



REASSESSMENT OF THE RESPONSE TO TSB RECOMMENDATION A93-17

Seaplane training evaluation

Background

Between 1976 and 1990, there were 1,432 seaplane accidents, of which 234 were fatal, resulting in 432 deaths. In February 1994, following an examination of these accidents, the Board issued a report identifying safety deficiencies associated with the levels of skills, abilities and knowledge of pilots engaged in seaplane operations. The report contained ten recommendations addressing issues of training, evaluation and certification, proficiency and education.

On 5 May 1994, the Minister responded to each of the Board's recommendations. Following is the Board's assessment of the extent to which the underlying deficiencies are being addressed.

The Board released Report SSA93001 on 10 February 1994.

TSB Recommendation A93-17 (February 1994)

The attainment of a given standard of knowledge or skill, particularly in the field of motorized equipment operation, generally requires some type of examination. Still, in the case of seaplane operations, a pilot is not required to demonstrate that he or she has acquired an acceptable level of skill, knowledge and decision-making ability. A pilot only needs to have flown the number of seaplane flying hours set out in the Personnel Licensing Handbook to obtain a seaplane rating; there is no requirement to pass a written, oral, or flight test. As a result, TC has no evidence that the applicant has reached a minimum proficiency standard. Although it is normally the trainer's responsibility to recommend the applicant for the seaplane rating, there is room for a wide variety of proficiency level assessments among trainers since there are no established proficiency standards.

To ensure that a minimum level of knowledge, skill, and decision-making ability has been attained after the completion of all required training, the Board recommends that

The Department of Transport implement a specific knowledge and skill test for the alternate seaplane endorsement.

TSB Recommendation A93-17

Transport Canada's response to Recommendation A93-17 (May 1994)

Transport Canada agrees that applicants should meet specific knowledge and skills requirements for the alternate seaplane endorsement. The recommending instructor now

certifies on the application for endorsement that the applicant has completed the training and experience prescribed in the Personnel Licensing Handbook, Volume 1, Flight Crew, and is competent to hold a seaplane rating.

With the development of the proposed comprehensive ground and flight training syllabi it is felt that these clearly stated performance standards will enable the recommending instructor to judge when an individual is qualified for the seaplane rating.

TSB assessment of Transport Canada's response to Recommendation A93-17 (July 1994)

Transport Canada replies to this recommendation by stating that the additional proficiency standards included in the new ground and flight syllabi will be sufficient to allow the recommending instructor to make a valid assessment of the competency of an applicant for a seaplane endorsement. In TSB's view, this reply does not address the deficiency; there is no mention as to how the assessment will be made. More comprehensive ground and flight training syllabi increases the need to test knowledge and skill to allow the person having the authority to recommend granting of the endorsement to determine if the required levels of knowledge, skill and decision-making ability has been attained. With comprehensive syllabi, assessment of competence should not just be a matter of subjective judgement by an uncertified trainer.

Therefore, the response to Recommendation A93-17 is assessed as **Unsatisfactory**.

TSB reassessment of Recommendation A93-17 (November 1996)

The new *Canadian Aviation Regulations* (CARs) does not address this issue. Unqualified trainers remain the only authority required to certify seaplane endorsement. The present Transport Canada trend to delegate its licensing authority to industry makes any positive outcome of this recommendation unlikely.

Therefore, the assessment remains as **Unsatisfactory**.

TSB reassessment of Recommendation A93-17 (November 1997)

No change since the last reassessment.

Therefore the assessment remains as **Unsatisfactory**.

TSB reassessment of Recommendation A93-17 (January 2004)

In the absence of a formal exam and a seaplane flight examiner designation, Transport Canada has improved the syllabus and its associated standard required for seaplane endorsement in an effort to improve the quality of "seaplane endorsed pilot". TP 12668 (instructor guide-seaplane rating) now appears comprehensive and well written. Notwithstanding that TC has not implemented specific skill and knowledge test per se, if "instructor" guide is followed, then an already licensed pilot for land A/C should be able acquire the necessary skills/knowledge for seaplane rating.

Therefore, the response to Recommendation A93-17 is assessed as **Satisfactory in Part**.

As such, **Further Action is Unwarranted** with respect to A93-17 and the status is set to **Inactive**.

TSB review of Recommendation A93-17 deficiency file status (April 2014)

The Board requested that A93-17 be reviewed to determine if the Deficiency File Status was appropriate. After an initial evaluation, it was determined that the safety deficiency addressed by Recommendation A93-17 needed to be reassessed.

A request for further information was sent to Transport Canada and a reassessment will be conducted upon receipt of Transport Canada's response.

Therefore, the assessment remains as **Satisfactory in Part**.

Consequently, the status of Recommendation A93-17 is changed to **Active**.

Transport Canada's response to Recommendation A93-17 (March 2018)

TC agrees with the recommendation.

In 1996, TC published the Flight Instructor Guide - Seaplane Rating (TP 12668) to contribute to the standardization of seaplane pilot training in Canada. TC's review of current requirements concluded that Part IV of the CARs and TP 12668 appropriately address the requirement. The philosophy of training to the Seaplane Rating is outlined in Part I of TP 12668.

Ground Training

Although ground school is not a requirement for the float rating, many of the items listed under "Essential Background Knowledge" in the flight exercises can be presented in a general ground training session before the flying begins. Whether or not this approach is taken, the background knowledge that is necessary to support the learning of the flight exercises on a given trip must be understood before going flying. Here are some of the items that could be included in a ground training session:

1. Review the training program. Providing an overview of the training for the seaplane rating will not only let the student know what to expect, but what will be expected of the student.
2. Float terminology. Terms like deck, bulkhead, mooring cleat, keel, bumper, chine, skeg, step, bilge, water rudder, spreader bar, and bracing wire will be new to most students.
3. Using the Water Aerodrome Supplement.
4. Using equipment such as float pumps, inflatable safety vests, survival kit, first aid kit, anchor, and ropes.
5. Determining seaplane performance.
6. Hydrodynamics of a float aircraft.
7. Right-of-way rules for water operations.
8. Local traffic procedures, including any special use airspace.

Air Work

The fact that this guide does not have a section dedicated to air work doesn't mean that air work is excluded from seaplane training. Some will be needed. Allow sufficient time in level flight for the student to become familiar with the flight characteristics in normal manoeuvres, and then review some more advanced handling, such as steep turns and stalls. Also, forced landings, including engine failures after take-off should be reviewed, since the options available to a seaplane are different and the glide performance of the aircraft might be quite different from types previously flown.

TC believes the risks underlying this recommendation have been addressed and plans no further work at this time.

TSB reassessment of Transport Canada's response to Recommendation A93-17 (January 2019)

Transport Canada (TC) indicates that the safety deficiency identified in Recommendation A93-17, regarding the implementation of a specific knowledge and skill test for the alternate seaplane endorsement, has been addressed as follows:

- Section 405.21 of the *Canadian Aviation Regulations* (CARs) requires that a person be qualified as a flight instructor in order to conduct flight training. To be qualified, that person needs to meet the requirements of the personnel licensing standards (*Commercial Air Service Standards* [CASS] 425.21);
- Subsection 425.21(6) of the CASS requires that a person conducting flight training for the issuance of a seaplane class rating must be the holder of either a Commercial Pilot Licence or an Airline Transport Pilot Licence and have at least 50 hours flight time on that class of aeroplane;
- In order to standardize seaplane pilot training in Canada, TC published the *Instructor Guide - Seaplane Rating* (TP 12668). This guide provides flight instructors with the detailed training requirements to obtain a seaplane rating; and
- Section 421.38 of the CASS requires that within 12 months preceding the date of application for a seaplane rating, an applicant shall have successfully completed a qualifying flight under the supervision of a Transport Canada inspector or a person qualified in accordance with subsection 425.21(6) of the CARs by demonstrating the level of skill specified in TP 12668.

The steps taken by TC to date have improved seaplane training and provided instructors with more detailed information on the requirements for a seaplane endorsement. Although TC's actions have not specifically addressed the intent of the recommendation, the Board believes that the actions taken have reduced the risk associated with the safety deficiency identified in Recommendation A93-17 sufficiently that it can now be closed.

Therefore, the Board considers the response to Recommendation A93-17 to be **Satisfactory In Part**.

This deficiency file is **Closed**.