THE JUNKERS 88 A-1

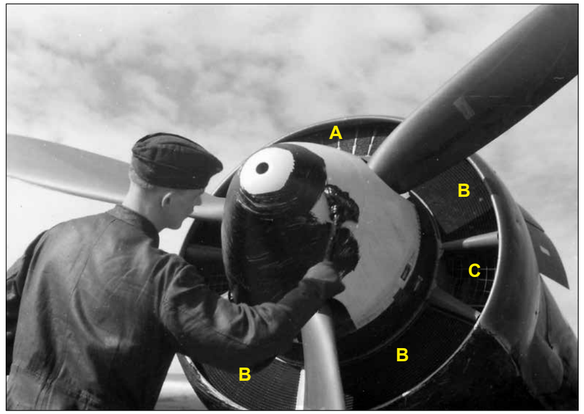
The two variants of the Ju88 used up to May 1941 were the Ju88A-1 and A-5. A much improved variant of the Ju88A-1, the Ju88A-4, was in development, but problems with the Junkers Jumo 211F and J engines delayed its introduction. As an interim measure the Ju88A-5 was introduced. The principal visual difference between the A-1 and A-5 was at the wing tips. The A-1's fabric-covered ailerons ran all the way to the wing tip (arrowed) but were inset from the tip in the A-5.

Two views of 9K+KT Wn.6154, a Ju88 of 9/KG51 being very roughly painted black for night operations.

Our photographer has conveniently moved around to show more of 9K+KT. The A-1 used Jumo 211B engines with narrow metal blades.

Some interesting features are; (A) Strap to hold the cowlings in place - this only appears on the starboard side of the engines. (B) Werke Nummer (serial) painted on the undercarriage. (C) Hot air vent - to let air out when the cockpit heating is turned off. Air was ducted over the exhaust stubs to be used for cockpit heating via a heat exchanger. The flat panel between the fifth and sixth exhausts on the starboard side (arrowed) covered the heat exchanger and was only on the starboard side exhausts.

The wings were de-iced by air ducted over the exhausts to heat it, then directed in through hollow section between the wing's leading edge and internal structure of the wing. Slots let hot air into the wing itself, so heating the wing's surface to prevent icing. It could be turned on or off and was not to be used on the ground.



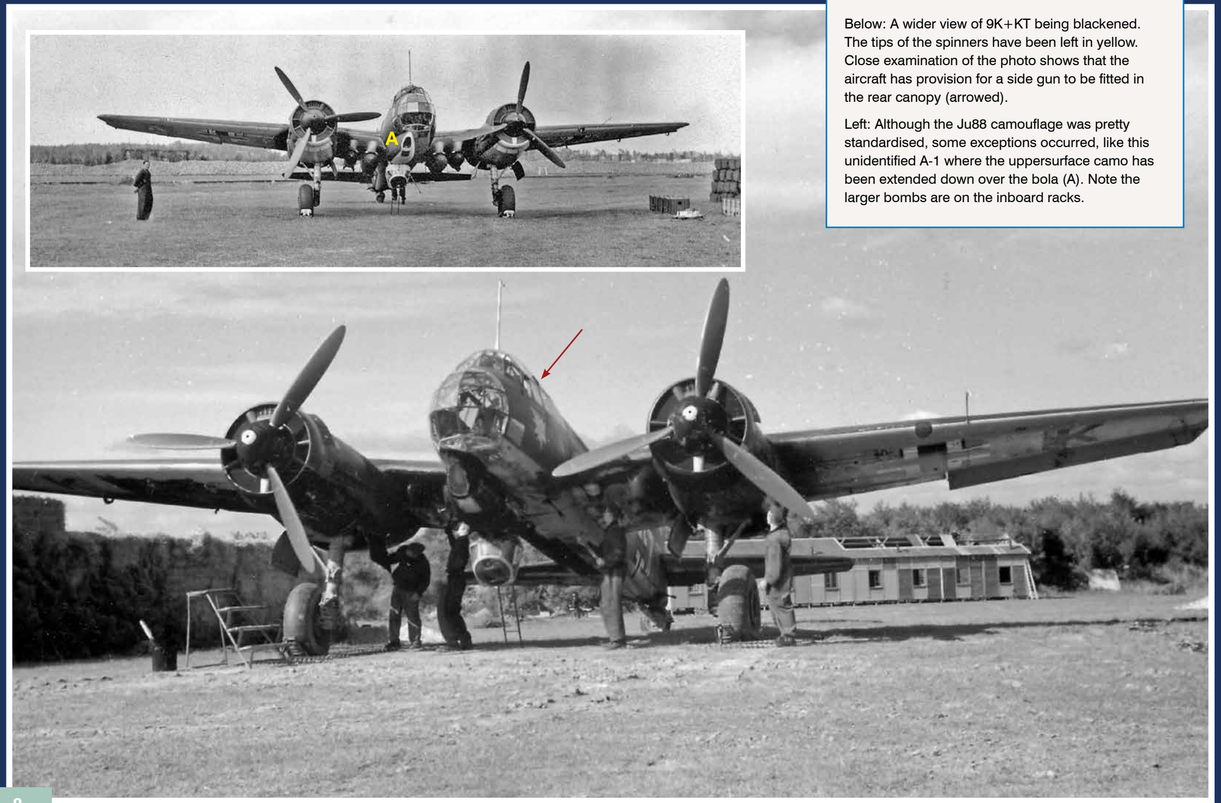
The Ju88's inline engines owed their characteristic 'radial' appearance to the annular arrangement of radiators and intakes, compared to conventional wing or 'chin' intakes. (A) is the oil cooler, (B) are radiators, (C) are air intakes and (D) are radiator gills (open). Note the heat exchanger (E) again between the fifth and sixth exhaust stubs which appeared inboard on the port engine and outboard on the starboard engine. Effectively the engine 'power eggs' were interchangeable between both sides of the aircraft.

The propellers could be de-iced by pumping de-icing fluid from the hub.

Opposite page:

Inset: Each power egg had a circular window on both sides (arrowed) through which three instruments could be seen.

Main photo: With the cowling off, these three instruments are visible on a panel (F). Installing these temperature and pressure gauges on the engine meant that fewer pipes were needed to be routed through to the already crowded cockpit.



Below: A wider view of 9K+KT being blackened. The tips of the spinners have been left in yellow. Close examination of the photo shows that the aircraft has provision for a side gun to be fitted in the rear canopy (arrowed).

Left: Although the Ju88 camouflage was pretty standardised, some exceptions occurred, like this unidentified A-1 where the uppersurface camo has been extended down over the bola (A). Note the larger bombs are on the inboard racks.

JUNKERS 88 A-1, WN.6154 9K+KT, 9/KG51, SUMMER 1940

Modeller's notes

9K+KT, K in yellow

K in black under the wings

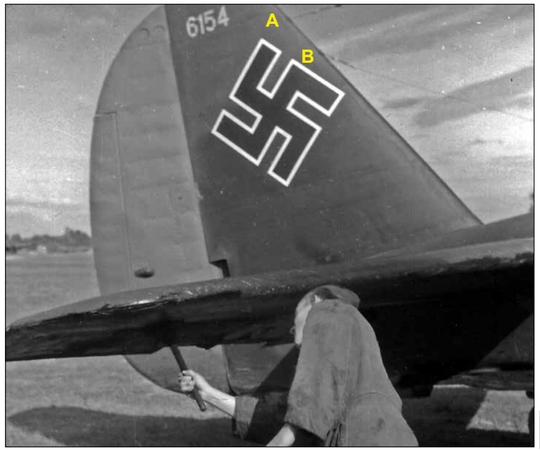
Yellow spinners

Edelweiss emblem on nose, hidden in profile

6154 on top of fin in yellow

single rear gun position

Extra machine-gun positions fitted each side of rear cockpit



Right: The radio aerial wires on the Ju88 were incredibly thin, making them invisible in most photos. With a bit of 'darkroom magic' we've revealed them in this photo, attached to the fin at (A) and (B).