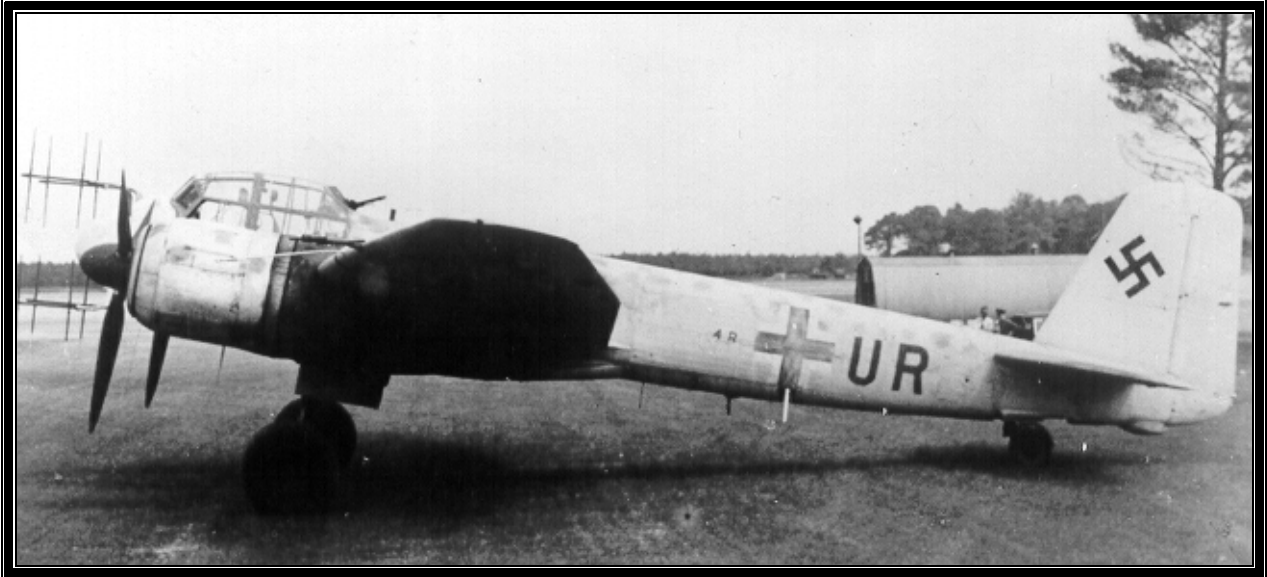


## Air Intelligence 2 (g)

### Inspection of Crashed or Captured Enemy Aircraft

Report Serial No. 242 dated 16<sup>th</sup> July 1944

Report No. 8 / 151: Junkers Ju 88 G-1 Night Fighter



**Security:** In consultation with Air Directorate of Intelligence (Science) it has been decided to grade this report as Top Secret owing to the very special nature of the Radar equipment carried by the aircraft described.

**Introduction:** At 04.25 hours on 13<sup>th</sup> July 1944, a Junkers Ju 88 G-1 made a wheels-down landing on Woodbridge emergency landing strip. The pilot was completely lost and had apparently been flying on a reciprocal course to that intended. When he sighted Woodbridge and believed himself to be near Berlin, and being very nearly out of petrol he decided to land immediately. He had, in fact, so little fuel and oil, that it was impossible, subsequently, to obtain any samples for analysis.

This important capture is one of Germany's latest night fighters and is fully equipped with up to date Radar and radio.

The airframe is essentially that of a Ju 88 C or R, except that a Ju 188 tail-unit had been fitted. Apart from this the main difference between the "G" and former sub-types consist of improved armament and increased armour protection. The minor differences are numerous and the more important of these will be discussed under the appropriate headings below. The Ju 88 G-1 aircraft has now been flown to the Royal Air Force for flying trials and radar tests.

#### General Description

**Identification:** Werk Nummer: 712273                      Unit codes, Staffel and aircraft identification: 4R ■ UR

Radio Call-sign (Stammkennzeichen): GF ■ XO

The werk nummer appeared not only on the fin, but on all control surfaces and detachable panels. The camouflage is Duck-Egg Blue on all surfaces, with Dark-Grey mottling superimposed on the top surfaces.

**Engines:** Two B.M.W. 801 G-2 radial-engines, fitted with V.D.M. three-bladed propellers. Port engine Nr. 326729; starboard engine Nr. 327293. The manufacturers are unknown at this moment as it is not possible to obtain the data plates without considerable dismantling.

**Armament:** The forward-firing armament comprises four fixed Mauser MG 151 cannons of 20-mm. calibre. These guns are mounted in a large blister, measuring 11 feet 3 inches x 12 inches deep (maximum) x 26 inches wide, on the port underside of the fuselage. The barrels of the upper guns protrude 28 inches, those of the lower pair 6 inches. The breeches are in the forward bomb-bay, and above them are the ammunition tanks which are estimated to hold 250 rounds each.

None of the guns had been fired, and it is of particular interest that the total number of rounds was only 545. Two tanks had 146 rounds each, the third had 145 and the fourth 108.

On the instrument panel, straight in front of the pilot, is a rounds counter suitable to six fixed guns, the last two sections being left blank.

The belted loading-order of these guns was: one Armour-Piercing/Incendiary, two H.E./Incendiary-Tracer, and two Incendiary/Tracer (night-trace or "glimmer"). A Zeiss Revi 16.D gun-sight is used in conjunction with the forward-firing armament. Externally, this gun-sight differs in two main essentials from the Zeiss Revi C.12/D, which has hitherto been found in German fighters, these are (1) the control for elevating the sighting screen has been modified, (2) the coloured anti-glare shield has been removed. If further examination discloses any changes in the sighting mechanism, a full report will be issued to the departments concerned.

The rearward firing armament consists of a single Rheinmetall-Borsig MG 131 of 13-mm. calibre in a manually operate dorsal ring. 235 rounds were carried for this gun in a tank designed for 500, the belted loading order being: one A.P./Tracer (night trace) and one H.E./Incendiary (night trace).

The armament previously found in Ju 88 C and R night fighters examined in this country consisted of: three x MG-FF Oerlikons of 20-mm. calibre and 3 x MG 17 of 7.9-mm. calibre, Fixed, and forward-firing in the nose; and 1 x MG 131 in a manually operated dorsal-ring rearward firing.

Bombing Installation: There was no bombing equipment on this aircraft.

Armour: The entire windscreen was of bullet-resisting glass, being made of four separate panels. Of these, three were wired for electric heating, but only the one immediately in front of the pilot was connected up. 10-mm. external armour was fitted over the fuselage skin forward of the windscreen. This extended across the fuselage and down each side to a level with the cockpit side windows. The pilot was protected from stern attacks by the usual shaped seat normally found in bombers. The engines were protected, as is usual in B.M.W. 801s in fighters, by two rings of armour round the nose.

#### Internal Equipment

Cockpit: The cockpit of this aircraft presents an entirely different appearance from that of previous Ju 88 fighters. This is due in part to the removal and the repositioning of the guns, also to the new instrument layout.

De-icing: De-icing of the main and tailplanes is by hot air. This is normally supplied through a muff fitted around the exhaust stubs, but in this aircraft it could not be traced. There was, however, provision for a petrol-fired heater (Kärcher Ofen) and a switch in the cockpit indicated that air could be supplied from his heater to either wings or fuselage.

In this case the heater was not installed but there was an air intake in the leading-edge of the port mainplane between the engine nacelle and fuselage, with an exit slightly further outboard on the wing upper surface. The piping has not yet been traced out, but presumably it will lead to the heater position.

The propeller de-icing is similar to that on the Me 410, a plain pipe delivering fluid direct onto the blade-root, whereas previously a pipe has led to a slinger-ring, from which a smaller pipe passed through the blade to emerge on the leading-edge about 18 inches from the root.

Control Column: The right-hand horn of the control column incorporates fighter-type gun control buttons and also a small sliding switch which operates the elevator trimming tabs.

Tankage: The wing-tanks and the tank in the rear bomb-bay are normal. Due to the re-positioning of the forward firing armament, however, the space available in the forward bomb-bay only permits a tank of reduced size which is estimated to contain about 100 gallons. The total internal tankage of the aircraft is therefore restricted to approximately 620 gallons as compared with 790 gallons in the Junkers Ju 88 C-6 fighter.

Undercarriage: The frame is of welded cast-steel, as found in recently crashed Ju 188 bombers, instead of light alloy.

Cable Cutter: No balloon cable-cutter was fitted to this aircraft.

Radar & Special Equipment: The German A.I. (Airborne Interception) apparatus, the Lichtenstein FuG 220 (Model SN-2) is fitted. The aerial array consists of four di-poles with reflectors, and is mounted on right-angle arms projecting forward of the nose. So far, the operating frequency has been found to be of the order of 90 Mc/s.

A new installation for homing on to Allied Radar, (e.g. "Monica") is also installed, comprising a receiver and a cathode-ray tube indicator, designated the FuG 227.

The azimuth aerials for the FuG 227 are mounted projecting forward, toed out, from the leading edge of the port and starboard mainplanes, at a point approximately three-quarters distant from the fuselage in each case. The elevation aerials are located above and below the starboard wing slightly outboard and behind the azimuth position.

The strikingly large diameter of the mounting rods and the aerial elements of both the FuG 220 and FuG 227 will serve as an excellent recognition feature. FuG 25A I.F.F. (Identification Friend-or-Foe) is fitted. There is provision for the Radio Altimeter, the FuG 101A, but the transmitter and receiver units are not installed in the special recessed panels in the underside of the port wing towards the tip.

Communication  
Equipment:

The now standardised bomber installation, the FuG 10P, is fitted giving R/T (Short-wave) and W/T (Long-wave) with a PeGe 6 (Peilgerät) automatic Direction-Finder; the latter being coupled to the new form of combined D/F and repeater compass ("S" Compass installation). Only the long-wave transmitter S.L. had its "click-stop" frequency settings engaged, the frequencies being 377 and 468 Kc/s.

The pilot's V.H.F. R/T set proved to be a new type of designation, namely the FuG 16 ZY. The "Z" component, which is the navigational attachment, is however missing from its mounting frame, but the loop aerial is mounted on the underside of the fuselage. A new semi-whip type aerial protrudes from the underside of the cockpit, being of tapered tubular construction terminating in a semi-stiff stranded portion, the overall length being 90-cm. This aerial is connected to a matching unit, type AAG 16 E3, which is a new number and is probably associated with the "Y" characteristic of this FuG 16ZY installation.

The FuG 16 ZY receiver and transmitter were both "click-stop" set at 40 Mc/s. It is interesting to note that a further pair of settings were engaged outside the calibrated limits of the frequency scale at positions which would be equivalent approximately to 42.475 and 42.525 Mc/s if the extended scale readings are assumed to be linear.

The blind-landing equipment, type FuBl 2F, is fitted, this being the electrically remote-controlled version now normally encountered in the Ju 88 aircraft.

Crew:

Three. Prisoners of War (P/W). Uninjured. Only two of the crew were wearing a parachute and a single-seater dinghy.<sup>1</sup>

Signed: S/Ldr. H. F. King  
A.I. 2 (g)  
Directorate of Intelligence  
16<sup>th</sup> July 1944

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<sup>1</sup> A.D.I. (k) Report 350/1944 Interrogation of Prisoners of War. Report on crew of 7./NJG 2 that landed at Woodbridge, Suffolk, in error in the early morning of 13<sup>th</sup> July 1944. Crew: Uffz. Hans Mackle (Pilot: F), Obgefr. Heinz Olze (Bf.) and Obgefr. Hans Mockle (Bf.) uninjured.