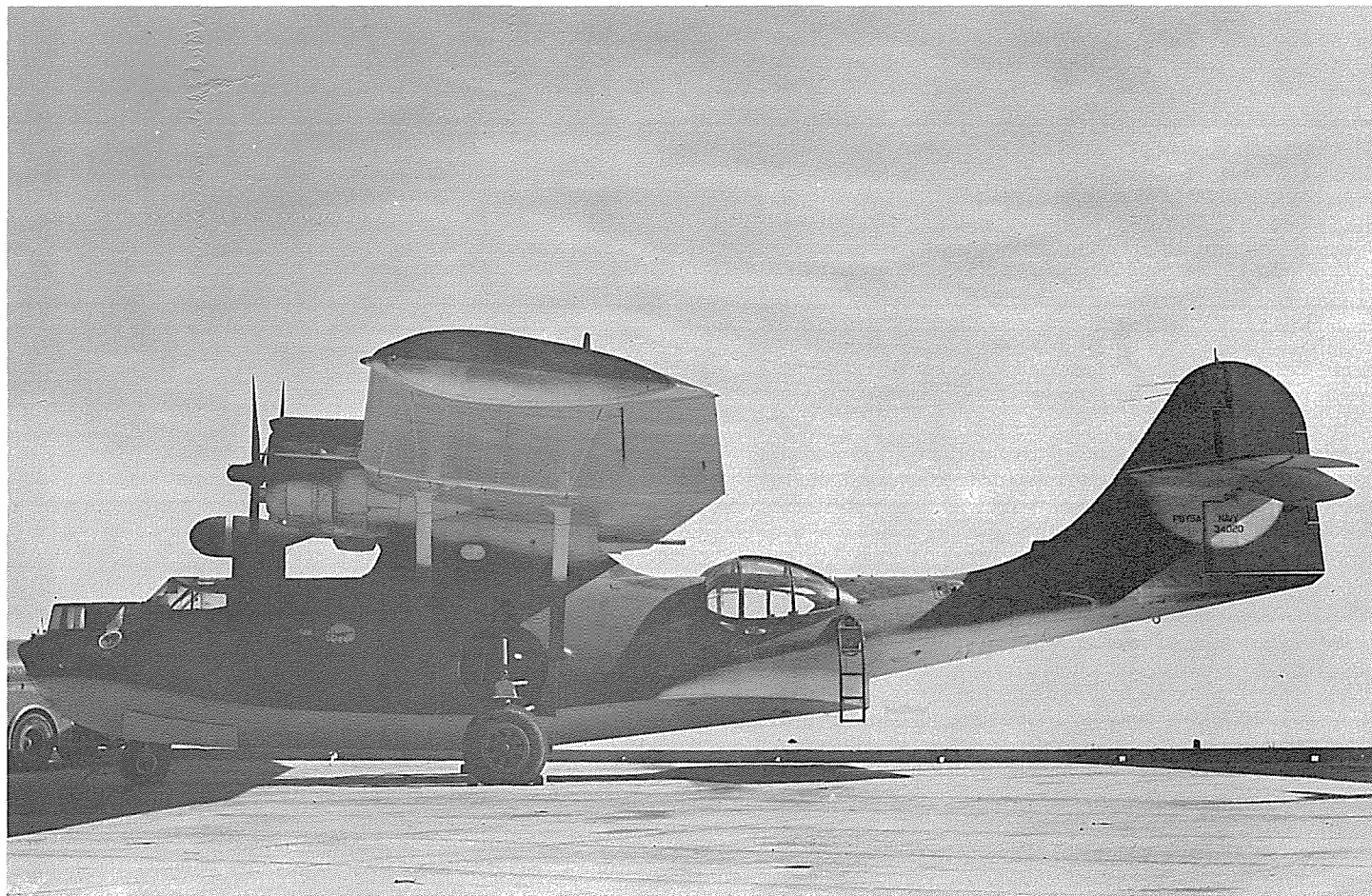




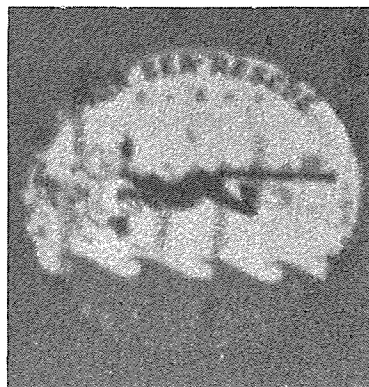
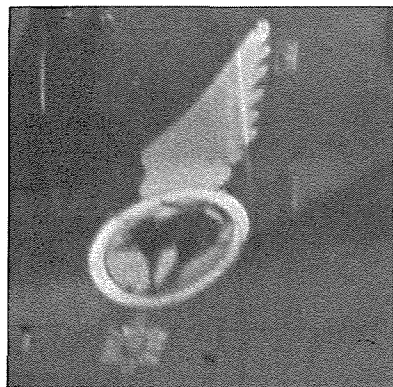
THE CONSOLIDATED PBV - CATALINA TO CANSO

Capt. WILLIAM E. SCARBOROUGH, USN, (Ret.)

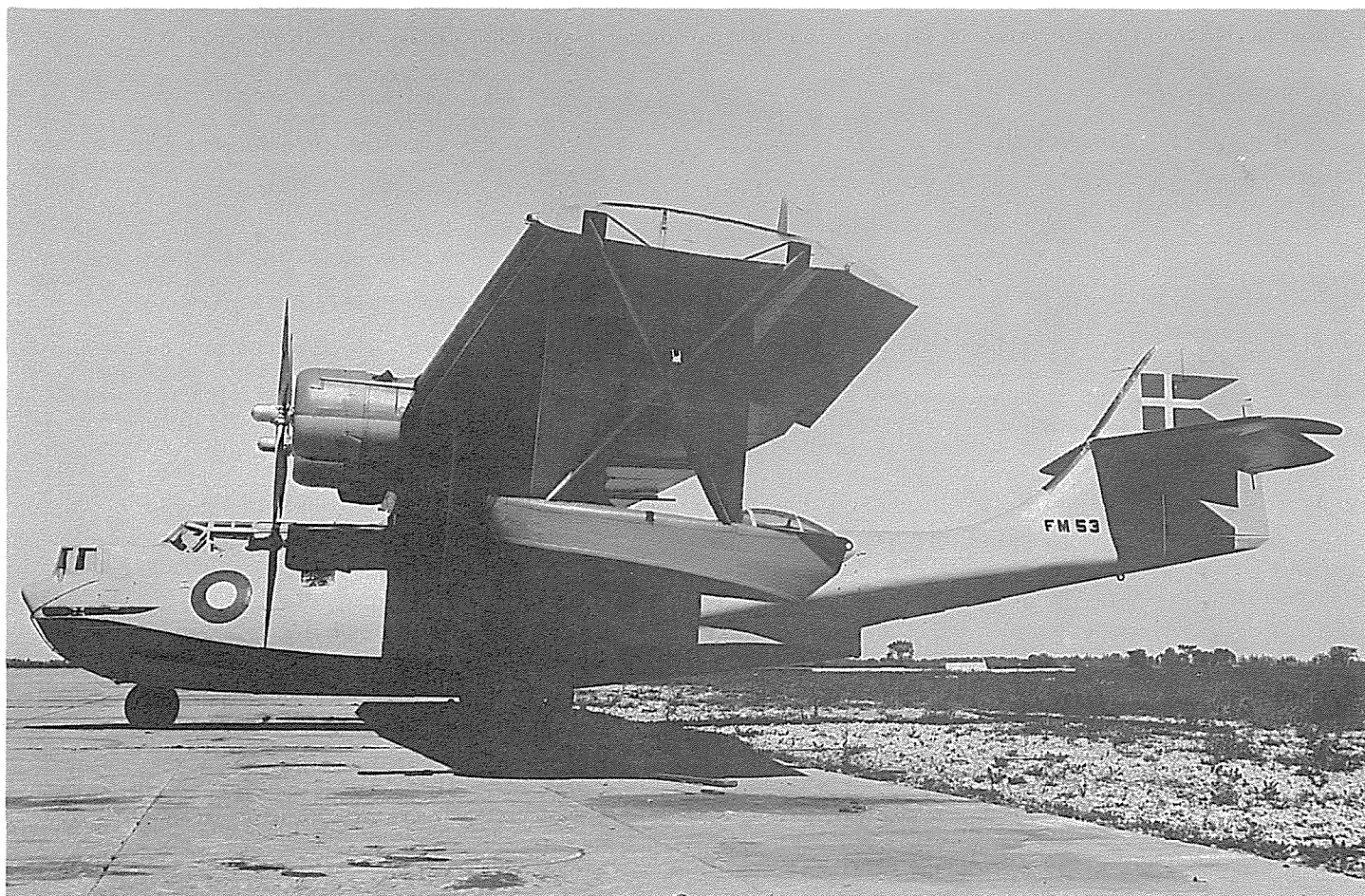
PART III

Previous parts of The Catalina Story in the *JOURNAL* gave summaries of the production of Catalinas, and portions of the history of development and usage. The information continues to come forth from Members of the Society to augment the history, filling in details in this research project (now 7108) begun several years ago by Capt. Scarborough in his capacity as Editorial Consultant for the Catalina. There are yet some very large gaps in the records of War-time Patrol Squadrons that used the PBV in its many variants; in particular there are very few photographs extant of the "Black Cats," and little in the popular or even con-

temporary press concerning actual operational experiences. These will have to come from the personal accounts of airmen who served in the Squadrons, and from photograph albums and logbooks. Capt. Scarborough is vitally interested in compiling the entire account of the Catalinas. Information may be forwarded to him at 119 Turtle Cove Lane, Huntington, New York, 11743. The next portion of the story of the Catalina will be from Allen Bovelt, of the Pacific Islands Aviation Society, concerning the Catalinas that saw service "Down Under," especially in the post-war period.



PBV-5A, BuNo 34020, was one of a block of 100 delivered from the Consolidated plant at San Diego between July and October, 1943. It was photographed at the San Francisco Air Station in 1945 by Gordon S. Williams. No information is available as to the unit to which it was attached except that the round emblem on the hull indicates "Air Sea Rescue." Of particular interest are the color and markings; it is hoped that some Member may be able to provide further details of the special insignia, the lack of national insignia, and the light undersurface paint. The upper surfaces were black. The special insignia, reproduced here, are obviously concerned with cats. It seems reasonable to conclude that this may have been one of the "Black Cats."



As the World War ended in 1945, newer, larger and more comfortable patrol aircraft were already in service in the U.S. Navy and the Catalina passed quickly from the scene. By 1948 there were only five left on the lists, with but a few more in Naval Reserve squadrons. Even so, in another nine years, on 3 January 1957, an order was issued striking the remaining PBV's from the Navy list and, with this action, a truly remarkable aircraft became part of the Navy's past history, after 22 years of service.

Postwar utilization of the PBV's continued to demonstrate their versatility, cargo and passenger flying heading the list of employments and the variety of other uses were almost unlimited. The U.S. Civil Register showed 20 active PBV's in 1968, and another 90 eligible but unlicensed.

Modifications to equip the flying boats and amphibians for civil status generally included deletion of the flight engineer's station and removal of the controls to the pilot's

compartment to permit operation by a two-man crew. The more obvious external changes were the removal of the bow turret, fairing of the nose, and replacement of the blisters with large cargo doors. Internally there were the installation of decks, cargo tie-down facilities, passenger seats, and in some cases a retractable stair in the area of the former tunnel hatch.

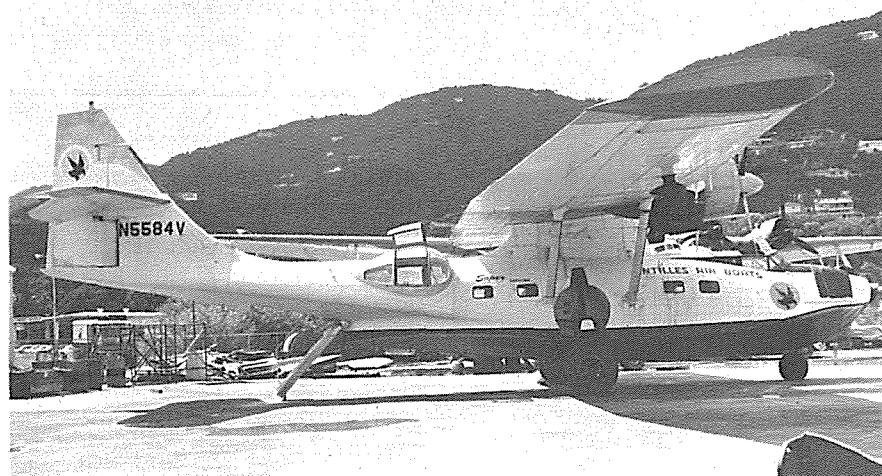
A number of other nations, including those of Central and South America, continued to utilize the Catalina in a search and rescue role. Brazil had, for example, a squadron of amphibian PBV's engaged in maintaining surveillance of the upper Amazon River and in supplying outlying stations.

In Canada, more so than in the U.S., the Catalina enjoyed an extended life in the RCAF. It was selected as the aircraft for use in the National Search and Rescue Service. After many dramatic examples of assistance to lost and distressed persons, the last Canso was mustered out in 1962.

Above, Vickers-built Canso of the Royal Danish Navy, FM-53. (Photo — Howard Levy)

The Bradley Air Museum of Windsor Locks, Connecticut, continues its struggle to restore N3936A, long plundered by vandals while sitting on Bradley Field. Parts are being made as time permits and existing parts have had deterioration arrested, though funding is still needed. Originally a Coast Guard flying boat, 33966, it was reassigned to the Navy for VP-AM-5, VP-AM-2, and finally FASRON 110, then was stricken from the aircraft list in 1950. Current hope is to get it in shape by 1972 for display. (Ev Cassagneres)





Antilles Air Boats, based in the Virgin Islands, called these "Super Catalinas." N5584V, 44-6482, is in foreground. A former PBV-5A, it was fitted with a larger rudder and engines and nacelles from a B-25. Capacity was 28 passengers. Photographed at Charlotte Amalie, St. Thomas. (Photo — Frank Strnad)

Below left — As of October 1970 at least one of the PBV-5A's was still available for Forest Service fire-fighting as a tanker. Ryan Field, Arizona. (AAHS Negative Film Library, Roy Lock, donor)

Below right — a modified PBV-5A of the Brazilian Air Force at New Orleans in late 1969 for overhaul. A squadron of these was based at Belem for transport to the Amazon River back country. (J.H. Weathers, Jr.)

Catalina deliveries from Canadian plants had begun in 1942. Through the courtesy of John A. Griffin the following Catalina/Canso serials are presented:¹

PROD. BLK	MFR	MODEL	C/N's	S/N's	DELIVERY DATES
I	Canadian Vickers	Canso/Catalina IIA,	unk.	9701-9736	1942
II	Boeing of Canada	Canso/Catalina IA	unk.	9737/9750	
III	Boeing of Canada	Canso A	unk.	9751/9805	10-42 to 7-43
IV	Canadian Vickers	Canso A	CV240/ CV278	9806/9844	10-43
V	Canadian Vickers	Canso A	CV279/ CV303	11001/11025	12-43
			CV308/ CV321	11026/11039	1-44
			CV329 & Note a.	11040/11100	7-44

Note a: Alternate odd numbers to CV449.

Canso models were basically PBV flying boats while Canso A were PBV-5A amphibians. The origin of the name Canso is still obscure but is probably from the strait and town of that name in Nova Scotia. The name was officially adopted prior to delivery of the first airplane. An earlier official name had been adopted, *Convoy*, but was never used. (RACF File No. 1021-1-12B, Nomenclature of aircraft, FD 258, dtd, 22 April 1940)

One of the more colorful, and successful, civil airline operations involving the Catalina is Antilles Air Boats, based in the Virgin Islands.* This airline, launched in 1964, had by early 1971 carried over 600,000 passengers in flights between St. Thomas, St. Croix, St. John and others of the several Virgin Islands, and San Juan and Fajardo, Puerto

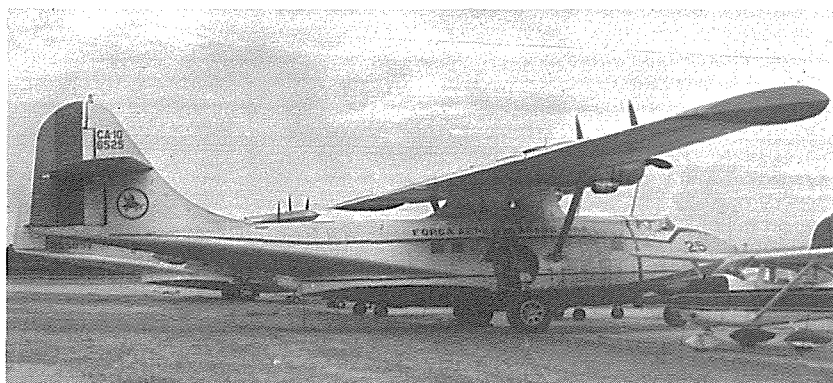
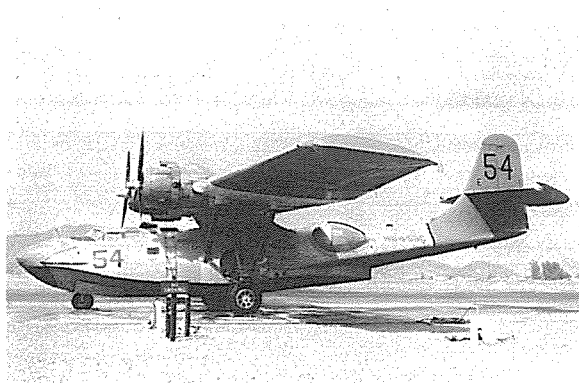
*The story of Antilles Air Boats by Member Dr. Douglas H. Robinson (*The Zeppelin in Combat*) is coming in an early issue of the JOURNAL.

Rico. At least four Catalinas had been purchased and used and one other was being readied for use in 1971, recently purchased from Coastal Airways of Alaska.

In other uses, Canadian operators employed the Catalina to service back-country mines, oil wells and other facilities not accessible from the surface. Some were equipped with special pumps and lines for carrying and handling fuel oil in one of the airplane's fuel tanks.

Long range and reliability ideally equipped the Catalina for a variety of survey operations, photo mapping with various types of magnetic anomaly detectors, and air route surveys. An historically significant survey flight was undertaken and successfully completed in 1951 by Sir Gordon Taylor, widely known and respected as an aerial navigator.² It was the same Gordon Taylor who, in 1939, had made an initial survey flight across the Indian Ocean in GUBA II.³ In 1951 he was again commissioned by the Australian Government to lead the flight of the FRIGATE BIRD II, a former RAAF Catalina, on a survey of a proposed route across the South Pacific between Australia and Chile. The route had to go by way of Easter Island, since that was a required fuel stop with no alternate available. The Island had no harbor or other sheltered anchorage. Successful open-sea landings and JATO takeoffs were made on both legs of the flight.

As a fire-bomber the Catalina was successfully used in Canada, France, and South America as well as the United States.⁴ One of the most effective modifications for this role was the one engineered by Field Aviation, Ltd. of Toronto. It provided a hull compartment for 800 Imperial gallons of water which could be dropped in 0.8 seconds in an elliptical pattern 190 by 90 feet. Its unique feature was the method of load pickup, wherein a retractable probe was lowered through the hull bottom. Flying down to the surface of any available body of water at 80-85 knots airspeed,



the probe could be lowered and the full load of 800 gallons picked up in 14 seconds over a 1600 foot run. The probe was designed to break away in the event it contacted an obstruction.

Available records showed a single Catalina as delivering water at an average of 8,000 gallons per hour, and a total of 74,000 gallons per day. Six of the converted Catalinas were operated by the Quebec Government in recent years, averaging about 200 hours per year each. Some were short-term leased to the Government of Chile to fight fires in South America, since the fire seasons are in opposing slack periods respectively.

In summary, the Catalina Flying Boat line, from the XP3Y-1 of 1935 to the PBY-6A of 1945, represented the most versatile flying boat design ever conceived. Though written off, in the pre-WWII euphoria of isolationism, as obsolete, it not only continued in production but, with its potential realized and its capability greatly improved, it earned the unchallenged title of "Work Horse" of the Second World War.

Of the thousands built, few soldiered on, giving the same faithful service now that they did in their prime a quarter of a century ago. The grand old "P-Boat," always ready to give her best when the need was greatest, will live on forever in the minds of those who knew her best. They were her pilots and air crew, and her most sincere admirers, those hundreds of men who are alive today because she was there when they needed her.

NOTES AND REFERENCES:

1. Griffin, John A. *Canadian Military Aircraft*. See *JOURNAL*, Vol. 16, Page 37. Griffin provided the listing of the postwar Catalina and Canso flying boats in the Summer issue also.
2. Taylor, Sir Gordon. *The Sky Beyond*.
3. Taylor was instrumental in the charter of the GUBA II for the survey, actually one leg of the round-the-world flight as GUBA II returned to New York from New Guinea. He flew as navigator and advisor. Departing Sydney on June 3rd, GUBA arrivee at Mombasa, Kenya, on June 21st, continued across Africa to Dakar, thence to Virgin Islands, and arrived in New York for a grand welcome at the New York Worlds Fair of 1939. See also *Convariety*, issue of 5 July 1950, official paper of Convair Division of General Dynamics Corp., San Diego, Cal.
4. Larkins, William T. "Forest Fire Air Attack System." *JOURNAL* of AAHS, Vol. 9, No. 3, Pp. 155-171. Larkins then listed 12 Catalinas associated with forest fire operations.
5. Correction of errors in Parts 1 and 2 of "The Consolidated PBY" are as follows: (Ref: Volume 16)
 - a. Page 28 — The patched on tail of the XP3Y-1 is shown at the left on this page.
 - b. Page 31 — The "Nomad" was given as the name of the PBN-1, not PBY-1.
 - c. Page 31 — It was WQ-Z (not WQ-1) of 209 Sqdn which sighted the BISMARCK, and P-9360 should be P-9630.
 - d. Page 32 — Canadian Vickers' production rate in June 1944 was 30 per month. (Delete "6.")
 - e. Page 33 — The author was assigned to the Naval Torpedo Station Newport, R.I. (was "School at Newport News").
 - e. Page 37 — There was only one XP3Y-1. See Table of Production Summary.
 - g. In drawing on Page 36, delete "& PB2B-2" from lower right hand corner leave "PBY-6A."
 - h. Page 37, the Production Summary Table gives VP-11F as the first PBY squadron. AAHS Member Capt. George Washington Davis, V. states that his Squadron, VP-6 was first to receive and operate the Catalina, in late Summer 1936.
 - i. Page 114 — The Catalina L-2, ex-NC777 GUBA I, was at North Beach Airport as photographed, was later flown to Floyd Bennett Field for disassembly.
 - j. Page 121 — Right hand photo caption — Royal Dutch Air Force should be Royal Danish Air Force.

RAF CATALINA MARKS

The following list is an updated compilation of the known information concerning the Catalina and its variants used in the Royal Air Force, prepared by J.M. Bruce, of the Royal Air Force Museum, Hendon, England. Mr. Bruce indicates that the data is as yet far from complete, but it provides a firm takeoff point for those interested.

BRITISH DESIGNATION	AIRCRAFT SERIAL NUMBERS	USN DESIG
Consolidated 28-5	P9630	None
GUBA, but apparently as Catalina	AM258, subsequently G-AGBJ and SM706	None
Catalina I	W8405/W8434 Z2134/Z2153 AH530/AH569 AJ154/AJ162 DP202 (Note 1)	PBY-5
Catalina 1A (Note 2)	none	None
Catalina 1B (Note 3)	FP100.FP324	PBY-5B
Catalina II	AM264/AM269	None
Catalina 11A (Note 4)	VA701/VA736 ex-RCAF 9701/9736	None
Catalina III	FP525/FP536 (OA-10)	PBY-5A
Canso	FT998/FT999	None
Catalina IVA	JV925/JV935 JX200/JX269 JX570/JX585	PBY-5A
Catalina IVB	JX270/JX-437 JX586/JX610	PB2B-1
Catalina V	No deliveries to RAF	PBN-1
Catalina VI	JX611/JX662 JZ828/JZ859	PB2B-2

NOTES

1. DP202 apparently a Catalina 1.
2. The designation Mk.1A appears in some places, without elucidation, possibly a retrospective means of distinguishing the early version from the Mk.1B.
3. Mk.1B introduced to indicate that these were originally built under USN contract.
4. Built by Canadian Vickers as Canso A.
5. IIIA according to some sources.

REFERENCES:

- a. *The Aeroplane Spotter*, 22 Feb. 1945, p. 47.
- b. Bowyer, M.J.F. "Profile: The Catalina: Flying Boat of Three Decades." *Airfix Magazine*, Dec. 1964.
- c. Thetford, Owen. *Aircraft of the Royal Air Force Since 1918*. London: Putnam & Co., 1971 (5th Ed.)
- d. Griffin, John A. See *JOURNAL*, Vol. 16, Page 37.
- e. Robertson, Bruce. Ibid.
- f. Cassagneres, Everett. Ibid., p. 38.