordination should be demonstrated.”

REQUESTED CHANGE: We recommend revising the text as follows:

“Completion standards

— Recognizes and confirms the situation.

— Initiates recovery by:

- identifying airspeed trend, verifying that the autopilot and autothrottle/autothrust are disconnected, and sets thrust accordingly (bearing in mind the engine configuration of the aeroplane):
 - o speed high and increasing: reduce thrust;
 - o speed low and reducing: increase thrust;
 - o speed stable: no change to thrust setting;
- initiating roll to the nearest horizon; or if nose-high, adjust bank angle as required to achieve nose-down pitch rate;
- once ‘wings level’ condition is achieved in a nose-low situation, initiating pitch change sufficient to arrest ~~climb or~~ descent rate (caution to be aware of ‘rolling G’).

— When control is re-established, proper recovery consists of up to full forward movement of the control column to achieve nose-down elevator and by using stabilizer trim, if required. A steady nose-down pitch rate should be achieved, and it should be noted that the aeroplane would be less than 1G and the associated characteristics of such.

— When approaching the horizon, the pilot checks airspeed, adjusts thrust, adjusts bank to achieve level flight, and establishes the appropriate pitch attitude and stabilizer trim setting for level flight.

— The manoeuvre is considered complete once a safe speed is achieved and the aeroplane is stabilized.

— Satisfactory crew coordination should be demonstrated.”

JUSTIFICATION: Wings level pushover may not be achievable before stall; thus, roll may be required to maintain a nose-down pitch rate.

response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.



comment	255	comment by: <i>Royal Aeronautical Society (UK)</i>
	There should be an addition to page 89 to reflect Nose high/Nose low recovery strategy templates.	
response	Noted	
	Thank you for your comment.	
	Your comment will be considered by the Review Group when finalising the AMC/GM.	

comment	261	comment by: <i>FAA</i>
	It would be more clear what the exercises are if they had actual names instead of titles like A.1 and A.2. Why do some exercises have 2 numbers in the title and some only have one? Are there two exercises in one in those exercises?	
	Also, there does not seem to be practice in nose high or nose low upsets without large bank angles. This should be practiced as well because a large bank angle could aid in managing a nose high upset; therefore students need to practice without the aid of an existing bank.	
response	Noted	
	Thank you for your comment.	
	Your comment will be considered by the Review Group when finalising the AMC/GM.	

comment	419	comment by: <i>CAE</i>
	Page 88	
	First paragraph, the word "future" is redundant. Propose deletion.	
response	Noted	
	Thank you for your comment.	

**3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material
(Draft EASA Decision) - GM3 FCL.745.A(a)(2); Appendix 5**

p. 93-95

comment	53	comment by: <i>Transport Canada Civil Aviation Standards Branch</i>
	<u>Comments to GM3 FCL.745.A(a)(2); Appendix 5 - UPSET RECOVERY TRAINING EXERCISES STALL RECOVERY EXERCISES (Pages 93 to 95)</u>	
	-	
	Note: Tables 1, 2 and 3 for PF actions transcribed side by side for comparison purposes.	
	Comment 1 – Step 2; Tables 1, 2 and 3. Added (<i>if applicable</i>) to be consistent with previous tables	
	[rm1]	
	Comment 2 – Steps 4 and 5; Table 2. It is suggested that Step 4 be exchanged with Step 5 to have the	



step to Adjust the Roll precede the step to Adjust Thrust/Power. [rm2] **Rationale:** This change would make the sequence of steps in the Nose-High Recovery Template consistent with steps in the Stall Event Recovery Template and Nose-Low Recovery Template. This would also promote more consistent, simpler and effective training, since recognizing the difference between a nose-high upset and stall event can be difficult. Lastly, this would make this template more consistent with the sequence of steps in FAA AC’s 120-09 and 120-111.

Comment 3 – Step 4; Table 1 – Suggest replacing *Bank* with *Roll* for consistency with Tables 2 and 3. [rm3]

Comment 4 – Step 5; Tables 1, 2 and 3 – Suggest use of terminology *Thrust/Power* vs. *Thrust* to consider both turbojet and propeller driven aeroplanes. [rm4]

Comment 5 – Steps 5 and 6; Table 1 – Suggest combining steps 5 and 6 into one (Thrust/Power and Drag Adjust) (i.e. Speedbrakes/ Spoilers-Retract) and moving Step 7 into Step 6 to be consistent with Tables 2 and 3. [rm5]

Comment 6 – Notes; Table 1 – Suggest inclusion of Notes from Table 2 as they are applicable. [rm6]

Comment 7 – Consider combining Tables 1 and 2 into a combined Stall Event/Nose-High Recovery Procedure since the principal steps are essentially the same from recovering from a nose-high/high AOA condition. [rm7]

GM3 FCL.745.A(a)(2);Appendix 5 UPSET RECOVERY TRAINING EXERCISES STALL RECOVERY EXERCISES			
Step	<u>Table 1: Recommended stall event recovery template</u> Stall event recovery template	Table 2: Recommended nose-high recovery strategy template Nose-high recovery strategy template [rm7]	Table 3: Recommended nose-low recovery strategy template Nose-low recovery strategy template
1.	AUTOPILOT — DISCONNECT (A large out-of-trim condition could be encountered when the AP is disconnected)	AUTOPILOT — DISCONNECT (A large out-of-trim condition could be encountered when the AP is disconnected)	AUTOPILOT — DISCONNECT (A large out-of-trim condition could be encountered when the AP is disconnected)
2.	AUTOTHRUST/AUTOTHROTTLE — OFF (if applicable [rm1])	AUTOTHRUST/AUTOTHROTTLE — OFF (if applicable)	AUTOTHRUST/AUTOTHROTTLE — OFF (if applicable)
3.	(a) NOSE-DOWN PITCH CONTROL apply until stall warning is eliminated (b) NOSE-DOWN PITCH TRIM (as needed) (Reduce the AoA whilst accepting the resulting altitude loss.)	APPLY as much nose-down control input as required to obtain a nose-down pitch rate	RECOVERY from stall (if required)
4.	BANK ROLL [rm3] — WINGS LEVEL	THRUST — ADJUST (if required)	ROLL in the shortest direction to wings level



		(Thrust reduction for aeroplanes with underwing-mounted engines may be needed) ROLL — ADJUST (if required) (Avoid exceeding 60-degree bank) [rm2]	(It may be necessary to reduce the G-loading by applying forward control pressure to improve roll effectiveness)
5.	THRUST/POWER [rm4] — ADJUST (as needed) SPEEDBRAKES/SPOILERS — RETRACT [rm5] (Thrust reduction for aeroplanes with underwing-mounted engines may be needed)	ROLL — ADJUST (if required) (Avoid exceeding 60-degree bank) THRUST/POWER — ADJUST (if required) (Thrust reduction for aeroplanes with underwing-mounted engines may be needed)	THRUST/POWER and DRAG — ADJUST (if required)
6.	SPEEDBRAKES/SPOILERS — RETRACT When airspeed is sufficiently increasing — RECOVER to level flight (Avoid the secondary stall due to premature recovery or excessive G-loading)	When airspeed is sufficiently increasing — RECOVER to level flight (Avoid the secondary stall due to premature recovery or excessive G-loading)	RECOVER to level flight Avoid the secondary stall due to premature recovery or excessive G-loading)
7.	When airspeed is sufficiently increasing — RECOVER to level flight (Avoid the secondary stall due to premature recovery or excessive G-loading)		
	NOTE: [rm6] (1) Recovery to level flight may require use of pitch trim. (2) If necessary, consider reducing thrust in aeroplanes with underwing-mounted engines to aid in achieving nose-down pitch rate. (3) WARNING: Excessive use of pitch trim or rudder may aggravate the upset situation or may result in high structural loads.	NOTE: (1) Recovery to level flight may require use of pitch trim. (2) If necessary, consider reducing thrust in aeroplanes with underwing-mounted engines to aid in achieving nose-down pitch rate. (3) WARNING: Excessive use of pitch trim or rudder may aggravate the upset situation or may result in high structural loads.	NOTE: (1) Recovery to level flight may require use of pitch trim. (2) WARNING: Excessive use of pitch trim or rudder may aggravate the upset situation or may result in high structural loads.



response Not accepted
 Thank you for your comment.
 The current text is in line with ICAO Doc 10011.

comment 97 comment by: *Dassault-Aviation*
 Dassault-Aviation comment page 94
 Table 2 item 5
 Comment:
 In a recommended nose-high recovery strategy, it is important not to impose a bank target during maneuvers for those reasons:
 - The recovery could be more effective with more than 60° of bank (real-life example of a pitch trim runaway);
 - The pilot workload could be heavier with a piloting limitation;
 - If the recommendation is to avoid exceeding 60° bank, the result could be to stop far before this value and probably to be less efficient.
 We suggest to delete “avoid exceeding 60° bank”
Remark: the note just above the table in this GM is paramount.

response Noted
 Thank you for your comment.
 Your comment will be considered by the Review Group when finalising the AMC/GM.

comment 156 comment by: *FNAM*
 The manufacturer should be asked to be more explicit regarding the pitch angles that have to be displayed within the emergency procedures, when a stall event occurs at high altitudes.

response Noted
 Thank you for your comments.
 Your comment will also be further considered by the Review Group when finalising the AMC/GM.

comment 157 comment by: *FNAM*
In the Table 2 Item 5 : ROLL — ADJUST (if required) (Avoid exceeding 60-degree bank) avoid exceeding 60° bank”



In a recommended nose-high recovery strategy, it is important not to impose a bank target during maneuvers for those reasons:

- The recovery could be more effective with more than 60° of bank (real-life example of a pitch trim runaway);
- The pilot workload could be heavier with a piloting limitation;
- If the recommendation is to avoid exceeding 60° bank, the result could be to stop far before this value and probably to be less efficient.

We suggest to delete “avoid exceeding 60° bank”

Remark: the note just above the table in this GM is paramount.

response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

**3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material
(Draft EASA Decision) - AMC1 FCL.915**

p. 96-97

comment

6

comment by: *Nick Carr*

AMC 1 FCL.915

Does the agency intend to limit this instructor training course to FIC instructors only? Whilst I agree that there is a requirement for instructor training, great care must again be taken that it is delivered by appropriately qualified instructors. The majority of FIC instructors will have little experience of multi-engine jet operations and therefore may not be best placed to deliver this course as there may be the risk of negative transfer of training.

In addition the CRM focus of the course must be appropriately understood by instructors so as to ensure the training exercises are conducted appropriately. Multi-engine jet CRM understanding would be beneficial.

response

Noted

Thank you for your comment.

Please refer to Section 2.3.7 of the Opinion. The Agency does not intend to restrict the course to FI only. Preferably, the instructor should have some experience with CS-25 jet aircraft; however, mandating such experience would limit the amount of instructors able to attend the course referred to in FCL.915 (e).

comment

112

comment by: *European Cockpit Association*

Commented text:

AMC1 FCL.915(e)-(d)(1)

Table 1

Additional Instructor upset recovery course elements.



	<p>ECA's Comments: Add content to Table 1: 14. Typical aggravated Loss-Of-Control situations potentially generated by student pilots' brief and subtle actions on controls (spiral-spins, flat-spins, high-energy snap roll spins, etc...)</p> <p>Reasoning: When it is understood that UPRT is <u>not</u> Aerobatic Training, it must also be understood that aggravated unexpected LOC-I will be encountered during UPRT on-aeroplane instruction as well.</p> <p>Student-pilots' and instructors' safety could be at stake if additional content that is NOT provided during the Aerobatic Training course, is not added to the "UPRT Flight Instructor in an aeroplane course".</p> <p>Also see additions to AMC1 FCL915(e) Assessment of competence, "SECTION 1 – ORAL" (p97) and "SECTION 3 - FLIGHT" (p98).</p>
<p>response</p>	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p> <p>Your comment will be considered by the Review Group when finalising the AMC/GM.</p>
<p>comment</p>	<p>113 comment by: <i>European Cockpit Association</i></p> <p>Commented text: AMC1 FCL.915(e)-Assessment of competence, (a), SECTION 1-TK- ORAL (a) Content of the assessment (Table) SECTION 1 -TK- ORAL</p> <p>ECA's Comments: Add to Table: 1.13 Causes of snap-roll-spins and danger to aircraft structural integrity, 1.14 Recognition of spiral-spins (spin improperly stalled, quick increase in speed when it should stabilize, higher load factor) and danger to aircraft structural integrity. 1.15 Contributing factors, recognition and recovery from flat-spins.</p> <p>Reasoning: When it is understood that UPRT is <u>not</u> Aerobatic Training, it must also be understood that aggravated unexpected LOC-I will be encountered during UPRT on-aeroplane instruction as well.</p> <p>Student-pilots' and instructors' safety could be at stake if additional content that is NOT provided during the Aerobatic Training course, is not added to the "UPRT Flight Instructor in an aeroplane course".</p>
<p>response</p>	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p>



Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

232

comment by: *AEROFUTUR (ATO FR 0053)***Aerofutur's comments:**

Considering the aerobatic rating as an essential requirement will not be sufficient.

Specialized instructor skills are necessary to ensure proper delivery of UPRT. However, it seems to us that this NPA is not properly considering and addressing some **threats specific to LOC-I instruction**. Those are situations when quick -and even short- actions from a student pilot will create highly threatening uncontrolled situations. The Instructors response to the unexpected, to the unknown and to their own reaction to startle will be challenged (e.g. flat spins).

Flat spins can be created by extremely brief "out spin aileron command" actions. The UPRT-Instructor skills in such a situation will be highly challenged for several reasons if this threat is not part of his expertise. First because no countermeasure can be anticipated to an unknown threat. But also because, at a point, this UPRT-Instructor will take controls. **However, experience has shown that without the appropriate competency the chances that a flat spin be recognized and recovered from are ZERO !**

Aerofutur's suggestions:

To add detailed theoretical knowledge and flight instruction specific elements regarding spins and flat spins.

This should bring the UPRT instructors to a spin-expertise level, allowing them:

- to **take appropriate countermeasures to this LOCI-instruction-specific threat**,
- to correctly **adapt safety margins** (e.g. altitude)
- to be able to **anticipate those students' errors which will bring a spin to flatten**,
- to be able to **recognize a flat spin**,
- to be able to **recover from a flat spin**.

response

Noted

Thank you for your comment.

Please refer to Section 2.3.7 of the Opinion.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

322

comment by: *René Meier, Europe Air Sports*

Page 96

AMC1 FCL.915

General prerequisites and requirements for instructors - Upset recovery instructor training course

Comment

Introduce AMCs which would be specific to FIs only training towards the LAPL(A) and the



	<p>PPL(A). For instance, no certificate of UPRT course completion, no UPRT endorsement on the licence should be required from them.</p> <p>Rationale The prerequisites and requirements for FIs only training towards the LAPL(A) and the PPL(A) should be proportionate to the level of risk experienced in light aviation flying at low altitude.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>

comment	<p>390</p> <p style="text-align: right;">comment by: <i>AOPA Finland</i></p> <p>Theoretical knowledge of upset <i>prevention</i> training for flight instructors should be integrated into existing flight instructor training courses.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Your comment will be considered in the context of the activities under RMT.0596 'Review of provisions for examiners and instructors (Subparts J & K of Part-FCL)'.</p>

3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - GM1 FCL.915(e) General prerequisites and requirements for instructors

p. 97

comment	<p>7</p> <p style="text-align: right;">comment by: <i>Nick Carr</i></p> <p>GM1 FCL.915(e)</p> <p>I feel the pre-entry flight assessment may be over burdensome as the stipulation for the 200 hours and an aerobic rating should ensure a minimum level of competence.</p> <p>This assessment would attempt to test the knowledge of the applicant who could have limited experience in the areas to be assessed even after taking into account their experience levels. The majority of early applicants may have only aerobic experience and no knowledge of upset prevention and recovery/human factors etc.</p> <p>I would propose that the ability of the applicant be assessed during the course and further training be required where necessary and or discontinuation of the course should a satisfactory standard not be achieved.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p>



Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

232 ❖

comment by: *AEROFUTUR (ATO FR 0053)***Aerofutur's comments:**

Considering the aerobatic rating as an essential requirement will not be sufficient.

Specialized instructor skills are necessary to ensure proper delivery of UPRT. However, it seems to us that this NPA is not properly considering and addressing some **threats specific to LOC-I instruction**. Those are situations when quick -and even short- actions from a student pilot will create highly threatening uncontrolled situations. The Instructors response to the unexpected, to the unknown and to their own reaction to startle will be challenged (e.g. flat spins).

Flat spins can be created by extremely brief "out spin aileron command" actions. The UPRT-Instructor skills in such a situation will be highly challenged for several reasons if this threat is not part of his expertise. First because no countermeasure can be anticipated to an unknown threat. But also because, at a point, this UPRT-Instructor will take controls. **However, experience has shown that without the appropriate competency the chances that a flat spin be recognized and recovered from are ZERO !**

Aerofutur's suggestions:

To add detailed theoretical knowledge and flight instruction specific elements regarding spins and flat spins.

This should bring the UPRT instructors to a spin-expertise level, allowing them:

- to **take appropriate countermeasures to this LOCI-instruction-specific threat**,
- to correctly **adapt safety margins** (e.g. altitude)
- to be able to **anticipate those students' errors which will bring a spin to flatten**,
- to be able to **recognize a flat spin**,
- to be able to **recover from a flat spin**.

response

Noted

Thank you for your comment.

Please refer to Section 2.3.7 of the Opinion.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

323

comment by: *René Meier, Europe Air Sports*

Page 97

GM1

General prerequisites and requirements for instructors FCL.915(e)

Comment

Introduce GMs which would be specific to FIs only training towards the LAPL(A) and the PPL(A). For instance, no certificate of UPRT course completion, no UPRT endorsement on the



licence should be required from them.

Rationale

The prerequisites and requirements for FIs only training towards the LAPL(A) and the PPL(A) should be proportionate to the level of risk experienced in light aviation flying at low altitude.

response

Noted

Thank you for your comment.

Please refer to Section 2.3.1 of the Opinion.

3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - AMC1 FCL.915(e) General prerequisites and requirements for instructors

p. 97-99

comment

114

comment by: *European Cockpit Association*

Commented text:

AMC1 FCL.915(e)-Assessment of competence, (a), SECTION 3 - FLIGHT

(a) Content of the assessment (Table) **SECTION 3 - FLIGHT**

ECA's Comments:

Add to table:

3.9.2 Spins: Recognition of a spiral-spin (spin improperly stalled, quick increase in speed when it should stabilize, higher load factor) and *timely* intervention of the Student-Instructor.

3.9.3 Spin: Recognition and recovery from a flat-spin.

3.12.2 Student Pilot's errors: During a spin (developing or developed): Recognition of student's inappropriate actions on the controls, leading to an **unexpected** flat-spin, timely reaction and recovery.

Reasoning:

Student-pilots' and instructors' safety could be at stake if additional content **that is NOT provided during the Aerobatic Training course**, is not added to the "UPRT Flight Instructor in an aeroplane course".

The instructor candidate should finally demonstrate his/her ability to recognize and recover from those situations.

Note: Proposed 3.12.2 is extremely likely to be encountered during spins in UPRT instruction. **Indeed, it should also prove to be the most challenging of all student's errors.**

Yet, there is a concern about the volatility of the instructors' fluency of response when facing an unintentional spin -especially a flat spin. Thus there might be a need to consider the addition of a "spin endorsement".



response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p> <p>Your comment will be considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>222 comment by: <i>International Development of Technology b.v.</i></p> <p>“ORAL” assessment of competence seems inappropriate:</p> <p>In terms of continuous assessment of competence, how can ORAL apply in this case? This is new to me.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Your comment will be considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>226 comment by: <i>Flightdeck Training Consultancy</i></p> <p>The term “assessment of competence” here is confusing. In the draft FCL.915 (e)(2) it states that the assessment of competence is included in the course. Does this mean a separate AoC-session as meant in FCL.935 is required, or is this an assessment taking place continuously during the course.</p>
response	<p>Noted</p> <p>In its final version, FCL.915 (e)(1)(ii) will stipulate a continuous assessment of the candidate during the course instead of a final assessment of competence.</p> <p>Your comment will also be considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>227 comment by: <i>Flightdeck Training Consultancy</i></p> <p>As described in the title these assessment of competence subjects are only valid for instructors that give on-airplane training.</p> <p>Why are these same items not valid for instructors that give FSTD training?</p>
response	<p>Not accepted</p> <p>Thank you for your comment.</p> <p>The assessment of competence for TRI/SFI covers the type rating UPRT elements, as the privileges for delivering UPRT is already included in the TRI/SFI qualification. Moreover, there are different risk levels between using the aeroplane and using an FSTD, as they require different kinds of assessments.</p>



comment

232 ❖

comment by: AEROFUTUR (ATO FR 0053)

Aerofutur's comments:

Considering the aerobatic rating as an essential requirement will not be sufficient.

Specialized instructor skills are necessary to ensure proper delivery of UPRT. However, it seems to us that this NPA is not properly considering and addressing some **threats specific to LOC-I instruction**. Those are situations when quick -and even short- actions from a student pilot will create highly threatening uncontrolled situations. The Instructors response to the unexpected, to the unknown and to their own reaction to startle will be challenged (e.g. flat spins).

Flat spins can be created by extremely brief "out spin aileron command" actions. The UPRT-Instructor skills in such a situation will be highly challenged for several reasons if this threat is not part of his expertise. First because no countermeasure can be anticipated to an unknown threat. But also because, at a point, this UPRT-Instructor will take controls. **However, experience has shown that without the appropriate competency the chances that a flat spin be recognized and recovered from are ZERO !**

Aerofutur's suggestions:

To add detailed theoretical knowledge and flight instruction specific elements regarding spins and flat spins.

This should bring the UPRT instructors to a spin-expertise level, allowing them:

- to **take appropriate countermeasures to this LOCI-instruction-specific threat**,
- to correctly **adapt safety margins** (e.g. altitude)
- to be able to **anticipate those students' errors which will bring a spin to flatten**,
- to be able to **recognize a flat spin**,
- to be able to **recover from a flat spin**.

response

Noted

Thank you for your comment.

Please refer to Section 2.3.7 of the Opinion.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

292

comment by: Aviation Performance Solutions

pg. 97	"ORAL" assessment of competence seems inappropriate	Clarification should be made that the term "ORAL" applies only to the assessment of of Theoretical Knowledge listed on page 97, not for Pre-flight Preparation, Flight, or Post-Flight Debriefing which follow and should require demonstrated competency.
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response

Noted

Thank you for your comment.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

365

comment by: SNPL FRANCE ALPA

Commented text:**AMC1 FCL.915(e)-(d)(1)****Table 1**

Additional Instructor upset recovery course elements.

SNPL's Comments:**Add content to Table 1:**

14. Typical aggravated Loss-Of-Control situations potentially generated by student pilots' brief and subtle actions on controls (spiral-spins, flat-spins, high-energy snap roll spins, etc...)

Reasoning:

When it is understood that UPRT is not Aerobatic Training, it must also be understood that **aggravated unexpected LOC-I will be encountered during UPRT on-aeroplane instruction as well.**

Student-pilots' and instructors' safety could be at stake if additional content **that is NOT provided during the Aerobatic Training course**, is not added to the "UPRT Flight Instructor in an aeroplane course".

Also see additions to AMC1 FCL915(e) Assessment of competence, "SECTION 1 – ORAL" (p97) and "SECTION 3 - FLIGHT" (p98).

response

Noted

Thank you for your comment.

Please refer to Section 2.3.7 of the Opinion.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

366

comment by: SNPL FRANCE ALPA

Commented text:**AMC1 FCL.915(e)-Assessment of competence, (a), SECTION 1-TK- ORAL**

(a) Content of the assessment (Table) **SECTION 1 -TK- ORAL**

SNPL's Comments:**Add to Table:**

1.13 Causes of snap-roll-spins and danger to aircraft structural integrity,



	<p>1.14 Recognition of spiral-spins (spin improperly stalled, quick increase in speed when it should stabilize, higher load factor) and danger to aircraft structural integrity.</p> <p>1.15 Contributing factors, recognition and recovery from flat-spins.</p> <p>Reasoning: When it is understood that UPRT is <u>not</u> Aerobatic Training, it must also be understood that aggravated unexpected LOC-I will be encountered during UPRT on-aeroplane instruction as well.</p> <p>Student-pilots' and instructors' safety could be at stake if additional content that is NOT provided during the Aerobatic Training course, is not added to the "UPRT Flight Instructor in an aeroplane course".</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p> <p>Your comment will be considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>367 comment by: SNPL FRANCE ALPA</p> <p>Commented text: AMC1 FCL.915(e)-Assessment of competence, (a), SECTION 3 - FLIGHT (a) Content of the assessment (Table) SECTION 3 - FLIGHT</p> <p>SNPL's Comments: Add to table:</p> <p>3.9.2 Spins: Recognition of a spiral-spin (spin improperly stalled, quick increase in speed when it should stabilize, higher load factor) and <i>timely</i> intervention of the Student-Instructor.</p> <p>3.9.3 Spin: Recognition and recovery from a flat-spin.</p> <p>3.12.2 Student Pilot's errors: During a spin (developing or developed): Recognition of student's inappropriate actions on the controls, leading to an unexpected flat-spin, timely reaction and recovery.</p> <p>Reasoning: Student-pilots' and instructors' safety could be at stake if additional content that is NOT provided during the Aerobatic Training course, is not added to the "UPRT Flight Instructor in an aeroplane course".</p> <p>The instructor candidate should finally demonstrate his/her ability to recognize and recover from those situations.</p> <p>Note: Proposed 3.12.2 is extremely likely to be encountered during spins in UPRT instruction. Indeed, it should also prove to be the most challenging of all student's errors.</p>



	Yet, there is a concern about the volatility of the instructors' fluency of response when facing an unintentional spin -especially a flat spin. Thus there might be a need to consider the addition of a "spin endorsement".
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.7 of the Opinion.</p> <p>Your comment will be considered by the Review Group when finalising the AMC/GM.</p>

3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - GM2FCL.915(e) General prerequisites and requirements for instructors

p. 99

comment	<p>232 ❖</p> <p>comment by: <i>AEROFUTUR (ATO FR 0053)</i></p> <p><u>Aerofutur's comments:</u></p> <p>Considering the aerobatic rating as an essential requirement will not be sufficient.</p> <p>Specialized instructor skills are necessary to ensure proper delivery of UPRT. However, it seems to us that this NPA is not properly considering and addressing some threats specific to LOC-I instruction. Those are situations when quick -and even short- actions from a student pilot will create highly threatening <u>uncontrolled</u> situations. The Instructors response to the unexpected, to the unknown and to their own reaction to startle will be challenged (e.g. flat spins).</p> <p>Flat spins can be created by extremely brief "out spin aileron command" actions. The UPRT-Instructor skills in such a situation will be highly challenged for several reasons <u>if this threat is not part of his expertise</u>. First because no countermeasure can be anticipated to an unknown threat. But also because, at a point, this UPRT-Instructor will take controls. However, experience has shown that without the appropriate competency the chances that a flat spin be recognized and recovered from are <u>ZERO</u> !</p> <p><u>Aerofutur's suggestions:</u></p> <p>To add detailed theoretical knowledge and flight instruction specific elements regarding spins and flat spins.</p> <p>This should bring the UPRT instructors to a spin-expertise level, allowing them:</p> <ul style="list-style-type: none"> - to take appropriate countermeasures to this LOCI-instruction-specific threat, - to correctly adapt safety margins (e.g. altitude) - to be able to anticipate those students' errors which will bring a spin to flatten, - to be able to recognize a flat spin, - to be able to recover from a flat spin.
response	<p>Noted</p> <p>Thank you for your comment.</p>



Please refer to Section 2.3.7 of the Opinion.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

325

comment by: *René Meier, Europe Air Sports*

Page

99

GM2

FCL.915(e)

General prerequisites and requirements for instructors – Note
Comment

Introduce GMs which would be specific to FIs only training towards the LAPL(A) and the PPL(A).

Rationale

The Agency's proposal is far beyond the scope of light aviation. The note contains provisions which are only pertaining to transport aeroplanes and business aeroplanes.

response

Noted

Thank you for your comment.

Developing an additional AMC for GA Instructors is outside the scope of this task. The comment will be considered in the context of the activities under RMT.0596 'Review of provisions for examiners and instructors (Subparts J & K of Part-FCL)'.

3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - AMC1 FCL.920 Instructor competencies and assessment

p. 100-101

comment

232 ❖

comment by: *AEROFUTUR (ATO FR 0053)*

Aerofutur's comments:

Considering the aerobatic rating as an essential requirement will not be sufficient.

Specialized instructor skills are necessary to ensure proper delivery of UPRT. However, it seems to us that this NPA is not properly considering and addressing some **threats specific to LOC-I instruction**. Those are situations when quick -and even short- actions from a student pilot will create highly threatening uncontrolled situations. The Instructors response to the unexpected, to the unknown and to their own reaction to startle will be challenged (e.g. flat spins).

Flat spins can be created by extremely brief "out spin aileron command" actions. The UPRT-Instructor skills in such a situation will be highly challenged for several reasons if this threat is not part of his expertise. First because no countermeasure can be anticipated to an unknown threat. But also because, at a point, this UPRT-Instructor will take controls. **However, experience has shown that without the appropriate competency the chances that a flat spin be recognized and recovered from are ZERO !**

Aerofutur's suggestions:



To add detailed theoretical knowledge and flight instruction specific elements regarding spins and flat spins.

This should bring the UPRT instructors to a spin-expertise level, allowing them:

- to **take appropriate countermeasures to this LOCI-instruction-specific threat,**
- to correctly **adapt safety margins** (e.g. altitude)
- to be able to **anticipate those students' errors which will bring a spin to flatten,**
- to be able to **recognize a flat spin,**
- to be able to **recover from a flat spin.**

response

Noted

Thank you for your comment.

Please refer to Section 2.3.7 of the Opinion.

Your comment will be considered by the Review Group when finalising the AMC/GM.

comment

326

comment by: *René Meier, Europe Air Sports*

Page 100

AMC1 FCL.920

Instructor competencies and assessment

Comment

Introduce AMCs which would be specific to FIs only training towards the LAPL(A) and the PPL(A).

Rationale

The AMC is clearly targeting at commercial pilots. This is not applicable to light aviation.

response

Noted

Thank you for your comment.

Developing an additional AMC for GA Instructors is outside the scope of this task. The comment will be considered in the context of the activities under RMT.0596 'Review of provisions for examiners and instructors (Subparts J & K of Part-FCL)'.

3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - GM1FCL.920 Instructor competencies and assessment

p. 101-102

comment

232 ❖

comment by: *AEROFUTUR (ATO FR 0053)*

Aerofutur's comments:

Considering the aerobatic rating as an essential requirement will not be sufficient.

Specialized instructor skills are necessary to ensure proper delivery of UPRT. However, it seems to us that this NPA is not properly considering and addressing some **threats specific to**



LOC-I instruction. Those are situations when quick -and even short- actions from a student pilot will create highly threatening uncontrolled situations. The Instructors response to the unexpected, to the unknown and to their own reaction to startle will be challenged (e.g. flat spins).

Flat spins can be created by extremely brief "out spin aileron command" actions. The UPRT-Instructor skills in such a situation will be highly challenged for several reasons if this threat is not part of his expertise. First because no countermeasure can be anticipated to an unknown threat. But also because, at a point, this UPRT-Instructor will take controls. **However, experience has shown that without the appropriate competency the chances that a flat spin be recognized and recovered from are ZERO !**

Aerofutur's suggestions:

To add detailed theoretical knowledge and flight instruction specific elements regarding spins and flat spins.

- This should bring the UPRT instructors to a spin-expertise level, allowing them:
- to **take appropriate countermeasures to this LOCI-instruction-specific threat,**
 - to correctly **adapt safety margins** (e.g. altitude)
 - to be able to **anticipate those students' errors which will bring a spin to flatten,**
 - to be able to **recognize a flat spin,**
 - to be able to **recover from a flat spin.**

response

Noted

Thank you for your comment.

Please refer to Section 2.3.7 of the Opinion.

Your comment will also be further considered by the Review Group when finalising the AMC/GM.

comment

262 comment by: FAA

Table 1 is not helpful in explaining the TEM relationship to UPRT.

response

Noted

Thank you for your comment.

Your comment will also be further considered by the Review Group when finalising the AMC/GM.

comment

328 comment by: René Meier, Europe Air Sports

Page 101
GM1 FCL.920
Instructor competencies and assessment
Comment

Please introduce GMs which would be specific to FIs only training towards the LAPL(A) and



the PPL(A).

Rationale

Again, this GM is dealing with CRM applicable to a multi-pilot environment. This is not applicable to light aviation.

response

Noted

Thank you for your comment.

Please refer to Section 2.3.1 of the Opinion.

Your comment will also be further considered by the Review Group when finalising the AMC/GM.

**3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material
(Draft EASA Decision) - AMC3 FCL.930.TRI TRI Training course**

p. 104

comment

125 ❖

comment by: *DGAC France*

Subject : UPRT instructors on FSTD

Regulatory references: AMC 3 FCL.930.TRI and FCL.900 (b)

Content of comment:

The regulatory proposal specifies that UPRT instructors on FSTD (TRI(A) and SFI(A)) will not be required to meet any specific prerequisites nor to hold specific privileges to instruct for the UPRT aspects of type rating training (page 16/135 of NPA). The core TRI training course (cf FCL.930.TRI) on FSTD will in itself include the UPRT instruction aspects in compliance with the new AMC3 FCL.930.TRI. Therefore the UPRT aspects of a type rating training can be taught by any TRI(A) or SFI(A).

However the regulation proposal does not clearly indicates which instructors holding the privilege to instruct for the issue of a TRI/SFI certificate will be allowed to instruct for the UPRT aspects included in the TRI instructors training on FSTD (cf. FCL.930.TRI and the associated AMC3). Do they simply need to meet the same prerequisites as a standard TRI of TRI/SFI such as currently defined in the regulation (e.g. FCL.905.TRI (b))?

Besides we are unclear about the instructors who, during the transition period, can be authorised to provide the further training to UPRT instruction on FSTD (cf. AMC1 Article 2 (1) (b)). This training will be necessary to extend the new system to all the current TRI(A) and SFI(A) who plan to become UPRT instructors on FSTD. At least a provision should be added to FCL.900(b) to allow the competent authority to designate instructors who will be authorised to provide instruction for the UPRT aspects described in AMC1 Article 2 (1) (b). It is suggested to insert a GM in the NPA on this matter. The said GM should refer to the transition provisions described in ICAO Doc 10011.

We consider both previous questions need to be clarified in the final regulation proposal.

response

Noted



Please refer to Section 2.3.9 of the Opinion.

Your comment will also be further considered by the Review Group when finalising the AMC/GM.

comment

223

comment by: *International Development of Technology b.v.*

It is stated that “the student instructor **should**: ...”. It is imperative that the instructor does follow these requirements. A stronger term like “**shall**” would be more suitable. These are very important criteria!

response

Noted

Thank you for your comment.

In accordance with the principles for drafting of European regulatory text, the use of the term ‘shall’ is reserved for legal text in implementing rules (IRs); the term ‘should’ is used for the associated AMC/GM published by the Agency. Please note that in the absence of alternative means of compliance (AltMoC) established in accordance with the particular IR (e.g. Annex VI (ARA.GEN.120) and Annex VII (ORA.GEN.120) of Regulation (EU) No 1178/2011), the procedures as set out in AMC need to be followed in order to establish compliance with the IRs.

comment

228

comment by: *Flightdeck Training Consultancy*

AMC3 FCL.930.TRI TRI training course.

"It is of paramount importance that instructors have the specific competence to deliver UPRT".

This is true. So:

- at the end of this paragraph it says ".....the instructor should:", that should be "....the instructor SHALL:".
- Will UPRT be a special privilege for instructors? So will it be endorsed separately in their certificate?

The requirements for TRI and SFI as UPRT instructors are very light. EASA states that specific instructor-competencies are of paramount importance to correctly deliver UPRT, but it does not show in the requirements for this group of instructors.

response

Noted

Thank you for your comment.

In accordance with the principles for drafting of European regulatory text, the use of the term ‘shall’ is reserved for legal text in implementing rules (IRs); the term ‘should’ is used for the associated AMC/GM published by the Agency. Please note that in the absence of alternative means of compliance (AltMoC) established in accordance with the particular IR (e.g. Annex VI (ARA.GEN.120) and Annex VII (ORA.GEN.120) of Regulation (EU) No 1178/2011), the procedures as set out in AMC need to be followed in order to establish



compliance with the IRs.

comment 263

comment by: FAA

AMC3 FCL.930.TRI TRI Training course

Item (e) sounds as if it is normal to train outside the FSTD capabilities. Suggest re-wording: be aware of the potential of negative transfer of training that may exist ~~when~~ **if** training **is conducted** outside the capabilities of the FSTD

While the AMC contains recommendations for instructors to be trained on the limitations of FSTDs, the proposed regulations do not appear to require this. Because the FAA felt so strongly about the importance of the instructor and the real possibility of negative training, the FAA made this a requirement in § 121.414(c) (8):

(8) For flight instructors who conduct training in a flight simulator or a flight training device, the following subjects specific to the device(s) for the airplane type:

(i) Proper operation of the controls and systems;

(ii) Proper operation of environmental and fault panels;

(iii) Data and motion limitations of simulation; and

(iv) The minimum airplane simulator equipment required by this part or part 60 of this chapter, for each maneuver and procedure completed in a flight simulator or a flight training device.

response Partially accepted

AMC3 FCL.930.TRI is going to be amended to reflect the proposed text.

In accordance with the principles for drafting of European regulatory text, the use of the term 'shall' is reserved for legal text in implementing rules (IRs); the term 'should' is used for the associated AMC/GM published by the Agency. Please note that in the absence of alternative means of compliance (AltMoC) established in accordance with the particular IR (e.g. Annex VI (ARA.GEN.120) and Annex VII (ORA.GEN.120) of Regulation (EU) No 1178/2011), the procedures as set out in AMC need to be followed in order to establish compliance with the IRs.

3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - GM1 FCL.905.TRI(b) Privileges and conditions

p. 104

comment 3

comment by: Ryanair ATO

GM1 FCL.905.TRI(b) This proposed section needs to be analysed in the context of existing comparable regulations and the logic of the text used in the section.

1. Existing comparable regulations



In addressing the issue of whether on-aeroplane upset recovery training is required for a TRI (A) instructing for the issue of a TRI(A) or SFI(A) certificate is a necessary training element, we must consider what requirements are stated in other relevant regulatory publications. Specifically we must consider what ICAO lays down in this regard (Doc 10011 Section 5.2.3) and we must reflect on what requirements the FAA has regulated for in this area (FAA AC 120-111 Chapter 2).

Neither the over-arching ICAO document nor the relevant FAA regulations include any reference to or requirement for on-aeroplane training for FSTD instructors. EASA must not incorporate into EU procedure any requirement in excess of those recommended by ICAO in Doc 10011 Section 5.2.3 or published in equivalent regulations such as FAA AC 120-111 Chapter 2.

2. NPA text

The first sentence in the proposed text; *“Upset recovery training in an aeroplane for a TRI(A) instructing for the issue of a TRI(A) or SFI(A) certificate is not a requirement”* is a clear and unambiguous statement. As discussed above this simple statement fully complies with FAA and ICAO policies and regulations.

It is illogical therefore to qualify this first sentence unless the guidance material anticipates a deficit in instructor competencies. Any deficiency should be compensated for by an appropriate module of theoretical training.

These knowledge based instructor competencies are already addressed in GM5 ORO220&230 that was issued as part of Annex II of ED decision 2015/012/R.

response

Noted

Please refer to Sections 2.3.7 and 2.3.9 of the Opinion.

Your comment will also be further considered by the Review Group when finalising the AMC/GM.

comment

115

comment by: *European Cockpit Association*

Commented text:

‘GM1 FCL.905.TRI(b) Privileges and conditions

TRI INSTRUCTING FOR THE ISSUE OF A TRI OR SFI CERTIFICATE

Upset recovery training in an airplane for a TRI(A) instructing for the issue of a TRI(A) or SFI(A) certificate is not a requirement.

However, it may be beneficial that such a TRI has first-hand experience of the critical psychological and physiological human factors, which might be present during recoveries from developed upsets.

ECA's Comments:

Suggestion for amendment:

TRI INSTRUCTING FOR THE ISSUE OF A TRI OR SFI CERTIFICATE

It is essential that such a TRI or SFI has had first-hand experience of the critical psychological and physiological human factors, which might be present during recoveries from developed



upsets.

The requirement for a TRI(A) is:

Upset recovery training in an appropriate aeroplane if teaching in an aeroplane is required.

(ii) If only carrying out simulator based training, then appropriate exposure to real flight accelerations, either in a **suitable aircraft, or a simulator** able to generate sustained accelerations and rates of changes equivalent to that of an aircraft appropriate to the type being trained

Reasoning:

At the moment (2015) there are no broadly available simulators which could adequately simulate G-forces and psycho- and physiological sensations (except in Europe, Desdemona with limited availability due to its cost and copies). This might change in the future.

Until then, if there is no simulator where TRI/SFI can have this exposure, the training needs to be done in real aircraft.

If synthetic devices are available to provide the exposure, then these should be used on safety and cost grounds alone. A good device can be adapted to provide characteristics more representative of the category of aircraft being operated than could for example be provided for by a light aircraft attempting to emulate a heavy swept wing transport.

response

Not accepted

Please refer to Section 2.3.7 and 2.3.9 of the Opinion.

comment

368

comment by: *SNPL FRANCE ALPA*

Commented text:

'GM1 FCL.905.TRI(b) Privileges and conditions

TRI INSTRUCTING FOR THE ISSUE OF A TRI OR SFI CERTIFICATE

Upset recovery training in an airplane for a TRI(A) instructing for the issue of a TRI(A) or SFI(A) certificate is not a requirement.

However, it may be beneficial that such a TRI has first-hand experience of the critical psychological and physiological human factors, which might be present during recoveries from developed upsets.

SNPL's Comments:

Suggestion for amendment:

TRI INSTRUCTING FOR THE ISSUE OF A TRI OR SFI CERTIFICATE

It is essential that such a TRI or SFI has had first-hand experience of the critical psychological and physiological human factors, which might be present during recoveries from developed upsets.

The requirement for a TRI(A) is:

(i) Upset recovery training in an appropriate aeroplane if teaching in an aeroplane is required.

(ii) If only carrying out simulator based training, then appropriate exposure to real flight accelerations, either in a **suitable aircraft, or a simulator** able to generate sustained accelerations and rates of changes equivalent to that of an aircraft appropriate to the type being trained



Reasoning:

At the moment (2015) there are no broadly available simulators which could adequately simulate G-forces and psycho- and physiological sensations (except in Europe, Desdemona with limited availability due to its cost and copies). This might change in the future.

Until then, if there is no simulator where TRI/SFI can have this exposure, the training needs to be done in real aircraft.

If synthetic devices are available to provide the exposure, then these should be used on safety and cost grounds alone. A good device can be adapted to provide characteristics more representative of the category of aircraft being operated than could for example be provided for by a light aircraft attempting to emulate a heavy swept wing transport.

response

Not accepted

Please refer to Sections 2.3.7 and 2.3.9 of the Opinion.

**3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material
(Draft EASA Decision) - AMC2 ORA.ATO.125 Training programme**

p. 104-105

comment

8

comment by: *Nick Carr*

AMC2 ORA.ATO.125 A & B

I fully support both the competency based approach to landings and the training of the go around in the aircraft. This should both reduce cost and improve competence and skills for type rating applicants.

Would a similar requirement be added to the TRI(A) course to ensure training of the all engine go around prior to conducting the exercise in the aircraft?

response

Noted

Please refer to Section 2.3.14 of the Opinion.

Your comment will also be further considered by the Review Group when finalising the AMC/GM.

comment

98

comment by: *Dassault-Aviation*

Dassault-Aviation comment page 105

AMC2 ORA.ATO.125

(A) "at least three landings..." is confusing and not sufficient.

In reference to GM2 ORA.ATO.125, it could be better to require 3 successful manual landings instead of "at least" 3 landings.

A successful landing means a stabilized approach and touchdown at the correct speed on the correct touchdown zone.

Moreover, applicants should take the opportunity to fly with an instructor and should land fully manually.



response	<p>More landings could implicitly be realized if needed.</p> <p>(B)we obviously agree to require a real GA.</p> <p>Noted</p> <p>Please refer to Section 2.3.14 of the Opinion.</p> <p>Your comment will also be further considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>126 comment by: DGAC France</p> <p>Subject : Base training</p> <p>Regulatory reference: AMC2 ORA.ATO.125</p> <p>Content of comment:</p> <p>The NPA proposes some amendments to the content of the “base training” to be performed after the FFS part of a type rating training course (AMC2 ORA.ATO.125 (k)).</p> <p>DGAC France would like to have some clarifications about the reasoning that has led to amend the number of landings to be performed during “base training”. The NPA proposes to reduce the number of landings required to three without making a difference between a non-experienced and an experienced applicant (500h of MPA experience in aeroplanes of similar size). France thinks that this reduction of number of landings (without taking into account applicant experience) seems not sufficiently justified by safety considerations and is not linked to the UPRT which is the purpose of this NPA.</p> <p>DGAC France supports the amendment which adds in the “base training” one go-around with all engines operating (BEA recommendation). This go-around must be perform in VMC and it will make student pilot aware of specific somatogravic <u>effects</u> caused by a go-around. However the explanatory note (p.15/135) justifying this amendment could be confusing. The explanatory note mentions that the go-around will “<i>expose students to somatogravic illusion</i>”. It should be stressed that the so-called “<u>somatogravic illusion</u>” would be felt only in the case of a go-around by night or in IMC. These conditions are not relevant and dangerous for base training. DGAC France proposes to replace the term “<u>somatogravic illusion</u>” by “<u>somatogravic specific effects caused by a go-around</u>”.</p>
response	<p>Accepted</p> <p>Please refer to Section 2.3.14 of the Opinion.</p> <p>Your comment will be further considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>158 comment by: FNAM</p> <p>It is suggested to replace the term “at least three landings” with “three successful manual landings”. Indeed the term “<u>at least three landings</u>” is confusing and not sufficient. A successful landing means a stabilized approach and touchdown at the correct speed on the correct touchdown zone.</p>



Moreover, applicants should take the opportunity to fly with an instructor and should land fully manually.
More landings could implicitly be realized if needed.

Regarding the go around requirement, the FNAM thinks it is really relevant.

Proposal:
(A) Three successful manual landings of which at least one should be a full-stop landing; and
(B) One go-around with all engines operating.

response Noted

Please refer to Section 2.3.14 of the Opinion.

Your comment will also be further considered by the Review Group when finalising the AMC/GM.

comment 293 comment by: Aviation Performance Solutions

pg. 104	Instructor requirements	The phrase "Therefore, during the TRI training course the student instructor should:" could be viewed as an optional suggestion. The word "shall" would make the terms obligatory.
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response Noted

Thank you for your comment.

In accordance with the principles for drafting of European regulatory text, the use of the term ‘shall’ is reserved for legal text in implementing rules (IRs); the term ‘should’ is used for the associated AMC/GM published by the Agency. Please note that in the absence of alternative means of compliance (AltMoC) established in accordance with the particular IR (e.g. Annex VI (ARA.GEN.120) and Annex VII (ORA.GEN.120) of Regulation (EU) No 1178/2011), the procedures as set out in AMC need to be followed in order to establish compliance with the IRs.

comment 294 comment by: Aviation Performance Solutions

pg. 104	GM1 FCL.905.TRI(b) Privileges and conditions	Upset recovery training in an aeroplane for a TRI(A) instructing for the issue of a TRI(A) or SFI(A) certificate is not a requirement. It should be, for the reasons listed. To quote: "it may be beneficial that such a TRI has first-hand experience of the critical psychological and physiological human factors, which might be present during recoveries from developed upsets. These human factors (effects of unusual acceleration, such as variations from normal 1G flight, the difficulty to perform
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		<p>counter-intuitive actions, and the management of associated stress response) can only be experienced during training in an aeroplane because FFSs are not capable of reproducing sustained accelerations. Student pilots within the FFS environment who may not have been exposed to these human factors will have to rely on the competency of their instructor to compensate for this exposure gap". Precisely. Instructors without such experience will only perpetuate gaps in training which result in LOC-I being the number one cause of death in aviation.</p>
<p>response</p>	<p>Not accepted</p> <p>Please refer to Sections 2.3.7 and 2.3.9 of the Opinion.</p>	

<p>comment</p>	<p>420</p> <p>Page 105</p> <p>AMC2 ORA.ATO.125</p> <p>The statement on page 15 of the explanatory note now proposes to completely amend the take-off and landing training of a type rating course to a more competency-based and balanced approach by requiring a minimum of three successive landings instead of the usual four or six. Is this really the intention here? The changes to the regulatory text do not mention anything about a competency-based and balanced approach and does not mention three successive landings - just "at least three landings". At least one other RMG was tasked with looking at this AMC - has this been aligned with them? In addition the proposal is to delete the previous experience requirements where four take off and landings were required instead of six - there is no explanation, rationale or data behind that apart from stating that base training should be competency-based!</p> <p>If the Agency is proposing only 3 take-off and landings for initial type rating training programmes, then this could apply to an inexperienced PPL or CPL holder who has undergone a stand-alone on-aeroplane UPRT course, only ever flown small SE or ME aeroplanes, and certainly never seen a FFS before - prior to undergoing the first type rating. In contrast a student on an MPL programme, who has undergone specialised integrated training including on-aeroplane UPRT and type specific FSTD training in one continuous phase of airline-oriented training is required to undergo 12 take-offs and landings post advanced phase LST. Where is the proportionality, sense and safety-case to support these two opposing circumstances?</p> <p>If the number of take off and landings is being reduced for type ratings then it must also be reduced for the MPL and aligned accordingly through a competency-based approach. AMC or guidance is required.</p> <p>Additionally, why is initial type rating base training 'regulated' in AMC material, and MPL</p>	<p>comment by: CAE</p>
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response	<p>base training regulated in the hard law rule?</p> <p>Partially accepted</p> <p>Please refer to Section 2.3.14 of the Opinion.</p> <p>Your comment will also be further considered by the Review Group when finalising the AMC/GM.</p>
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3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - GM2 ORA.ATO.125 Training programme

p. 105

comment	<p>159</p> <p>To include a go-around exercise in an aeroplane is really relevant but the objective of this exercise should not be limited to the somatogravic illusion.</p>	comment by: <i>FNAM</i>
response	<p>Noted</p> <p>Please refer to Section 2.3.14 of the Opinion.</p> <p>Your comment will also be further considered by the Review Group when finalising the AMC/GM.</p>	

3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - GM2 ORA.ATO.125 Training programme

p. 106-107

comment	<p>105</p> <p>5 To clarify the NPA wording about FFS UPRT qualification:</p> <p>The NPA states (pages 106/135) that: “The FFS used for the upset recovery training <u>should be qualified</u> to ensure that the training task objectives can be achieved and negative transfer of training is avoided”.</p> <p>This chapter is confusing because the reader may understand that the FFS level C/D may be subject to a specific extra qualification for UPRT training.</p> <p>Our understanding of the regular approval process of the training program is as follows: The FFS level C/D is qualified (technical criteria) to deliver UPRT with the condition that it remains within the VTE. The ATO/Operator requests the approval to use the FSS to the NAA via a written engagement of the operator to be able to perform the exercises described in the rules (AIROPS/AIRCREW) in accordance to FCOM.</p> <p>A level C or D FFS is qualified for the upset recovery training task, such as the approach-to-stall exercises. Full aerodynamic stall or other exercises outside the Validated Training Envelope (VTE) should not be conducted.</p> <p><i>The Agency should review the wording in order to avoid the possible misunderstanding concerning an extra qualification for UPRT training.</i></p>	comment by: <i>IATA</i>
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response	<p>Noted</p> <p>Please refer to Section 2.3.8 of the Opinion.</p> <p>Your comment will also be further considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>119 comment by: FCAA</p> <p>NPA says: '<i>A level C or D FFS is qualified for the upset recovery training task, such as the approach-to-stall exercises. Full aerodynamic stall or other exercises outside the Validated Training Envelope (VTE) should not be conducted.</i>'</p> <p>The used term 'Validated Training Envelope (VTE)' is not defined in this NPA. It is not defined in any other regulation either. (If it is, please put a reference to that.) Please note that FSTD qualification and QTG tests (see CS-FSTD A) cover a certain envelope but that envelope has not been exactly defined. Until now, there has not been a requirement to define a certain envelope which is validated. Should we expect the simulator manufacturers or data package providers to define a certain envelope (e.g. a Vn diagram or alpha/beta diagram) where the FSTD is validated? That would be a fantastic idea, but this should be further detailed in this NPA.</p> <p>The words 'level C or D FFS' probably mean a modern device qualified under CS-FSTD A. Since JAR-FSTD A is almost identical to CS-FSTD A on technical aspects, then probably JAR-FSTD A is also acceptable here. So, this NPA should further clarify what primary reference documents (e.g. CS-FSTD A, JAR-FSTD A) are acceptable here. (Note that primary reference documents are listed in FSTD evaluation report, i.e. AMC5 ARA.FSTD.100(a)(1).)</p> <p>Recommendations:</p> <ul style="list-style-type: none"> • Please add more details on VTE and who and how defines it. • Please add information on the appropriate primary reference documents (e.g. JAR-FSTD A, CS-FSTD A).
response	<p>Accepted</p> <p>Please refer to Sections 2.3.8 and 2.3.14 of the Opinion.</p> <p>Your comment will be further considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>160 comment by: FNAM</p> <p>The NPA states that: "The FFS used for the upset recovery training <u>should be qualified</u> to ensure that the training task objectives can be achieved and negative transfer of training is avoided".</p> <p>This chapter is confusing because the reader may understand with this sentence that the FFS level C/D may be subject to a specific extra qualification for UPRT training.</p> <p>On the other hand, it is also stated within this NPA that "A level C or D FFS is qualified for the upset recovery training task, such as the approach-to-stall exercises. Full aerodynamic stall or</p>



other exercises outside the Validated Training Envelope (VTE) should not be conducted.”
According to the regular approval process of the training programme:
1/ The FFS level C/D is qualified (technical criteria) to deliver UPRT at the condition to remain in the VTE.
2/ The ATO/Operator requests the approval of use of the FSS to the NAA via a written engagement of the operator to be able to perform the exercises describes in the rules (AIROPS/AIRCREW) in accordance to FCOM.

Therefore, the Agency should review the wording in order to avoid the possible misunderstanding concerning an extra qualification for UPRT training.

response

Noted

Please refer to Section 2.3.8 of the Opinion.

Your comment will also be further considered by the Review Group when finalising the AMC/GM.

comment

239

comment by: AIRBUS

Comment related to GM2 ORA.ATO.125 Training programme: USE OF FSTD FOR UPRT

Some FSTDs may offer capabilities that could enhance the UPRT, such as Instructor Operating Station (IOS) features.

ATOs may consider the value of such features in support of the training objectives, and should make sure that these features do not create negative training.

In some cases it has been noticed that pages such as “Aircraft Upset” and “Wake Vortex”, on an FFS delivered to Airbus, were not to be used in Training...

response

Noted

Please refer to Sections 2.3.8 and 2.3.14 of the Opinion.

Your comment will also be further considered by the Review Group when finalising the AMC/GM.

comment

372

comment by: AEA

There should be no doubt regarding which FFS are qualified for the Upset Prevention and Recovery Training.

response

Noted

Please refer to Section 2.3.8 of the Opinion.

Your comment will also be further considered by the Review Group when finalising the AMC/GM.

comment

421

comment by: CAE



	<p>Page 106</p> <p>GM2 ORA.ATO.125</p> <p>USE OF FSTD FOR UPRT</p> <p>Paragraph 2: the IOS features are an essential part of the risk mitigation to avoid negative training or negative transfer of training. The tools provide for both ensuring the correct or optimum recovery technique and clear indication of any exceedances.</p> <p>CAE believes the IOS features that are essential to provide the instructor information to establish that recovery is performed in the validated training envelope should be a mandatory requirement. In addition, we recommend that the instructor has the necessary briefing and debriefing tools to support such training to be able to assess student proficiency and deliver an effective UPRT, and audio & video in line with ICAO 10011 to support workload management and crew competencies.</p>
response	<p>Partially accepted</p> <p>Please refer to Sections 2.3.8 and 2.3.14 of the Opinion.</p> <p>Your comment will also be further considered by the Review Group when finalising the AMC/GM.</p>
comment	<p>422 comment by: CAE</p> <p>Page 106</p> <p>FFS QUALIFIED FOR THE UPSET RESCOVERY TRAINING TASK</p> <p>1st paragraph: The FFS used for the upset recovery training should be qualified to ensure that the training task objectives can be achieved and negative transfer of training is avoided.</p> <p>This statement requires clarification. An FFS is qualified on meeting the technical standards of CS-FSTD(A), which does not speak to "training task objectives" nor "negative transfer of training". Possibly the intent is to state that the FSTD must be "evaluated" so as to ensure the training task objectives can be met and such that the UPRT tasks can be accomplished without the potential for the transfer of negative training?</p> <p>We propose the paragraph should be re-written as follows: "The FFS used for the upset recovery training should be evaluated to ensure that the training task objectives can be achieved and negative transfer of training is avoided." (further information is available in FAA NSP guidance documents for comprehensive instructions on such evaluation)</p> <p>This same paragraph should be copied over to the equivalent text in ORO.FC as well.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.8 of the Opinion.</p> <p>Your comment will also be further considered by the Review Group when finalising the</p>



AMC/GM.

**3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material
(Draft EASA Decision) - AMC5 ORA.ATO.125 Training programme**

p. 108

comment

329

comment by: *René Meier, Europe Air Sports*

Page 108
 AMC5 ORA.ATO.125
 Training programme
 Comment
 Adjust this AMC to the ATOs belonging to section 2 and RFs/RTOs.

Rationale

The training programme applicable to ATOs training towards the LAPL(A) and PPL(A) should be proportionate. The training programme should also be provided by RFs (and later on by the proposed RTOs).

response

Partially accepted

Thank you for your comment.

Please refer to Section 2.3.1 of the Opinion.

Your comment will also be further considered by the Review Group when finalising the AMC/GM.

**3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material
(Draft EASA Decision) - GM1 ORA.ATO.125 Training programme**

p. 108-109

comment

127

comment by: *DGAC France*

Subject : Aeroplane qualified for the training task

Regulatory reference: GM1 ORA.ATO.125

Content of comment:

DGAC France notes that GM1 ORA.ATO.125 proposes to use aerobatic aeroplanes to provide maximum training value and safety margins. For specific exercises the GM indicates that the use of normal or utility category aeroplanes may be possible after having consulted the competent authority.

DGAC France considers that the authority which is able to evaluate which aeroplane can be used for each exercise is the authority in charge of certification of the aeroplane. The authority in charge of ATO oversight is not competent for this task.

The term “competent authority” shall be clarified in the GM.



response Noted

Thank you for your comment.

Your comment will also be further considered by the Review Group when finalising the AMC/GM.

comment 330 comment by: René Meier, Europe Air Sports

Page 108
 GM1 ORA.ATO.125
 Training programme
 Comment

Ensure that the provision on the use of aerobatic aeroplanes would be limited to the more demanding exercises, not for all.

Rationale
 For instance, 45 degree-bank turn and approach-to-stall are manoeuvres which can be safely be performed with a regular light aeroplane. Keep in mind that aerobatic aeroplanes are probably the optimum solution for some exercises, not for all but they are not available everywhere, and the operations are quite expensive.

response Noted

Thank you for your comment.

Please refer to Section 2.3.5 of the Opinion.

Your comment will also be further considered by the Review Group when finalising the AMC/GM.

comment 371 comment by: AEA

Flight Ops Instructors from the Authorities should also be subject to Upset Prevention and Recovery Training.

response Noted

Thank you for your comment

Your comment will also be further considered by the Review Group when finalising the AMC/GM.

comment 391 comment by: AOPA Finland

Use of aerobatic aeroplanes is mandatory to provide **maximum training value and safety margins during upset recovery training course.**

response Not accepted



Thank you for your comment.
Please refer to Section 2.3.5 of the Opinion.

**3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material
(Draft EASA Decision) - GM2 ORA.ATO.125 Training programme**

p. 109

comment 161

comment by: *FNAM*

The NAA FOIs (flight ops inspectors) are subject to a guidance material focusing on “UPRT” knowledge and understanding only. This is clearly stated in ‘GM1 ARA.GEN.200 (a) (2) and ‘GM2 ARO.GEN.200(a)(2) Management system. The NPA does not contain any skill requirements or recommendations for NAA inspectors.

The first remark concerns the difference of treatment between ATO / Operator instructors’ tutors and NAA FOI because the NPA recommends for instructors’ tutors airplane UPRT course and nothing for NAA’s FOI.

The second remark concerns the oversight in itself. As NAAs’ FOI are supposed to assess the courseware suitability of the ATO/Operator, the NPA should recommend airplane UPRT course for NAAs’ FOI. This remark is based on ICAO doc 10 011 Section 6 which states that inspectors should conduct a proof-of-concept trial or operational review of the ATO/Operator training programme.

The Agency should align FOIs requirements to ATO/Operators instructor’s tutor’s requirements for consistency purpose and proficient oversight.

response

Noted

Thank you for your comment.

Your comment will also be further considered by the Review Group when finalising the AMC/GM.

**3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material
(Draft EASA Decision) - GM1 ARA.GEN.200(a)(2)**

p. 109-110

comment 103

comment by: *IATA*

3/ Guidance Material concerning NAA’s:

The NAA FOIs (Flight Ops Inspectors) are subject to guidance material focusing on “UPRT” knowledge and understanding only. This is clearly stated in ‘GM1 ARA.GEN.200 (a) (2) and ‘GM2 ARO.GEN.200 (a) (2) Management system. The NPA does not contain any skill requirements or recommendations for NAA inspectors.

The first remark concerns the difference of treatment between ATO / Operator instructors’ tutors and NAA FOI because the NPA recommends for instructors’ tutors airplane UPRT course and nothing for NAA’s FOI.

The second remark concerns the oversight in itself. As NAAs’ FOI are supposed to assess the courseware suitability of the ATO/Operator, the NPA should recommend airplane UPRT



course for NAAs' FOI. This remark is based on ICAO Doc 10011, Manual on Aeroplane Upset Prevention and Recovery Training, Section 6, which states that inspectors should conduct a proof-of-concept trial or operational review of the ATO/ Operator training program.

The Agency should align FOIs requirements to ATO/Operators instructor's tutor's requirements for consistency purpose and proficient oversight.

response

Noted

Thank you for your comment.

Your comment will also be further considered by the Review Group when finalising the AMC/GM.

comment

393

comment by: AOPA Finland

Approved Training Organisation should be free to decide, if they wish to facilitate and commence such upset *prevention* training in Flight Simulator Training Device (FSTD) to deliver enhanced pilot competencies related theoretical knowledge (TK) and in addition to existing flight syllabi for those aeroplane licence training courses.

response

Noted

Thank you for your comment.

Please refer to Section 2.3.7 of the Opinion.

3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision) - GM2 ARO.GEN.200(a)(2) Management system

p. 110-111

comment

104

comment by: IATA

4/ Guidance Material concerning NAA's:

The NAA FOIs (Flight Ops Inspectors) are subject to guidance material focusing on "UPRT" knowledge and understanding only. This is clearly stated in 'GM1 ARA.GEN.200 (a) (2) and 'GM2 ARO.GEN.200 (a) (2) Management system. The NPA does not contain any skill requirements or recommendations for NAA inspectors.

The first remark concerns the difference of treatment between ATO / Operator instructors' tutors and NAA FOI because the NPA recommends for instructors' tutors airplane UPRT course and nothing for NAA's FOI.

The second remark concerns the oversight in itself. As NAAs' FOI are supposed to assess the courseware suitability of the ATO/Operator, the NPA should recommend airplane UPRT course for NAAs' FOI. This remark is based on ICAO Doc 10011, Manual on Aeroplane Upset Prevention and Recovery Training, Section 6, which states that inspectors should conduct a proof-of-concept trial or operational review of the ATO/ Operator training program.



	<i>The Agency should align FOIs requirements to ATO/Operators instructor's tutor's requirements for consistency purpose and proficient oversight.</i>	
response	Noted	
	Thank you for your comment.	
	Your comment will also be further considered by the Review Group when finalising the AMC/GM.	
comment	240	comment by: AIRBUS
	Comment related to GM2 ARO.GEN.200(a)(2) Management system ADDITIONAL GUIDANCE (Page 111)	
	Though not published yet, the AURTA Rev3 should be taken as the new reference for training	
	Further guidance is available in revision 3 of the AURTA, in the UK CAA Paper 2013/02 'Monitoring Matters - Guidance on the Development of Pilot Monitoring Skills', and in the Flight Safety Foundation publication 'A Practical Guide for Improving Flight Path Monitoring', November 2014.'	
response	Accepted	
	Thank you for your comment.	
	Please refer to Section 2.3.14 of the Opinion.	
	Your comment will also be further considered by the Review Group when finalising the AMC/GM.	
comment	394	comment by: AOPA Finland
	Approved Training Organisation should be free to decide, if they wish to facilitate and commence such upset <i>prevention</i> training in Flight Simulator Training Device (FSTD) to deliver enhanced pilot competencies related theoretical knowledge (TK) and in addition to existing flight syllabi for those aeroplane licence training courses.	
response	Noted	
	Thank you for your comment.	
	Please refer to Section 2.3.7 of the Opinion.	

**3. Proposed amendments - 3.2. Draft Acceptable Means of Compliance and Guidance Material
(Draft EASA Decision) - AMC1 FCL.800 Aerobatic rating**

p. 111

comment	19	comment by: IAOPA (EUROPE)
	IAOPA (Europe) does not support the proposed amendment to AMC1 FCL.800. Recovery	



	from unusual attitudes in this context means recoveries from mishandled aerobatic manoeuvres such as nose-low barrel rolls or delayed vertical manoeuvres. These are not 'aeroplane upsets' as defined on page 47 of 135 and the proposed amendment is inappropriate.
response	Not accepted Thank you for your comment. Please refer to Section 2.3.4 of the Opinion.
comment	395 comment by: AOPA Finland (i) recovery from unusual attitudes aeroplane upsets ; (vii) recovery from unusual attitudes aeroplane upsets ;
response	Not accepted Thank you for your comment. Please refer to Section 2.3.4 of the Opinion.

4. Regulatory Impact Assessment (RIA) - 4.1. Issues to be addressed

p. 112-115

comment	331 comment by: René Meier, Europe Air Sports Page 112 RIA Safety issue Comment Please do not “punish” non-commercial pilots and instructors for this. Ensure an open-minded relationship with light aviation community to introduce tailor-made provisions to their student pilots, pilots and instructors. Rationale Note that the statistics on fatal accidents and the safety recommendations are all concerning air transport carriers, not GA.
response	Partially accepted Thank you for your comment. Please refer to Section 2.3.1 of the Opinion.

4. Regulatory Impact Assessment (RIA) - 4.2. Objectives

p. 115-116

comment	332 comment by: René Meier, Europe Air Sports
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	<p>Page 116</p> <p>Objectives</p> <p>Comment</p> <p>Please separate the comment about PPL(A) flight instruction syllabus from those related to multi-pilot training programmes.</p> <p>Rationale</p> <p>The PPL case is put under the multi-pilot training programme, which is confusing. Again, think about non-commercial pilots as a specific case calling for specific and limited provisions.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>

4. Regulatory Impact Assessment (RIA) - 4.3. Policy options

p. 116-119

comment	<p>333 comment by: René Meier, Europe Air Sports</p> <p>Page 117</p> <p>RIA, table 2</p> <p>Comment</p> <p>Re-define Option 1 as an Option <u>without</u> any change in the LAPL(A) and PPL(A) syllabi.</p> <p>Rationale</p> <p>Option 1 is based on the assumption that UPRT is optional for LAPL(A) and PPL(A). This is a strange assumption ignoring that the current training syllabi already contain TK and flight training on approach to stall, stall, turn with a bank between 45° and 60°, steep turn.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>
comment	<p>334 comment by: René Meier, Europe Air Sports</p> <p>Page 117</p> <p>RIA, table 2</p> <p>Comment</p> <p>Option 2 is introduced as including UPRT dedicated to GA, still on an optional basis for private pilots. Re-define Option 2 as an Option with additional and optional upset recovery training exercises.</p> <p>Rationale</p> <p>The Agency's wording must be unmistakably clear to all reader.</p>
response	<p>Noted</p>



Thank you for your comment.
Please refer to Section 2.3.1 of the Opinion.

comment	335	comment by: <i>René Meier, Europe Air Sports</i>
	Page RIA Comment	117
	It is recognised that the proposal of EASA and the RMG for an Option 2 goes beyond ICAO SARPs. Change EASA and RMG experts' mindset towards a more GA-friendly regulatory system.	
	Rationale To some extent, the Agency's proposals show a lack of consideration for the GA safety strategy and GA roadmap.	
response	Accepted Thank you for your comment. Please refer to Section 2.3.1 of the Opinion.	
comment	396	comment by: <i>AOPA Finland</i>
	UPRT provisions should not be extended to other licences, such as the CPL, LAPL and the PPL.	
response	Not accepted Thank you for your comment. Please refer to Sections 2.3.1 and 2.3.7 of the Opinion	

4. Regulatory Impact Assessment (RIA) - 4.5. Analysis of impacts

p. 122-133

comment	20	comment by: <i>IAOPA (EUROPE)</i>
	IAOPA (Europe) considers the Option 2 analysis to be fundamentally flawed as it fails to include the considerable additional cost which would be faced by many RF/ATOs needing to acquire aeroplanes approved for intentional spinning and the refresher training of FIs to the level of competence needed to deliver such training safely.	
response	Noted Thank you for your comment. Please refer to Section 2.3.5 of the Opinion.	
comment	21	comment by: <i>IAOPA (EUROPE)</i>



IAOPA (Europe) considers that more appropriate training for dynamic flight events in light aeroplanes would be achieved through greater access to FCL.800. Hence we propose, yet again, that the prerequisites of FCL.800 (b) (1) should be deleted, enabling more pilots to gain the Aerobatic Rating at a formative time in their flying career.

response

Not accepted
 Thank you for your comment.
 Please refer to Section 2.3.7 of the Opinion.

comment

224 comment by: *International Development of Technology b.v.*
 Under 4.5.2 Social Impact, there is a statement made about
 "...potential manoeuvres with more than 90 degrees bank, may have an impact on the psychological health of certain student pilots. This in turn could lead to the discontinuation of their training and consequently their intended future airline career."
 I feel this is an unfounded statement. I do not believe there is any merit to this, or evidence to back it.
 Furthermore, pilots should be willing to accept that an airplane can encounter many attitudes throughout its flight envelope, and that it is their duty to manage control over the situation regardless. Has a pilot ever discontinued his/fer training due to UA training in light aircraft? I do not have the data, however this would seem highly unlikely for "aviators"!

response

Noted
 Thank you for your comment.

comment

336 comment by: *René Meier, Europe Air Sports*
 Pages 122 and 123
 Safety impact
 Remark
 The definitions of the two options need to be clarified. See above-mentioned proposals.
 Rationale
 The texts are not clear for the readers.

response

Noted
 Thank you for your comment.
 Please refer to Section 2.3.1 of the Opinion.

comment

337 comment by: *René Meier, Europe Air Sports*
 Page 125



	<p>Economic impact, table Comment We do not share the assessment according which the new provisions would generate “minimal additional training cost”. The wording of your text should be adjusted accordingly.</p> <p>Rationale Some NSAs would require aerobatic aeroplanes for UPRT flight instruction and/or distinguish FIs with UPRT certificate and FIs without UPRT certificate.</p>
response	<p>Noted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>

comment	<p>338 comment by: <i>René Meier, Europe Air Sports</i></p> <p>Page 130 GA and proportionality issues Table Comment The text is probably reflecting the intentions of the Agency and the RMG experts with regard to GA. But the NPA is to some extent seen as an additional burden to GA following safety events in CAT.</p> <p>Rationale UPRT TK and flight instruction are already provided. There is no need to consider the MPL and ATPL cases when dealing with LAPL and PPL. And with FIs training towards LAPL and PPL. The reality is different.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p> <p>Please refer to Section 2.3.1 of the Opinion.</p>

comment	<p>339 comment by: <i>René Meier, Europe Air Sports</i></p> <p>Page 131 Impact on a better regulation, table Comment For Option 2, we were expecting from EASA and its RMG experts to be “GA roadmap”-oriented. This would mean no extra provision upon GA. At least, no extra provision for GA beyond ICAO framework. Review the text which is misleading.</p> <p>Rationale The contents of the NPA would need some brushing to reflect the initial intent.</p>
response	<p>Partially accepted</p> <p>Thank you for your comment.</p>



Please refer to Section 2.3.1 of the Opinion.

comment 341 comment by: René Meier, Europe Air Sports

Page 131
 Impact on better regulation
 Text below the table
 Comment

The text announces that UPRT would require an extension of the instructor privileges. This is not acceptable for GA for two reasons: firstly, this ignores that instructors are already providing some UPRT TK and flight instruction, secondly, this would create a new type of instructors. And the types of instructors are already enough.

Rationale

For GA, the instructor privileges should not be modified even if it is recognised that the UPRT part of their training might be slightly enhanced.

response Partially accepted

Thank you for your comment.
 Please refer to Section 2.3.1 of the Opinion.

comment 342 comment by: René Meier, Europe Air Sports

Page 132
 Impact on better regulation - Text at the top of the page
 Comment 1

Again, the text presents Option 1 as a “statu quo” scenario, which is not true.

Rationale

EASA should admit that this Option includes some provisions to LAPL and PPL.

Comment 2

It also presents Option 2 as a cost-effective scenario but without considering the impact on GA student pilots, on availability of aerobatic aeroplanes, on RFs/RTOs which are not included in the NPA.

Rationale

Without these considerations the Agency’s statement is not well founded.

response Noted

Thank you for your comment.
 Please refer to Section 2.3.1 of the Opinion

comment 398 comment by: AOPA Finland



4.5 Analysis of impacts

4.5.1 Safety impact

Option 0: The high risk of CAT LOCI events/occurents remains.

Option 1: CPL(A) should be excluded from this plan and address the improvement of training standards for the ATPL(A), MPL and Single-pilot high performance complex aeroplane in multi-pilot operations and multi-pilot type rating training courses and their flight instructors and FSTD instructors delivering said type rating training courses.

Option 2: Only the cost level, gold plating and overregulation will increase if upset prevention training will be applied as mandatory to LAPL, PPL and CPL training courses. Proportionate way would be that EASA would delegate authority to ATOs what is the best way, FSTD or aerobatic aeroplane, to implement the basic content of upset prevention training.

When considering accidents in GA fixed-wing aeroplane by phase of flight, EASA Annual Safety Review 2014 shows that the most critical phase was during landing, where 45% of the accidents occurred. This is the problem.

4.5.2 Social impact

Option 2

Increased cost level, gold plating and overregulation would not increase neither appeal nor interest for the instructors or LAPL, PPL and CPL students to become future ATPL pilots.

response

Partially accepted

Thank you for your comment.

Please refer to Sections 2.3.1 and 2.3.7 of the Opinion

5. References p. 134-135

comment

99

comment by: *Dassault-Aviation*

Dassault-Aviation :

Additional comment to FCL.930. Training course

to mitigate negative training risk or progressive loss of course quality, and to encourage share of experience (which is paramount for UPRT), training the instructors for UPRT in an aeroplane or in an FSTD, should not be delivered in the same ATO than the applicant itself. Therefore, instructor applicants should follow their training in a specific and independent ATO, approved for training the trainers.

Rq : see comment on AMC1 2(1)(b).



response Not accepted
Thank you for your comment.
Please refer to s 2.3.7, 2.3.9, and 2.3.13 of the Opinion.

comment *100* comment by: *Dassault-Aviation*
Dassault-Aviation:
Additional comment to ORO.FC.240 : Operation on more than one type or variant
Some organisations operate more than one type or variant in compliance with ORO.FC.240 (with the same crew members). Thus, it seems to be essential to develop an AMC or GM which deals with UPRT training for mixed fleet operators.
For that purpose, generic UPR course and type characteristics should be distinguished to minimize and/or optimize the training for those who fly several types.

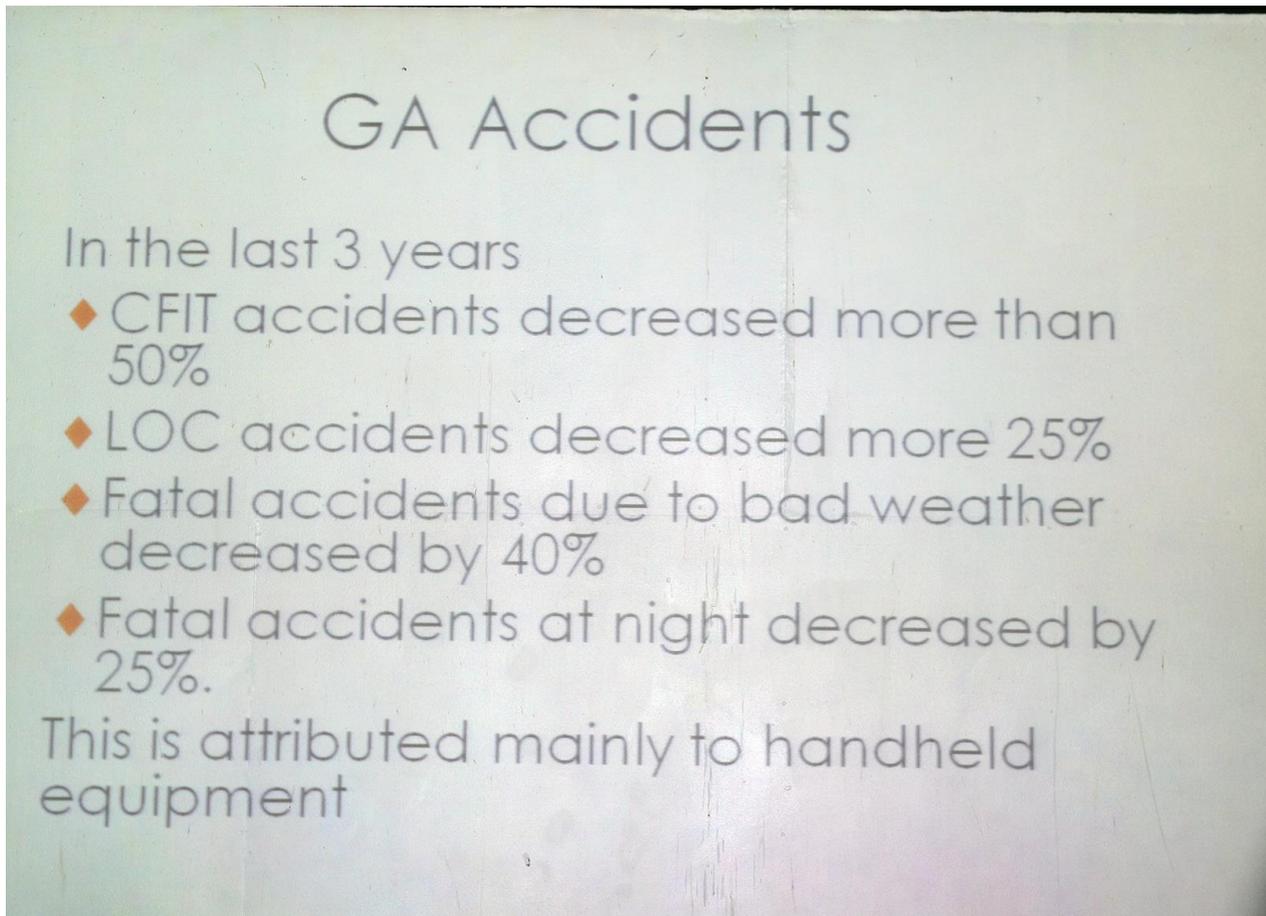
response Noted
Thank you for your comment.
Please refer to Section 2.3.11 of the Opinion.



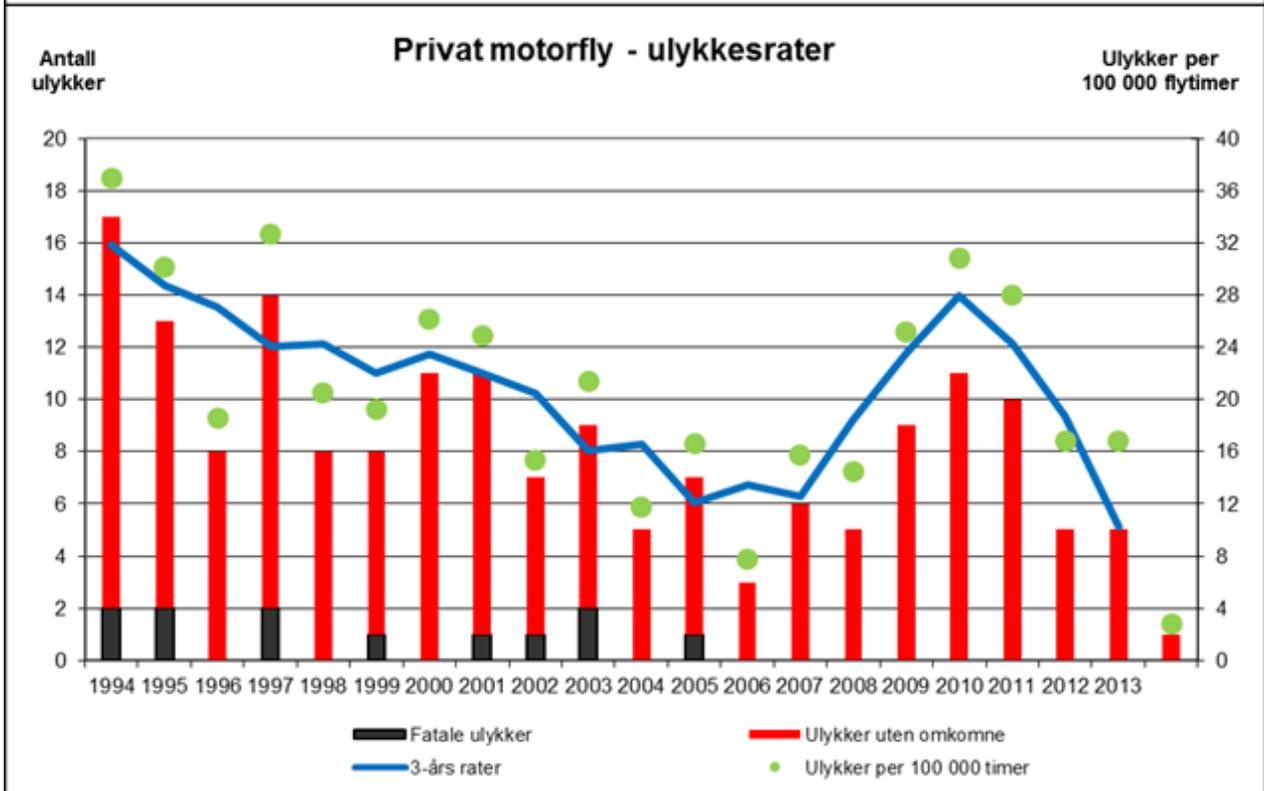
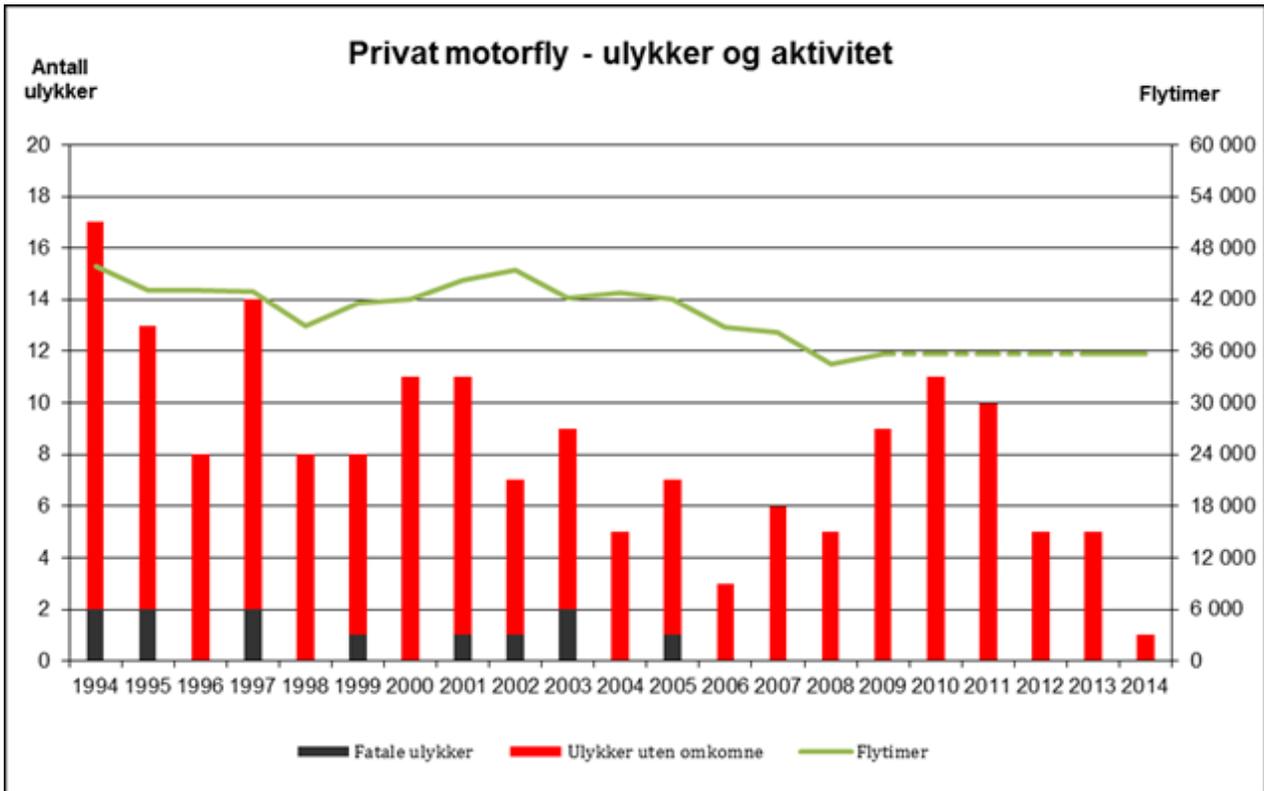
3. Appendix A - Attachments

 [GAJSC loss of control FINAL.pdf](#)

Attachment #1 to comment [#242](#)



Attachment #2 to comment [#242](#)



Attachment #3 to comment [#242](#)

 [EASA-Annual-safety-review-2014.pdf](#)

Attachment #4 to comment [#373](#)

