

= CAM ship =

CAM ships were World War II @-@ era British merchant ships used in convoys as an emergency stop @-@ gap until sufficient escort carriers became available . CAM ship is an acronym for catapult aircraft merchant ship . A CAM ship was equipped with a rocket @-@ propelled catapult launching a single Hawker Hurricane , dubbed a " Hurricat " or " Catafighter " . CAM ships continued to carry their normal cargoes after conversion . They are distinguished from fighter catapult ships ( FCS ) , which also carried catapult launched fighters , in that the CAM ship was a merchant vessel commanded and crewed by the Merchant Navy but the FCS was a merchant ship that had been commissioned as a warship and commanded and crewed by the Royal Navy .

= = Origin = =

The German Luftwaffe had Focke @-@ Wulf Fw 200 " Condor " aircraft with a range of nearly 2 @, @ 000 nautical miles . After the Fall of France , these aircraft could operate from western France against British merchant ships in the Atlantic . Flying from Bordeaux ? Mérignac Airport , Fw 200s of I / KG40 could reach the convoy lanes west of Britain while staying outside the range of British land @-@ based fighters . The Royal Navy had no aircraft carriers available to provide close air cover for the convoys . The Fw 200s could shadow convoys , directing U @-@ boat attacks on them , or drop bombs on convoy ships , without opposition and to deadly effect .

To counter this threat , the Admiralty developed the fighter catapult ship ? a converted freighter , manned by a naval crew , carrying a single Hawker Hurricane fighter . When an enemy bomber was sighted , the fighter would be launched into the air with rockets , and fly up to destroy or drive away the bomber . Being large and slow , the Fw 200 became a rather vulnerable target . After the combat , the fighter pilot would bail out or ditch in the ocean near the convoy , and be picked up if all went well .

The Admiralty had already experimented with this system . They ordered 50 rocket @-@ propelled aircraft catapults to be fitted to merchant ships . The planes were Hurricane Mark Is , converted to Sea Hurricane IAs .

The pilots for these aircraft were drawn from the Royal Air Force ( RAF ) . The RAF formed the Merchant Ship Fighter Unit ( MSFU ) on 5 May 1941 in RAF Speke by the River Mersey in Liverpool . Wing Commander E.S. Moulton @-@ Barrett commanded the unit providing training for volunteer pilots , Fighter Direction Officers ( FDOs ) , and airmen . After training , MSFU crews were posted to Liverpool , Glasgow , or Avonmouth where they assisted in loading their Hurricanes onto the catapults . Each team consisted of one pilot for Atlantic runs ( or two pilots for voyages to Russia , Gibraltar , or the Mediterranean Sea ) , with one fitter , one rigger , one radio @-@ telephone operator , one FDO , and a seaman torpedoman who worked on the catapult as an electrician .

MSFU crews signed ship 's articles as civilian crew members under the authority of the civilian ship 's master . The ship 's chief engineer became responsible for the catapult , and the first mate acted as Catapult Duty Officer ( CDO ) , responsible for firing the catapult when directed . The single Hurricane fighter was launched only when enemy aircraft were sighted and agreement was reached via hand and flag signals between the pilot , CDO , and ship 's master .

The first four or five ships were taken into Royal Navy service as " Auxiliary Fighter Catapult Ships " , and later conversions were officially named CAMs manned by merchant crews . The first CAM ship , Michael E , was sponsored by the Royal Navy while the RAF MSFUs were working up . After a trial launch off Belfast , Michael E sailed with convoy OB 327 on 28 May 1941 . She was sunk by U @-@ 108 on 2 June . The first RAF trial CAM launch was from Empire Rainbow , at Greenock on the River Clyde on 31 May 1941 ; the Hurricane landed at Abbotsinch . Six CAM ships joined convoys in June 1941 . When a CAM ship arrived at its destination , the pilot usually launched and landed at a nearby airfield to get in as much flight time as possible before his return trip . Pilots were rotated out of CAM assignments after two round @-@ trip voyages to avoid the deterioration of flying skills from the lack of flying time during the assignment .

CAM sailings were initially limited to North American convoys with aircraft maintenance performed

by the Royal Canadian Air Force at Dartmouth , Nova Scotia . CAM ships sailed on Gibraltar and Freetown convoys beginning in September , 1941 , after an aircraft maintenance unit was established at the RAF base at North Front , Gibraltar . No CAM aircraft were provided during January and February 1942 after it proved impossible to maintain the catapult @-@ mounted aircraft in flying order during the North Atlantic winter . CAM sailings resumed on 6 March 1942 on North Atlantic convoys and in April on the Arctic Russian convoys with a RAF aircraft maintenance unit in Archangelsk .

= = CAM ships = =

Eight CAM ships were requisitioned from private owners , two of which were sunk : Daghestan , Daltonhall , Eastern City , Helencrest , Kafiristan , Michael E ( sunk ) , Novelist , Primrose Hill ( sunk ) .

27 CAM ships were Ministry of War Transport owned Empire ships , ten of which were sunk : Empire Burton ( sunk ) , Empire Clive , Empire Darwin , Empire Day , Empire Dell ( sunk ) , Empire Eve ( sunk ) , Empire Faith , Empire Flame , Empire Foam , Empire Franklin , Empire Gale , Empire Heath , Empire Hudson ( sunk ) , Empire Lawrence ( sunk ) , Empire Moon , Empire Morn , Empire Ocean , Empire Rainbow ( sunk ) , Empire Ray , Empire Rowan ( sunk ) , Empire Shackleton ( sunk ) , Empire Spray , Empire Spring ( sunk ) , Empire Stanley , Empire Sun , Empire Tide , Empire Wave ( sunk ) .

= = Take @-@ off procedure = =

The trolley receiving bar was removed at dawn .

The airmen started the aircraft and warmed up the engine at intervals .

The pilot climbed into the aircraft when enemy aircraft were reported .

The ship hoisted the international flag code F when the decision was made to launch . ( CAM ships were usually stationed at the head of the outboard port column of a convoy so they could manoeuvre into the wind for launch . )

An airman removed the pins , showed them to the pilot , and took them to the CDO .

The pilot applied 30 degree flaps and 1 / 3 right rudder .

The CDO raised a blue flag above his head to inform the ship 's master of his readiness to launch .

The ship 's master manoeuvred the ship into the wind and raised a blue flag above his head to authorise the launch . ( The ship 's master stood on the starboard bridge wing to avoid the catapult rocket blast which sometimes damaged the port side of the bridge . )

The CDO waved his blue flag indicating he was ready to launch upon a signal from the pilot .

The pilot opened full throttle , tightened the throttle friction nut , pressed his head back into the head @-@ rest , pressed his right elbow tightly against his hip , and lowered his left hand as a signal to launch .

The CDO counted to three , waited for the bow to rise from the trough of a swell , and moved the switch to fire the catapult rockets .

= = CAM combat launches = =

In total , there were nine combat launches . Eight aircraft and one pilot were lost for eight German aircraft destroyed and one damaged .

= = Programme termination = =

As adequate numbers of escort carriers became available , CAM sailings on North American and Arctic Russian convoys were discontinued in August 1942 . The aircraft maintenance unit was withdrawn from Archangel in September 1942 . Catapults were removed from ten of the 26 surviving CAM ships while the remaining 16 continued to sail with the Mediterranean and Freetown convoys .

Headquarters RAF Fighter Command ordered all MSFUs to be disbanded commencing 8 June 1943 . The combat launches from homeward bound convoy SL 133 were from the last two operational CAM ships to sail , the last MSFU was disbanded 7 September 1943 . Twelve of the 35 CAM ships had been sunk while sailing on 170 round trip voyages . Two more ships , Cape Clear and City of Johannesburg , were briefly fitted with dummy catapults and aircraft for deception purposes in late 1941 .