AIRCRAFT DESCRIPTION Number 176

HEINKEL He162

DRAWN & DETAILED By P. Lloyd

BACK IN 1944, the disclosure of the VOLKSJAGER project must have seemed encouraging to the Luftwaffe. Indeed had any of the allied powers known of the details, they would certainly have been caused some concern to say the least.

The estimated production figures alone were ambitious some 1,000 machines per month was projected, and agreed by the manufacturers involved; and this before the prototype was complete, let alone test flown. Bringing an air of doubt to this possible undertaking, was Goring's particular dream of vast quantities of VOLKSJAGERS flown by air-minded N.S.F.K. trained Hitler-Youth after a limited period of glider tuition, with rapid conversion to their 500 m.p.h. mounts on the airfield! Thus the rate of supply of pilots would be equal to the numbers of aircraft rolling off the assembly lines, in underground and strategically distant factories.

Part of the dream was possible; that is, the aircraft itself *was* capable of being produced quickly – largely from non-strategic materials, and to a basically simple design. Indeed the rapidity of this was borne out of the prototype's well quoted record of 'drawings to aircraft and flight' in something like 3 months; due mainly to 'round the clock' working by all involved.

The prototype was unfortunately destroyed in a demonstration flight, not due to over-enthusiasm of the pilot for this obviously lively machine, but due to airframe failure. Bonding techniques used were sometimes faulty, perhaps due to their then novelty but unfortunately both pilot and aircraft were lost.

Support for the project was not lost however; and development continued incorporating modifications – the most obvious being a tailplane of larger span, anhedral wing tip extensions, a more curving 'spoiler' like undercamber of the trailing edge at the wing root. The leading edge of the wing root had a small wedge-shaped section strip added to both port and starboard for about 20 inches of the inboard leading edges.

Contrary to usual German practice the pre-production prototypes were delivered directly into training squadron units to 'work' up under field conditions, training pilots and ground crew at the same time.

These early aircraft were variously equipped with 20 or 30 mm. cannon – subsequently standardised on the former with an increased ammunition supply – and powered by BMW 003 A-1; A-2 or BMW 003 E-1 or E-2 gas turbine units. General construction was as follows:

Fuselage was monocoque with dural formers and skin; wheel well doors, cannon access doors were ply and wood. The removable nose cap was a one-piece ply moulding. Tailplane was mixed steel and dural, with some ply skinning. The turbojet was itself, once covered, a reasonably streamline shape, and was accessible if not appealing to its 'piggy-back' position, it was rapidly interchangeable, only mounted by 4 bolts, an advantage when one considers the life (50-60 hours) of early units. Undercarriage was conventional tricycle, wheels retracted hydraulically but were lowered by large springs compressed while the wheels were 'Up'. Only the mainwheels had brakes.

Drawing attention to the original conception of 'green' pilots flying the He 162, a couple of built in 'reminders' make one think twice.

Firstly, the nose wheel was housed in a wheel well which protruded between the pilot's legs – and in turn provided with a window to give an indication of the front wheel position. Secondly the nose wheel ram and spring assembly when in the 'down' position triggered a rod which protruded through the nose cap in front of the canopy – clearly visible to the pilot. The aircraft had a jettisonable canopy and an ejector seat fired by a 20 mm. cartridge – a refinement in those days; although with the gaping intake of the turbojet so close, possibly a necessity!

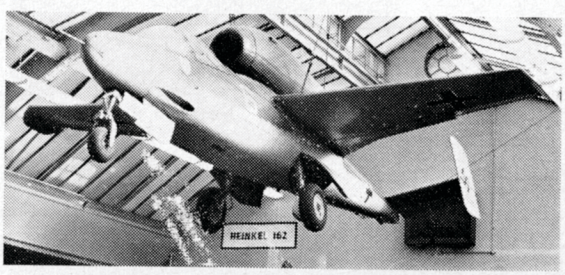
The starting of the BMW 003 was a ritual worth mentioning. Seemingly involved, it was no doubt reliable, and comprised the Reidel starter, which was a 10 h.p. 2-stroke 2 cylinder motor, itself either started by an electric motor, or by a pull cord recoil starter. This ran on its own supply of petrol with oil added, and when running, was coupled to the turbine mainshaft by a centrifugal clutch and dog system.

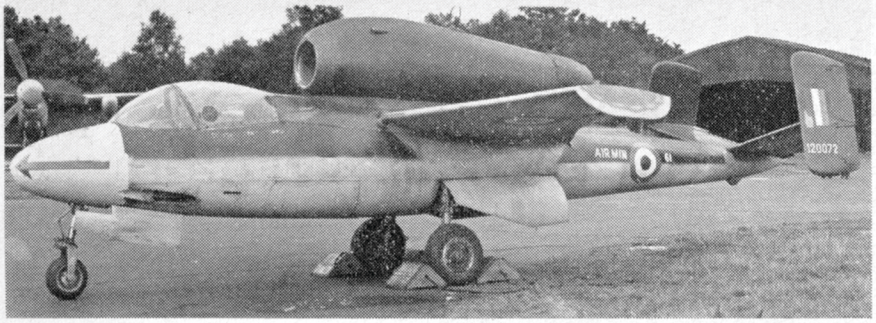
The 003 unit itself ran on crude J-2 diesel fuel, but wouldn't start on it, so when the Reidel had reached some 800 r.p.m. petrol was injected to a starting ring of 6 nozzles, 2 spark plugs and a vibrator and coil with a 24v battery then ignite this and run on, warming up the combustion chamber. As the speed of the turbine reached 1,200 r.p.m. the J-2 fuel proper was injected through a separate ring with 16 nozzles – when all was burning well, at 2,000 r.p.m. both the Reidel and the petrol supply were shut off. Jet pipe temperature was not to exceed 750 deg.C, the rated shaft speed on J-2 was 9,500 r.p.m. with a life of 50-60 hours between overhauls.

Sub-variants only differed in detail equipment such as engines although one variant the A-9, had an experimental Vee tail, The He 162B derivatives were intended for lightweight use of the Argus pulse jet units like those of the V-1 flying bombs – due to the design of the pulse jet unit, these had to be launched either by rocket or catapult before the pulse jet would work.

The He 162C and 162D were rather more adventurous experimenting with swept forward and swept back wing planforms and butterfly tails, with the Heinkel-Hirth 011 turbojet.

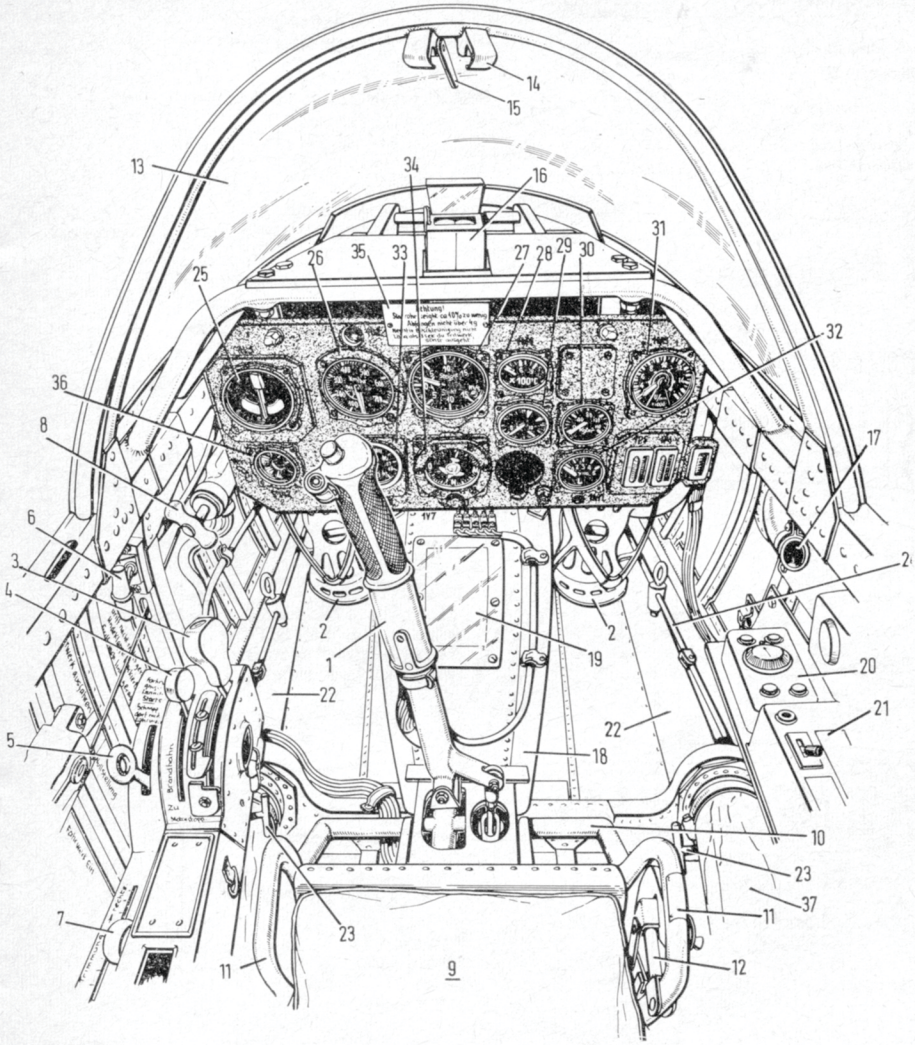
Finally, in spite of all the hopes for this fighter it was the old story of being too late – only some 116 'Salamanders' were completed, with many more discovered in part assembly in tunnels, mines and caves. Most aircraft were assembled at Leck, some 50 He 162s belonging to JG/1 abandoned there due to lack of fuel, etc. and nearness of allied forces. Allied pilots had reported sightings of this aircraft, but no combat comparison ever seems to have been made. Evaluation trials were conducted by both the R.A.F. and U.S.A.F. after hostilities, and examples preserved for design study and museum exhibition. Three of these machines in Canada, France and in London have been closely studied for the preparation of our drawings. We would like to thank in particular Mr. T. Steel for his research at Rockliffe Museum, Ottawa. Messrs, McCann & Willis of the Imperial War Museum, London, and the author wishes to thank the editor for his study of the aircraft in the Musée de l'Air, Paris.

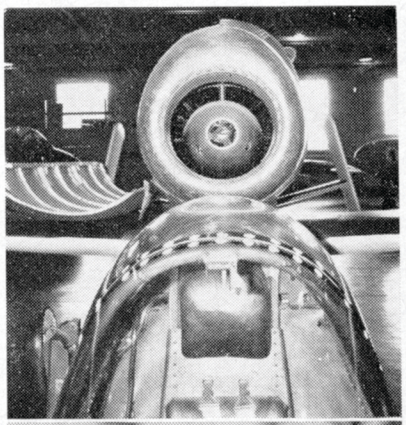


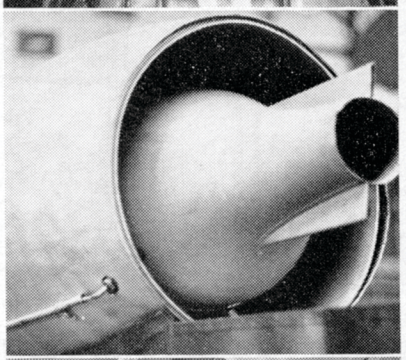


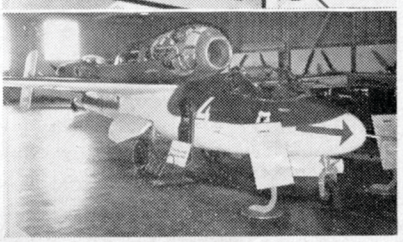
Left: Captured test example, repainted as Air Min 61 serial 120072 and crashed at Farnborough (IWM Photo MH 4886). Below, top to bottom, Frontal view of the Rockcliffe example showing fairing over two-stroke Reidel starter motor. Efflux close-up is of the French Musse de l'Air exhibit. Undercarriage (and photo opposite page) is of the Imperial War Museum aircraft, and lastly, the Rockcliffe exhibit in Canada.

REPRINTS OF THIS FEATURE PLUS 1/36th SCALE DYE-LINE PRINTS AND INCLUDING DRGS. OF THE He 162B DERIVATIVES ARE AVAILABLE AS PLAN PACK SF 2819 PRICE 5s. (plus 6d. postage) FROM AEROMODELLER PLANS SERVICE.









1. CONTROL COLUMN WITH GUN BUTTON & R.T.SWITCH.	13. FRONT CANOPY.	25. TURN & BANK INDICATOR.
2. RUDDER PEDALS.	14. CANOPY CATCH.	26. AIRSPEED INDICATOR.
3. THROTTLE LEVER.	15. RELEASE FOR 14.	27. RATE OF CLIMB/DESCENT.
4. FUEL COCK.	16. 'REVI' GUNSIGHT.	28. JET PIPE TEMPERATURE.
5. UNDERCARRIAGE SELECTOR.	17. FLARE PISTOL CHUTE.	29,30. PRESSURE GUAGES.
6. U/C OPERATING LEVER.	18. NOSEWHEEL COVER.	31. REVOLUTION COUNTER.
7. TRIMMING CONTROL.	19. WINDOW FOR VISUAL CHECK.	32. FUEL CONTENTS.
8. FLAP CONTROL.	20. RADIO SELECTOR.	33. ALTIMETER.
9. EJECTOR SEAT.	21. STARTER & ELECTRICAL PANEL.	34. COMPASS.
10. FOOT STIRRUPS.	22. CANNON BLAST TUBES.	35. LIMIT DATA: (SEE MAIN DWG.)
11. SEAT HANDLES.	23. CANNON FORWARD MOUNT.	36. FLAP INDICATOR.
12. ST'B'D. HANDLE WITH EJECTOR TRIGGER.	24. MANUAL COCKING LEVERS.	37. CANVAS RECOIL SPRING COVERS.

29 : RED RIM. 30 + 32 : YELLOW RIMS.

COCKPIT LAYOUT HEINKEL He 162A-2.