EASA Safety Information Bulletin

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Subject: Manual Flight Training and Operations

Ref. Publications:
EASA SIB 2010-33 on Automation Policy
EASA SIB 2013-02 on Stall and Stick Pusher Training
Commission Regulation (EU) 965/2012 of 5 October 2012
Commission Regulation (EC) No 59/2008 of 20 August 2008
FAA SAFO 13002 on manual flight operations

Applicability: National Aviation Authorities (NAAs), Operators, Training Organisations, Flight crews.

Description:

Modern aeroplanes are commonly operated using auto-flight systems (e.g. autopilot or auto-throttle/auto-thrust). Generally, automation has contributed substantially to the overall improvement of flight safety by increasing the timeliness and precision of routine procedures, and reducing the opportunity for errors and the associated risks to the safety of the flight. It also generally decreases workload, allowing flight crews to dedicate more attention to monitoring activities and maintaining situational awareness.

Nevertheless, continuous use of automated systems does not contribute to maintaining pilot manual flying skills. According to recent studies and publications, and the results of the EASA Cockpit Automation Survey, continuous use of auto-flight systems could lead to potential degradation of the pilot's ability to cope with the manual handling of the aeroplane. A pilot is normally required to revert to manual flight operation in case of automation failure or disconnection, or when an aircraft is dispatched with an inoperative auto-flight system.

Today, operators' automation policies, which include provisions for manual flying, vary significantly across Europe, spanning from mandating the use of full automation at all times, except take-off and landing (when not required by operations), to encouraging disconnecting the automation whenever possible, below a certain altitude/flight level.

This is information only. Recommendations are not mandatory.

This SIB is issued to remind NAAs and operators of the importance of manual flying during recurrent simulator training and also, when appropriate, during flight operations.

The overall aim is to reach an appropriate balance between the use of automation and the need to maintain pilot manual flying skills.

A similar recommendation has been issued through other publications, such as the FAA SAFO 13002.

Recommendations: Operators are encouraged to consider incorporating emphasis of manual flight operations, as a means of maintaining basic flying skills, into training (initial and recurrent) and, when feasible, line operations.

Operational principles should be developed by operators and included in their automation policy. The operator should identify appropriate opportunities for pilots to practice their manual flying skills, taking into account factors such as:

- Phase of flight;
- Workload conditions;
- Altitude/Flight Level (non-Reduced Vertical Separation Minima (RVSM);
- Meteorological conditions;
- Traffic density;
- Air Traffic Control (ATC) and Air Traffic Management (ATM) procedures;
- Pilot and crew experience;
- Operator operational experience.

Note: This is not a complete list of potential factors.

It is also important that pilots clearly understand the circumstances under which automated systems have to be used, such as during high workload conditions, while operating in traffic congested airspaces, or when following airspace procedures that require the use of autopilot for precise operations.

Therefore, the conditions and procedures for manual flying should be clearly described in the operator's manual and agreed with the competent NAA.

Furthermore, tools like Safety Management Systems (SMS) and Flight Data Monitoring (FDM) should be used by operators to closely monitor the potential impact on the number, magnitude and pattern of deviations from consolidated average flight precision, to effectively balance the benefits and the drawbacks of manual flying and adjust policies accordingly. Operators implementing an Alternative Training and

Qualification Programme (ATQP) should tailor their training programme based on available data.

Competent NAA's and operators should work together to ensure that the content of this SIB is incorporated into operational policies, provided to pilots during theoretical training, and reinforced during practical training.

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