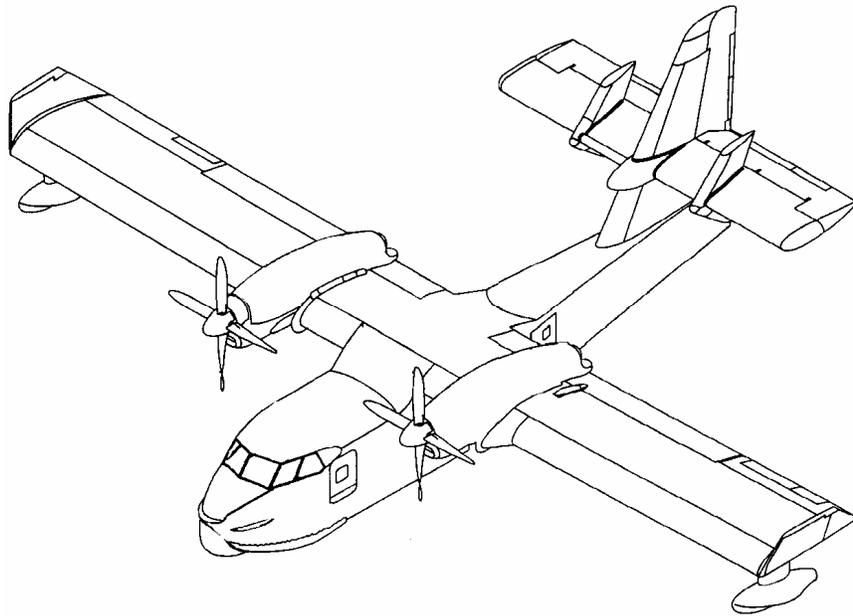


FLIGHT STANDARDIZATION BOARD (FSB) REPORT

CANADAIR CL-415



APPROVED: original signed by DATE: 10/07/98

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REVISION RECORD

<u>Revision No.</u>	<u>Section</u>	<u>Page #s</u>	<u>Date</u>
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1 PURPOSE

The primary purpose of this report is to specify FAA training, checking and currency requirements applicable to crews operating the Canadair CL-415, listed on its type certificate data sheet as a CL-215-6B11 variant. FAR Parts 119, 121, and 135 do not apply to the CL-415, but it may be operated under Part 137. This report can help Part 137 Operators in the development of their training programs and FAA Principal Operations Inspectors (POIs) in the administration of the knowledge and skills tests required by Part 137.19 (e). Provisions of this report are effective until amended, superseded, or withdrawn by subsequent FSB determinations.

Relevant acronyms are defined as follows:

AC	Advisory Circular
ACO	Aircraft Certification Office
AFM	Airplane Flight Manual
AP	Autopilot
ATP	Airline Transport Pilot
CHDO	Certificate Holding District Office
FSB	Flight Standardization Board
FTD	Flight Training Device
POI	Principal Operations Inspector
PTS	Practical Test Standards

2 FSB COMPOSITION

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3 BACKGROUND

The CL-415 is a high wing, twin engine amphibious airplane which was certificated under FAR 21.29(a)(1)(ii). It is listed on FAA Type Certificate Data Sheet A14EA. It's primary purpose is aerial fire fighting. It has the capability of operating on land or water. On water it can scoop 1687 gallons (13,500 pounds) of water into two internal tanks, that are further subdivided into two sections (4 total). Each section has its own water door. The four water doors may then be selected in various configurations for the dropping of water onto fires. It can also be configured to spray liquids or drop chemical foam.

In February, 1998, Canadair requested that the FAA conduct an AEG operational evaluation of the CL-415 which is required prior to operation in the U.S. In April-May, 1998, the CL-415 Flight Standardization Board (FSB) received a CL-415 initial pilot ground school utilizing the classroom training facilities of Bombardier Aerospace Training Center located in Montreal, Canada. The FSB then received aircraft training in the CL-415, registration number C-GKEV, in Montreal. It then conducted AC 120-53 test T5, which is essentially an evaluation of all the FAA Practical Test Standards (PTS) maneuvers required for a person not previously qualified in a seaplane.

The FSB is responsible for conducting future evaluations of changes to the CL-415 (such as engines, system instrumentation, or similar new systems) and its derivatives. The FSB then determines those changes' impact on training, checking and currency, and amends this report accordingly.

4 APPLICATION OF FSB REPORT

The guidelines in this report apply to: Aviation Safety Inspectors, Designated Pilot Examiners, Certificated Flight Instructors, Certificated Ground Instructors, and Pilot Proficiency Examiners.

5 PILOT "TYPE RATING" REQUIREMENTS

In accordance with Parts 1 and 61, the pilot type rating for the CL-415 (a variant of the CL-215-6B11) is designated as "CL-415". At Canadair's request, the FSB did not conduct a comparison between the CL-415 and the CL-215, or the CL-215T and the CL-415. Therefore, no credit may be given between these aircraft for training, checking, or currency.

6 "MASTER COMMON REQUIREMENTS" (MCRs)

LANDING MINIMA - In accordance with the CL-415 Airplane Flight Manual, dated June 24, 1994, the maximum landing weight for land and water operations is 37,000 pounds. 1.3 V_{so} at a flap setting of 25 degrees is 90 knots at a gross landing weight of 37,000 pounds. In accordance with FAR Section 97.3, the CL-415 is a category "A" aircraft during straight-in instrument approaches and category "A" for circling approaches.

NO FLAP APPROACHES - Checking in no flap approaches and landings is required per the Airline Transport Pilot and/or Type Rating Practical Test Standards (FAA-S-8081 Area of Operation VI, Task F).

7 "MASTER DIFFERENCE REQUIREMENTS" (MDRs)

This section is reserved for variants of the Canadair CL-415.

8 ACCEPTABLE "OPERATOR DIFFERENCE REQUIREMENTS" (ODRs) TABLES

This section is reserved for variants of the Canadair CL-415.

9 FSB SPECIFICATIONS FOR TRAINING

The applicant must meet the requirements of Part 61.157 (a)(1)(ii), (v), (b), or (d) for the addition of a CL-415 type rating to an ATP certificate. Part 61.63(d)(e) applies for the addition of a CL-415 type rating to any other grade of certificate. See Appendix 1 for a list of Training Program Special Emphasis Items.

10 FSB SPECIFICATIONS FOR CHECKING

Testing, Checking, and Evaluations specified by Part 61.58, Part 61.155 Part 61.157, and FAA Practical Test Standards (including seaplane) apply.

The following Specific Flight Characteristics (ATP/PTS section IV, Task E) must be demonstrated by all crewmembers at each proficiency/competency check:

- 1) Proficiency in water scooping and aerial dropping.
- 2) Maneuvering in medium bank turns (with water tanks full).

11 FSB SPECIFICATIONS FOR CURRENCY

Currency will be maintained, or re-established, in accordance with Parts 61.57 and 61.58.

12 AIRCRAFT REGULATORY COMPLIANCE CHECKLIST

Canadair did not provide the FSB with an Operating Rules Compliance Checklist to evaluate, therefore it is the responsibility of the CHDO to review operator's compliance with pertinent rules or policies.

13 FSB SPECIFICATIONS FOR DEVICES AND SIMULATORS

Device and simulator characteristics are designated in AC 120-40 and 120-45 (as amended). The acceptability of differences between devices, simulators, and aircraft must be addressed by the POI. Requests for device approval should be made to the POI. The POI may approve those devices for that operator if their characteristics clearly meet the established FAA criteria and

have been approved by the National Simulator Program (NSP). There are currently no simulators or training devices available for the CL-415.

14 ALTERNATE MEANS OF COMPLIANCE TO THIS REPORT

The FSB chairman should be consulted by the POI when alternate means of compliance, other than those specified in this report, are proposed. Alternate means of compliance must be approved by the FAA General Aviation and Commercial Division, AFS-800, Washington Headquarters. If an alternate means of compliance is sought, operators will be required to submit a proposed alternate means for approval that provides an equivalent level of safety to the provisions of AC 120-53 and this FSB report. Analysis, demonstrations, proof of concept testing, differences documentation, and/or other evidence may be required.

In the event that alternate compliance is sought, training program hour reductions, simulator approvals, and device approvals may be significantly limited and reporting requirements may be increased to ensure an equivalent level of training, checking, and currency. FAA will generally not consider relief through alternate compliance means unless sufficient lead time has been planned by an operator to allow for any necessary testing and evaluation.

15 SUPPLEMENTAL BOARD REPORT - PART II

Part II of the FSB report contains historical development information used to develop Part I. This information is kept on file at the Long Beach Aircraft Evaluation Group, (LGB AEG), 3960 Paramount Boulevard, Lakewood, CA 90712-4137.

Documents kept on file are as follows:

CL-415 Training syllabus of FSB members
CL-415 FAA FSB Order (FSB member list)

Appendix 1 - TRAINING PROGRAM SPECIAL EMPHASIS ITEMS

The FSB has identified several aircraft systems and/or procedures that should receive special emphasis in a CL-415 Training Program:

Ground Training:

- 1) Aerial firefighting water system.

Flight Training:

- 1) Crosswind takeoffs and landings on both land and sea.
- 2) Maneuvering in medium bank turns with full water load.
- 3) Recovery from hull porpoising during water operations.
- 4) Water probe operation - When water probes are extended for scooping, the aircraft experiences deceleration and a bow low trim angle change, requiring the pilot to increase elevator back pressure. When water probes are retracted at the completion of scooping the aircraft trim angle is restored and may be accentuated by the pilot induced back pressure.
- 5) Water dropping - When water is dropped from the aircraft at normal water dropping speeds, the aircraft experiences an increased positive G factor and pitches up significantly. At speeds close to the critical angle of attack this tendency is minimized.
- 6) FSB members determined that the CL-415 may easily develop severe pilot induced porpoising when water departures are attempted with the elevators selected to manual reversion. It is recommended that water departures only be executed with the elevator in the normal (hydraulically boosted) mode. It is also recommended that pilot examiners conduct water maneuvering and takeoffs with all flight controls in the normal mode.