

## **AIRBUS FLIGHT TEST CREW MEMBERS’ RESPONSE to NPA 2008-20 and 2008-17b**

After years of discussions between industry and the JAA (now EASA), it was decided to publish a minimal regulation for Civil Flight Tests in Europe, in the form of an appendix to the subpart P-Permit to fly of the Part 21

**The AIRBUS Flight Test Crew Members cannot agree with this minimalist approach, which is not in accordance with the ICAO standards in terms of crew licensing.**

**It is a matter of fact that Article 32 of the Convention on International Civil Aviation states very clearly:**

“The pilot of every aircraft and the other members of the operating crew of every aircraft engaged in international navigation shall be provided with certificates of competency and licenses issued or rendered valid by the State in which the aircraft is registered.”

The Flight Test Engineer’s function onboard an Airbus test aircraft, whether seated in the cockpit or at a specific operational station, can be compared directly to the function of a licensed Flight Engineer. The Flight Test Installation onboard a test aircraft is considered as an essential aircraft system for operating and monitoring all other aircraft systems and has therefore to be operated under the supervision of an operating crewmember.

That is the reason why, especially for the CS 25 certification process, where airplanes have to fly at any point around the world to accomplish the flight test program, Article 32 of the Convention on International Civil Aviation fully applies.

We strongly suggest that a Flight Test Engineer licence be created following the model of the ICAO Flight Engineer licence, as described in Annex 1 of the Convention.

A licence is mandatory for anyone having an operational task throughout the world of civil aviation (private pilots, commercial pilots, airline transport pilots, glider pilots, free balloon pilots, flight navigators, flight engineers, aircraft maintenance agents, air traffic controllers, ...) and it would be very difficult to explain that we expect less from professional engineers operating as crew members onboard aircraft in Flight Test, and crossing the boundaries of international airspace.

Instead of making comments directly into the NPA 2008-20, which already has a very convoluted structure and is not the proper place to address crew licence issues, we prefer here to set out the basis of what could become an EASA Flight Test Engineer FCL and comment in the following order:

- 1) Category of flights
- 2) Crew qualifications
- 3) Crew privileges

### **1) Category of flights:**

With the current definition of CAT 1, 2, 3 and 4 as proposed in NPA 2008-20 which are very deterministic, there is the risk that a given flight test does not fit properly into any category. In this case our understanding of the current NPA is that such a flight would be CAT 2 by default. This would be clarified if we could add in the definition of CAT 2 the additional phrase:

“Any flight that requires specific knowledge of flight test techniques”

## 2) Crew qualifications

Everything in yellow is an addition to the NPA. We have in the meantime deleted the notion of authorization, which is redundant with the notion of licence.

Flight crew qualification	Pilots	Engineers
<p><b>CAT 1 Rating</b></p>	<p><b>A CAT1 Test Pilot shall:</b></p> <ul style="list-style-type: none"> <li>- Hold at least a CPL in the appropriate aircraft category complete with a CAT1 rating.</li>   <li>- Hold a valid Class 1 medical certificate</li> </ul> <p>The CAT1 rating is issued by the competent authorities based on a test pilot CAT1 Certificate delivered by an approved training organisation appropriate to the intended aircraft and category of flights, upon completion of a training course of:</p> <ul style="list-style-type: none"> <li>- 300 hours of ground training,</li> <li>- 90 hours of flight time on a substantial number of representative aircraft featuring different pilot interfaces and handling qualities</li> </ul> <p>Credit can be granted by competent authorities taking into account previous experience or training courses</p> <p>To apply to such a training course, the pilot must have previously logged 1500 hours of flight time including 400 hours as pilot in command.</p> <p>The test pilot CAT1 rating is renewed every year by the competent authorities upon completion of a minimum of 20 flight test hours per year.</p> <p>If the rating expires, the applicant shall complete a proficiency check approved by the competent authorities.</p> <p>The validity of the licence is determined by the validity of the ratings contained therein and the medical certificate</p>	<p><b>A CAT1 Flight Test Engineer shall:</b></p> <ul style="list-style-type: none"> <li>- Hold an appropriate flight test engineer licence comparable to the ICAO flight engineer licence as described in Annex 1 to the convention on International Civil Aviation. This licence must be complete with a flight test engineer CAT1 rating.</li>   <li>- Hold a valid Class 2 medical certificate as required for the ICAO flight engineer licence.</li> </ul> <p>The CAT1 rating is issued by the competent authorities based on a flight test engineer CAT1 Certificate delivered by an approved training organisation appropriate to the intended aircraft and category of flights, upon completion of a training course of:</p> <ul style="list-style-type: none"> <li>- 300 hours of ground training,</li> <li>- 90 hours of flight time on a substantial number of representative aircraft featuring different pilot interfaces and handling qualities</li> </ul> <p>Credit can be granted by competent authorities taking into account previous experience or training courses</p> <p>To apply to such a training course, the FTE must have already been trained on basic aviation knowledge (eg: private pilot course)</p> <p>The flight test engineer CAT1 rating is renewed every year by the competent authorities upon completion of a minimum of 20 flight test hours per year.</p> <p>If the rating expires, the applicant shall complete a proficiency check approved by the competent authorities.</p> <p>The validity of the licence is determined by the validity of the ratings contained therein and the medical certificate</p>

<p><b>CAT 2 Rating</b></p>	<p><b>A CAT2 Test Pilot shall:</b></p> <ul style="list-style-type: none"> <li>- Hold at least a CPL in the appropriate aircraft category complete with a CAT2 rating.</li>   <li>- Hold a valid Class 1 medical certificate</li> </ul> <p>The CAT2 rating is issued by the competent authorities based on a test pilot <b>CAT2 Certificate delivered by an approved training organisation</b> appropriate to the intended aircraft and category of flights, upon completion of a training course of:</p> <ul style="list-style-type: none"> <li>- 150 hours of ground training,</li> <li>- 30 hours of flight time on a substantial number of representative aircraft featuring different pilot interfaces and handling qualities</li> </ul> <p>Credit can be granted <b>by competent authorities</b> taking into account previous experience or training courses. When such training is provided in-house, <b>internally appointed senior pilots</b> of the company provide ground training as part of their job.</p> <p><b>To apply to such a training course the pilot must have previously logged 1500 hours of flight time including 400 hours as pilot in command.</b></p> <p>The test pilot CAT2 rating is renewed every year by the competent authorities upon completion of a minimum of 20 flight test hours per year.</p> <p><b>If the rating expires, the applicant shall complete a proficiency check approved by the competent authorities.</b></p> <p><b>The validity of the licence is determined by the validity of the ratings contained therein and the medical certificate</b></p>	<p><b>A CAT2 Flight Test Engineer shall:</b></p> <ul style="list-style-type: none"> <li>- <b>Hold an appropriate flight test engineer licence comparable to the ICAO flight engineer licence as described in Annex 1 to the convention on International Civil Aviation. This licence must be complete with a flight test engineer CAT2 rating.</b></li>   <li>- <b>Hold a valid Class 2 medical certificate as required for the ICAO flight engineer licence.</b></li> </ul> <p>The CAT2 rating is issued by the competent authorities based on a flight test engineer <b>CAT2 Certificate delivered by an approved training organisation</b> appropriate to the intended aircraft and category of flights, upon completion of a training course of:</p> <ul style="list-style-type: none"> <li>- 150 hours of ground training,</li> <li>- 30 hours of flight time on a substantial number of representative aircraft featuring different pilot interfaces and handling qualities.</li> </ul> <p>Credit can be granted <b>by competent authorities</b> taking into account previous experience or training course; When such training is provided in-house, <b>internally appointed senior FTEs</b> provide ground training as part of their job.</p> <p><b>To apply to such a training course the FTE must have already been trained on basic aviation knowledge (eg: private pilot course)</b></p> <p>The flight test engineer CAT2 rating is renewed every year by the competent authorities upon completion of a minimum of 20 flight test hours per year.</p> <p><b>If the rating expires, the applicant shall complete a proficiency check approved by the competent authorities.</b></p> <p><b>The validity of the licence is determined by the validity of the ratings contained therein and the medical certificate</b></p>
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<b>CAT 3 authorization</b>	<p><b>A CAT3 Test Pilot shall:</b></p> <ul style="list-style-type: none"> <li>- Hold a CAT3 authorization delivered by the agency upon request from his/her organisation and renewed every year based on valid medical Class 1 and a minimum of 20 flight test hours per year.</li> <li>- Hold at least a CPL in the appropriate aircraft category with the relevant type rating if he/she is not CAT1 or CAT2.</li> <li>- Have gained a significant amount of flight experience relevant to the task</li> <li>- Have participated in all flights on at least five aircraft up to the issuance of their individual certificate of airworthiness</li> </ul>	<p><b>A CAT 3 flight crew member shall:</b></p> <ul style="list-style-type: none"> <li>-Hold a CAT3 authorization delivered by the agency upon request from his/her organisation and renewed every year based on valid medical Class 2 and a minimum of 20 flight test hours per year.</li> <li>-Have gained a significant amount of flight experience relevant to the task</li> <li>-Have participated in all flights on at least five aircraft up to the issuance of their individual certificate of airworthiness</li> </ul>
<b>CAT 4 authorization</b>	<p><b>A CAT 4 Pilot shall:</b></p> <ul style="list-style-type: none"> <li>-Hold a CAT4 authorization delivered by the agency upon request from his/her organisation and renewed every year based on valid medical Class 1.</li> <li>- Hold at least a CPL in the appropriate aircraft category with the relevant type rating if he/she is not CAT1 or CAT2.</li> <li>- Have been appointed in the FTOM by the organisation performing the flight test</li> <li>- Have been informed on the change to type design for which the flight tests is to be undertaken</li> </ul>	<p><b>A CAT 4 flight crew member shall:</b></p> <ul style="list-style-type: none"> <li>-Hold a CAT4 authorization delivered by the agency upon request from his/her organisation.</li> <li>- Have been appointed in the FTOM by the organisation performing the flight test</li> <li>- Have been informed on the change to type design for which the flight tests is to be undertaken</li> </ul>

### 3) Crew privileges

	Pilot	Engineer
<b>CAT 1 Experimental Flights</b>	PIC: CAT 1 F/O: - Flight envelope opening: CAT 1 - Other flights: CAT 2 or above Derogation for FO can be granted by competent authority on specific cases	Lead FTE: CAT 1 FTE The lead can be performed by a trainee FTE under supervision of a CAT 1 FTE. Other FTE: CAT 2 or above
<b>CAT 2 Engineering Flights  First production flighr</b>	PIC: CAT 2 or above F/O : any professional pilot civil or military	Lead FTE: CAT 2 or above The lead can be performed by a trainee FTE under supervision of a CAT 2 FTE.
<b>CAT 3  Production Flights except first flights</b>	PIC: CAT 3 or above F/O: any professional pilot civil or military	Other flight crew members: CAT 3 or above
<b>CAT 4</b>	PIC: CAT 4 or above F/O: any professional pilot civil or military	Other flight crew members: CAT 4 or above

