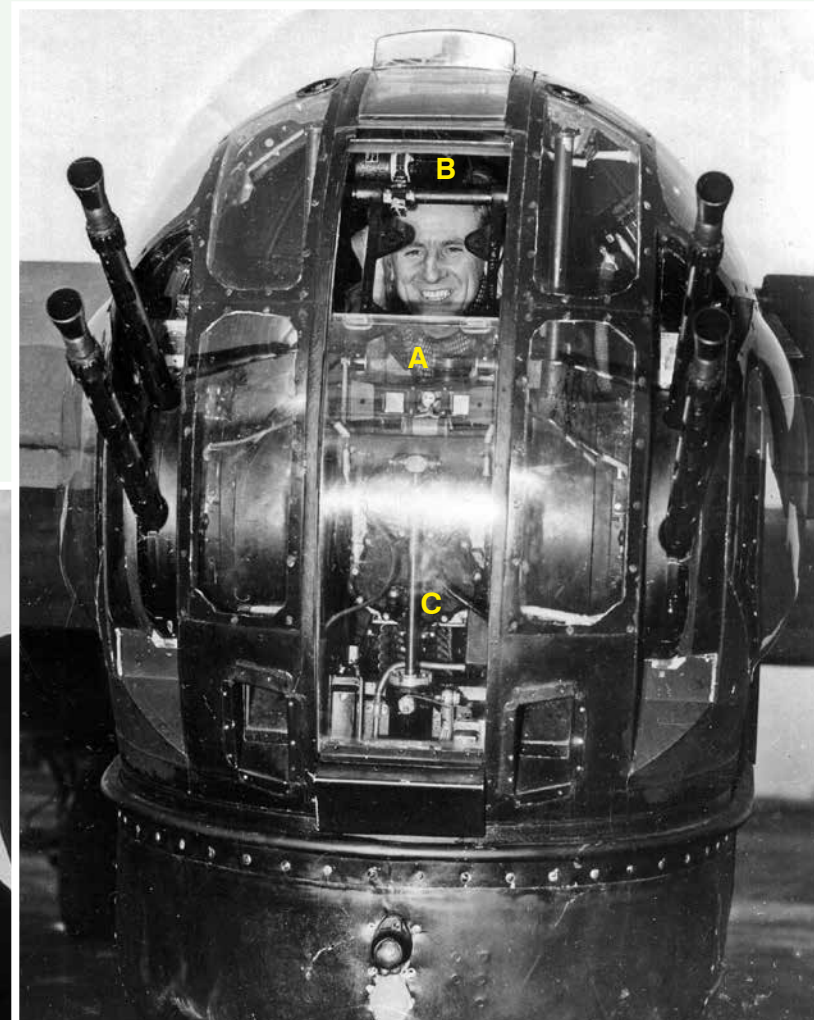
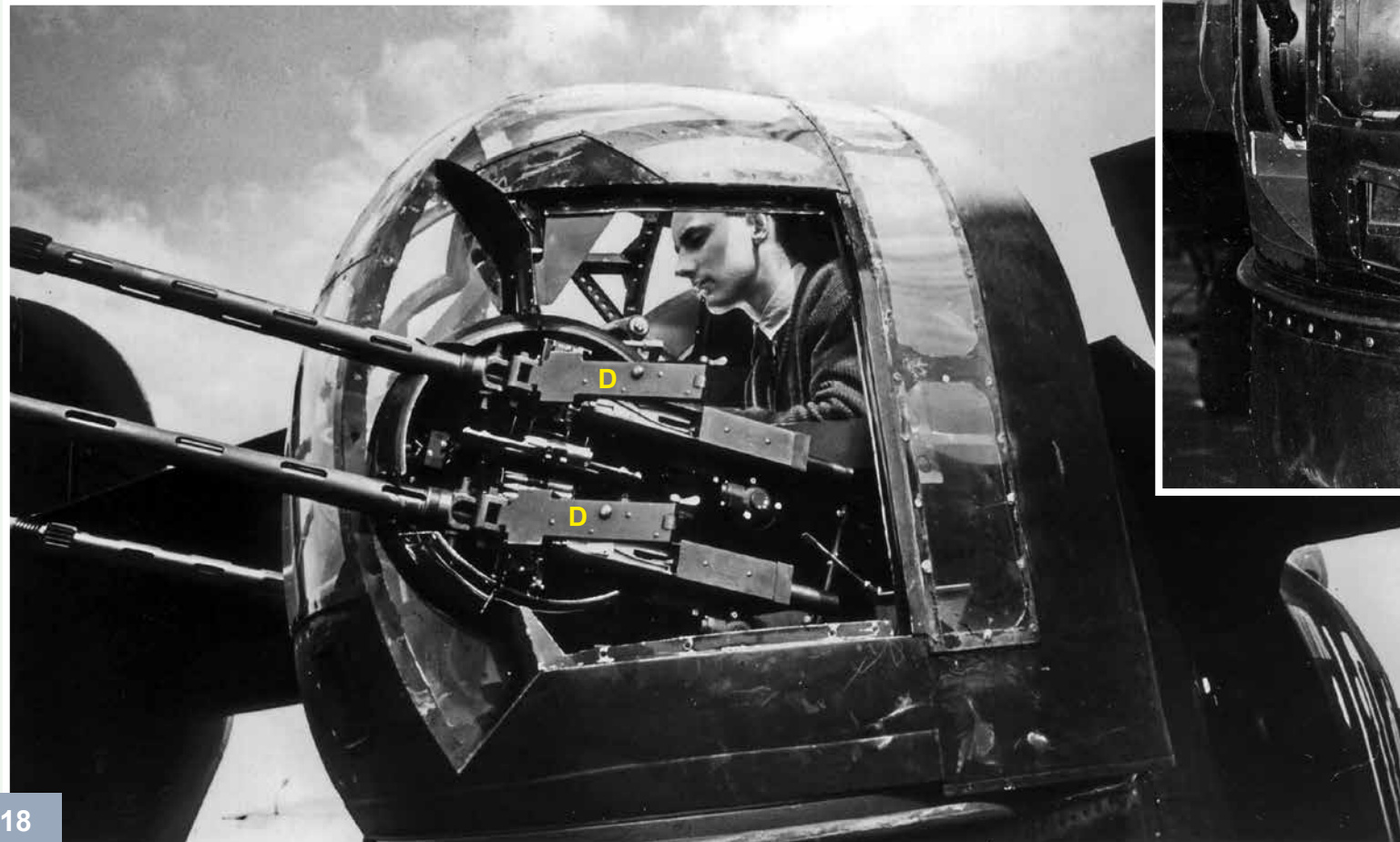


# REAR TURRET

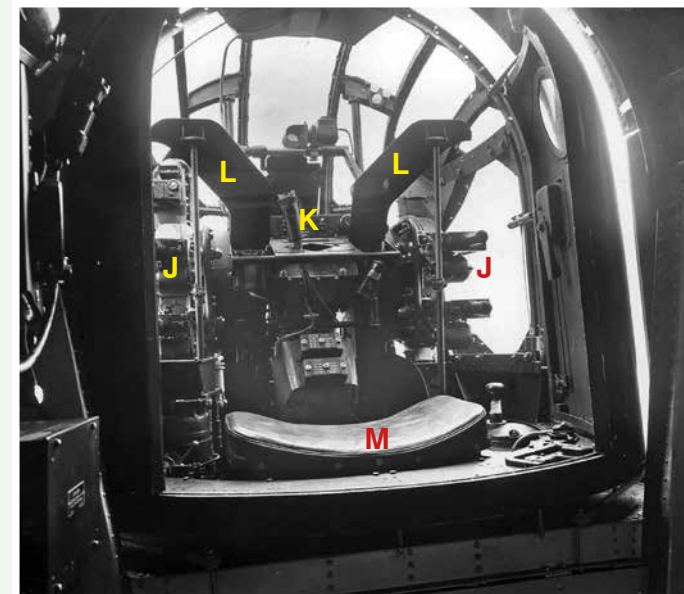
Right: The Boulton Paul Type E rear turret was designed specifically for the Halifax and was well liked by air gunners. Unlike Nash and Thompson's hydraulic turrets with their large 'handlebar' controls, BP's products all used an electro-hydraulic system and small joystick-like control column (A). Alignment of the Barr and Stroud Mk.IIIA reflector gunsight (B) and guns was maintained by a linkage from the gun elevation ram (C).

Below: Uniquely, in order to facilitate the ammunition feed mechanism, the guns in all BP turrets were mounted on their sides. The drawback of this on the Type E was that while the outward-facing breech covers (D) were easy enough for an armourer to work on with access panels removed, clearing a stoppage when airborne was a much harder proposition for a gunner.



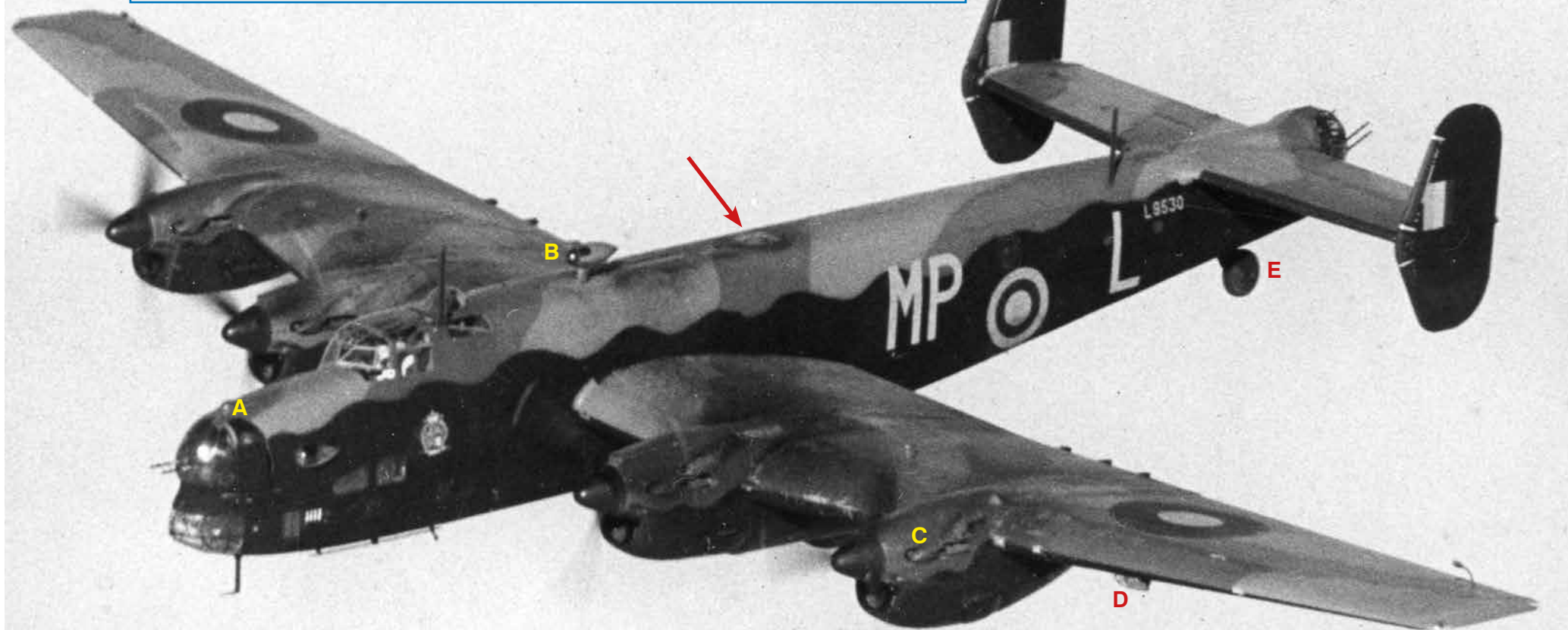
Right: Noteworthy items in this view of a Type E rear turret on a 78 Squadron Mk.II are the 'Jicwood' compressed wood turret balance flaps (E), gun breech bulged Perspex fairings (F), spent case and link ejection ports (G) and the starboard main fixed aerial aft attachment tensioning spring unit (H). Bulbous nose rudders (I) were one of the modifications introduced as a result of the Halifax's rudder overbalance trials and will be covered in Volume 2.

Below: Boulton Paul signature features visible include the breeches of the horizontally-mounted guns (J), control column (K) and adjustable arm rests (L). Unusually, when the guns were depressed, hydraulic rams elevated the seat (M) to help the gunner's aim. Ammunition feed problems weren't fully eliminated until an electric servo assister was developed in late 1941, the A&AEE alone expending over 34,000 rounds in search of a cure!





The four bomb tally on 76 Squadron's L9530 indicates this photograph was taken on or soon after 3 August 1941. The single Perspex escape hatch (arrowed) was another feature introduced on the Mk.I Series 1, the forward aerial mast being of a slightly wider section on L9530 and subsequent airframes due to the addition of a de-icing boot. Other points of interest include the large fairing (A) over the front turret's electrical distributor and oxygen inlet, paint partially stripped from the D/F loop fairing (B) revealing the shiny, dark brown Bakelite beneath, original non-flame damping manifolds (C), dipped landing lights (D) and fixed tailwheel (E). The 'A' pattern Dark Earth/Dark Green camouflage features a medium height demarcation line with very widely spaced waves, with RMD 2A Special Night lower surfaces and light grey fuselage codes.



## HALIFAX L9530 MP-L, 76 SQUADRON, JUNE 1941, MIDDLETON ST GEORGE



### Modeller's notes

Delivered to 76 Squadron June 1941

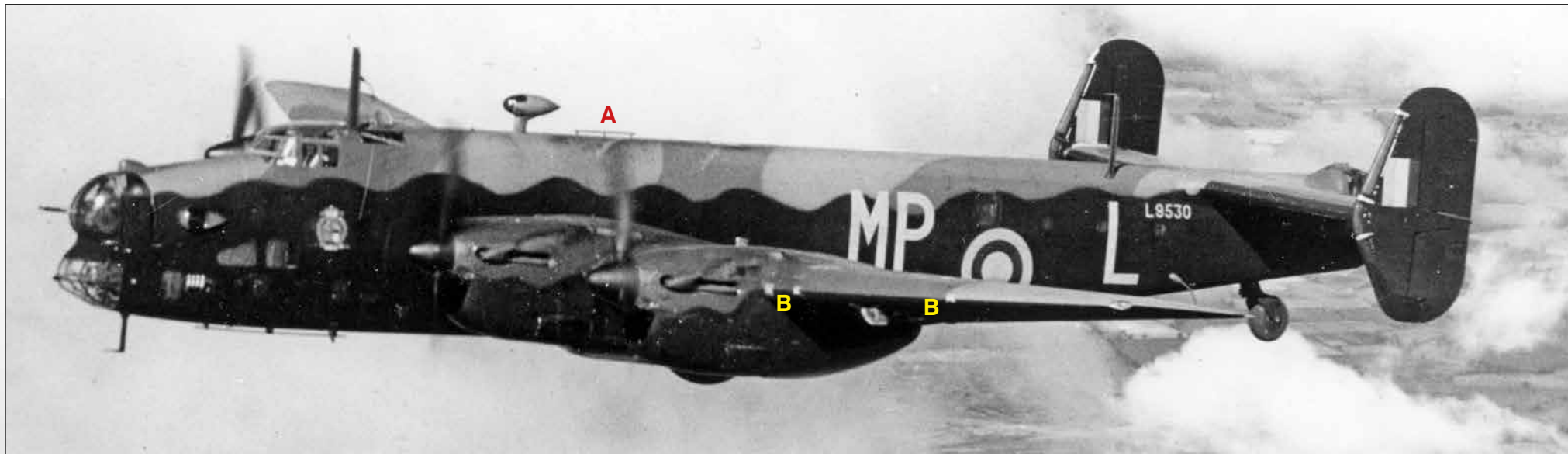
- Type A camouflage pattern with mid-height widely spaced wavy demarcation line and RMD 2A Special Night lower surfaces
- Early type fuselage roundel and fin flash, grey fuselage codes and dull red serial number
- Black front and rear turret framing
- Beam gun positions but no mid-upper turret
- Two aerial masts
- Deicing boots on tailplanes and fins
- Fuel jettison pipes
- Faired D/F loop
- SBA dipole aerial
- Trailing aerial fairing
- Large carburettor intakes without ice guards
- Original type non-flame damping exhausts
- Barrage balloon cable cutters
- Single dorsal escape hatch and long fuselage handrail
- Early type wingtip formation lights inside Perspex covers
- Tail formation light
- Mass balances above ailerons
- Fixed tailwheel

Shot down 13 August 1941

Right: Seen with regular skipper F/O Christopher Cheshire, L9530's nose art featured a 'family crest' complete with grinning Cheshire cats and a large wheel of Cheshire cheese.







Top: The handrail (A) aft of the D/F loop was another feature introduced on the Mk.I. Also fitted to early Mk.II and V aircraft, a shorter rail was frequently fitted on later production machines when a second dorsal escape hatch was added. Although leading edge slats continued to be installed on early production aircraft, their negligible effect on performance coupled with concerns over asymmetric operation caused by barrage balloon cable damage led to them being locked shut, an armoured leading edge and Martin Patent cable cutters (B) eventually being fitted instead.

Above: On 21 July 1941, examples of the RAF's new heavy bombers were flown to RAF Northolt for inspection by Winston Churchill, L9503 TL-P of 35 Squadron being chosen to represent the Halifax. Visible in this view are the slightly forward raked, original shape radiator cowlings with twin Gallay coolant radiators visible within. Unusually the aircraft does not have fuel jettison pipes.

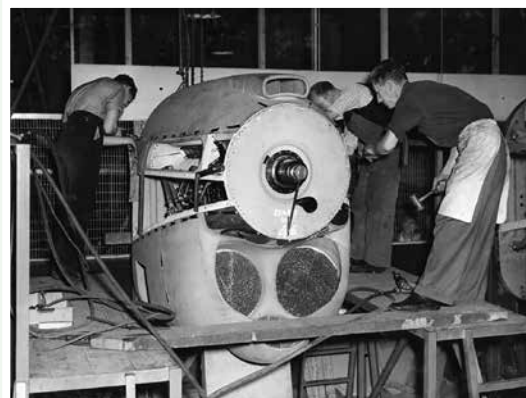
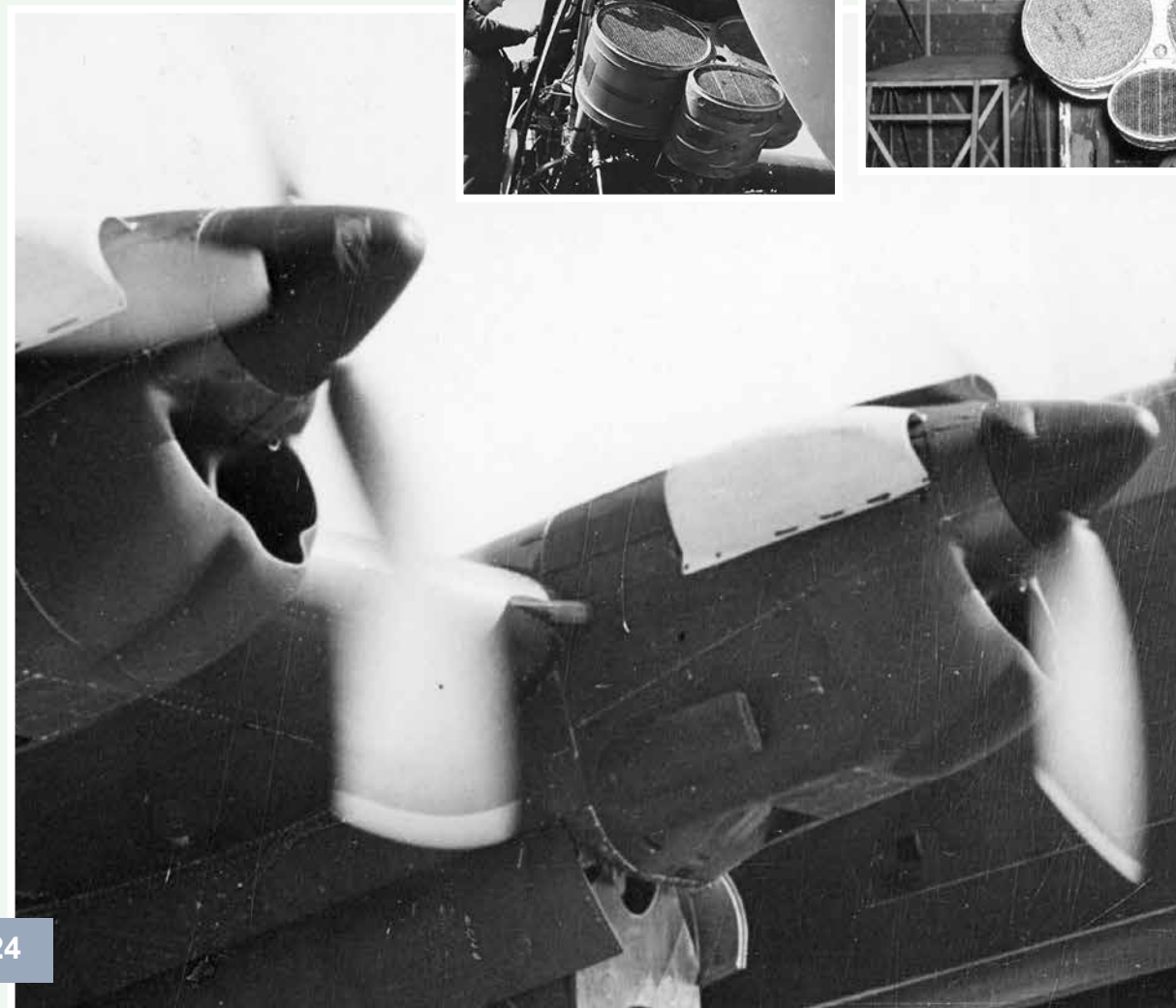
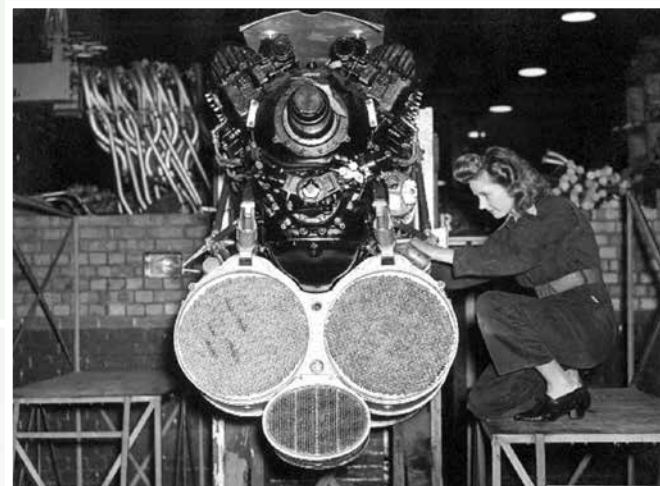
## Mk.I SERIES 2



Although these photograph dates from exactly the same time period as the image on page 20, 76 Squadron Mk.I Series 2 L9562 features a much higher fuselage demarcation line than L9530. Mk.I Series 2 aircraft had an increased maximum weight and other detail changes, however externally they were indistinguishable from Series 1 aircraft. These images were taken on 6 August 1941, L9562 being flown by 76 Squadron's 'A' Flight Commander S/L R Bickford.

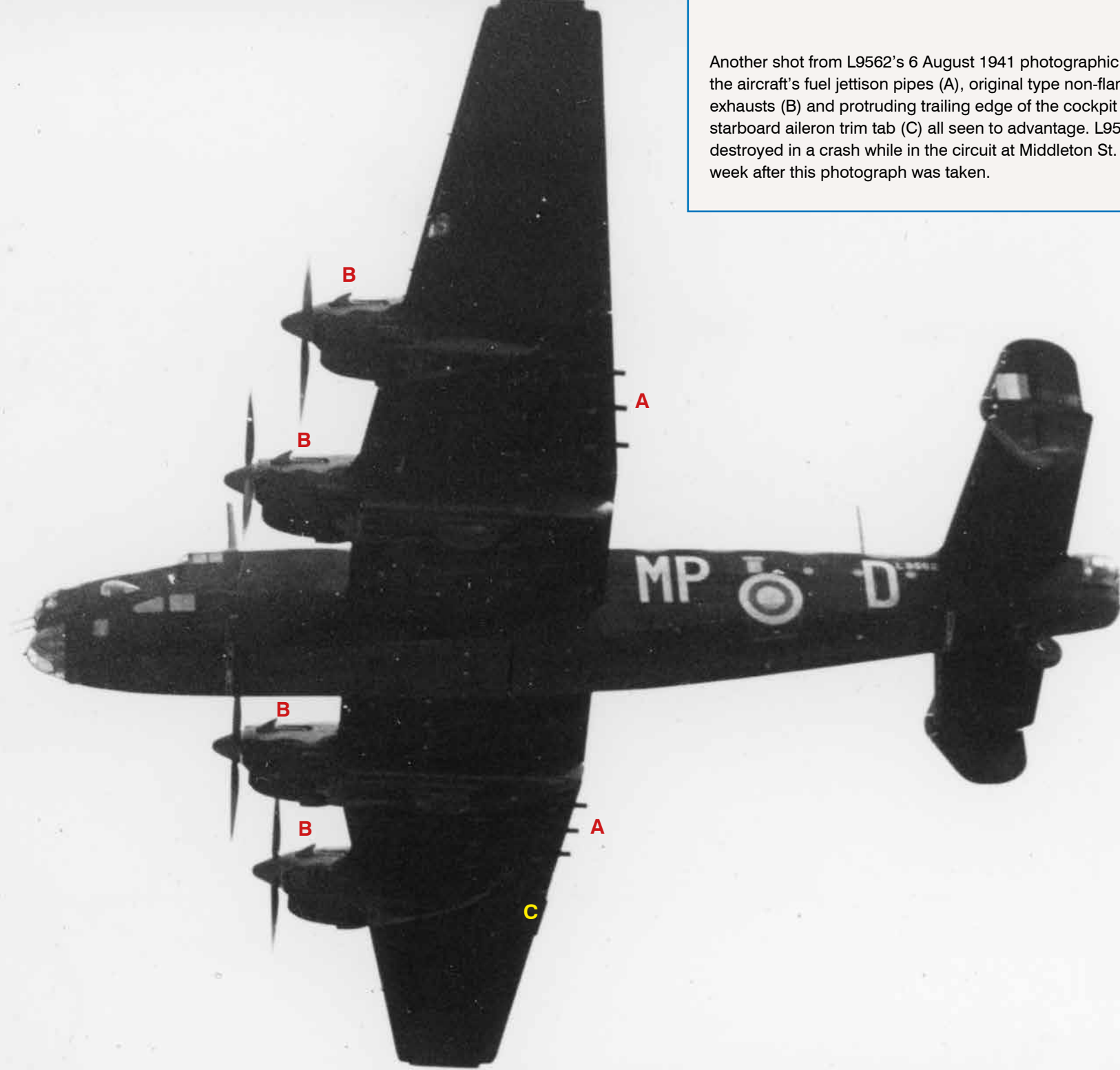


# GALLAY RADIATORS AND COWLINGS



Top left, middle and right: All Halifax Merlin powerplants prior to the introduction of the Mk.II and Mk.V Series 1A had twin Gallay coolant radiators with single oval-shaped underslung Gallay oil coolers. The Gallay units were quite large and consequently also required rather bulky engine cowlings, the bottom edge of the radiator inlets featuring a noticeable forward rake.

Left and above: Although retaining Merlin X engines the Mk.I Series 3 introduced modified cowlings featuring a more rounded radiator inlet with the addition of a distinctive bulged fairing which wrapped tightly around the oil cooler, the revised shape being carried over to the Merlin XX powered Mk.II and V Series 1s.



Another shot from L9562's 6 August 1941 photographic session, with the aircraft's fuel jettison pipes (A), original type non-flame damping exhausts (B) and protruding trailing edge of the cockpit adjustable starboard aileron trim tab (C) all seen to advantage. L9562 was destroyed in a crash while in the circuit at Middleton St. George just a week after this photograph was taken.