

BOMBARDIER

BACKGROUNDER

BOMBARDIER 415 AMPHIBIOUS AIRCRAFT – BRIEFING

Background: Officially launched October 1991, the new-generation *Bombardier 415* turboprop amphibian is the most advanced firefighting aircraft in the world. In its firefighting configuration, this aircraft capitalizes on the concept of rapid initial attack with its ability to scoop water near a fire and provide a heavy, sustained aerial attack in order to contain fires. It can also be configured for other utility roles, including maritime search and rescue, surveillance and personnel transport.

The *Bombardier 415* aircraft's first flight took place on December 6, 1993, and restricted and utility category type approval from Transport Canada was received June 24, 1994. The *Bombardier 415* aircraft is the newest version of the piston-engined *CL-215* firefighter (125 delivered) and the retrofit *CL-215T* (17 delivered) amphibious aircraft.

Description: The *Bombardier 415* high-wing, all-metal amphibious aircraft is designed specifically for aerial firefighting. It has a maximum ferry range of 1,260 nautical miles (2,333 km), a normal cruise speed of 180 Ktas (333 km/h) and a typical fuel consumption of 222 U.S. gallons per hour (840 litres/h). In an average mission of six nautical miles (11 km) distance from water to fire, the *Bombardier 415* aircraft can complete nine drops within an hour, delivering 14,589 U.S. gallons (55,233 litres).

The *Bombardier 415* aircraft is powered by two Pratt & Whitney Canada PW123AF turboprop engines, each capable of generating 2,380 shp (shaft horsepower) at takeoff. It features a takeoff distance (ISA, MTOW) of 2,570 feet (783 metres) from land and 2,670 feet (814 metres) from water. Landing distance (ISA, MLW) is 2,210 feet (674 metres) from land and 2,180 feet (665 metres) from water¹. This high power, coupled with a large wing and robust structure, enables the aircraft to attack fires directly even in the roughest terrain.

¹ Under standard conditions

Fully powered flight controls enable precise handling and low speed maneuverability. The air-conditioned cockpit features digital avionics, a Honeywell electronic flight instrument system (EFIS), an integrated instrument display system (IIDS) and the latest Honeywell Primus II digital navigation and communications systems.

The aircraft is designed and built with special attention to corrosion resistance; parts and components are first treated with corrosion-inhibiting compounds and then assembled using wet sealant. This amphibian also features an improved drainage duct system and additional access panels to facilitate inspection.

Status: A total of 83 *Bombardier 415* aircraft have been ordered by government agencies in France, Canada, Italy, Greece, Croatia and Spain, including four *Bombardier 415MP* aircraft ordered by Greece and Malaysia.

Dimensions

Wingspan	93 ft. 11 in.	28.6 m
Length	65 ft.	19.8 m
Height	29 ft. 3 in	8.9 m
Wing area	1,080 sq. ft	100 sq.m

Interior

Cabin Length	30 ft., 10 in	9.4 m
Cabin Width (max.)	7 ft., 10 in	2.4 m
Cabin Height (max.)	6 ft., 3 in.	1.9 m

Doors (W x H) standard

Forward	42 in. x 54 in.	1.06 m x 1.37m
Aft Cargo	40 in. x 44 in.	1.02 m x 1.12m
Emergency	20 in. x 36 in.	0.5 m x 0.9 m

Aircraft Weights

Typical Firefighting Operating Weight Empty	28,400 lbs	12,882 kg
Maximum fuel	10,250 lbs	4,650 kg
Maximum Useful Load	6,400 lbs	2,903 kg
Maximum Takeoff Weight (Utility role)	41,000 lbs.	18,597 kg
Maximum Takeoff Weight (Firefighting role)	43,850 lbs.	19,890 kg
Maximum Takeoff Weight (water)	37,850 lbs.	17,170 kg
Maximum After-scooping Weight	47,000 lbs.	21,364 kg
Maximum Landing Weight	37,000 lbs.	16,783 kg

Aircraft Performance

Normal cruise speed	180 Ktas.	333 km/h
Long range cruise speed	140 Ktas.	259 km/h
Stall speed (max. landing weight, landing configuration)	68 Ktas.	126 km/h
Rate of climb (ISA, MTOW)	1,600 fpm	8.1 m/s
Average fuel burn	1,660 pph	843 L/h
Takeoff distance (ISA, land, MTOW, Firefighting).	2,570 ft.	783 m
Takeoff distance (ISA, water, MTOW, Firefighting)	2,670 ft.	814 m
Landing distance (ISA, land)	2,210 ft.	674 m
Landing distance (ISA, water)	2,180 ft.	665 m
Minimum water depth required	6 ft.	1.8 m
Waterbombing capacity	1,621 USG	6,137 L
Productivity —water dropped per hour (six nautical miles (11km) water to fire)	14,589 U.S. gal	55,233 l
Total scooping distance (including obstacle clearances of 50 ft)	4,400 ft	1,341 m
Scooping time (to refill tanks)	12 seconds	
Endurance in Firefighting Role	4 hours	

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