Nur für den Dienstgebrauch!

ME-163B

Bedienungsvorschrift-Fl

(August 1944)

Issued September 1944

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A. Use

The aircraft model Me 163 B is used as a daytime homeland defend aircraft and beside its tailless design it is characterised by its very high climb rate and the speed it can reach.

B. Construction Form

Self-supporting, tailless, single seat mid-wing aircraft (amendment 1) with a solid rocket engine, detachable gear, a retractable landing skid and a tail wheel. Vertical stabilizer is assembled onto the rear fuselage; Ailerons also used as elevator. Wings equipped with solid slats, trim flaps and landing flaps. The whole construction made so that a conversion of the cockpit to a pressurized cabin after sealing and upgrading of the pressure-maintaining system is possible.

C. Characteristics

1. Fuelsage

All-metal monocoque construction. Fuselage nose, front section, Rear section and tailpiece connected to each other by screws. Mid-upper shell of the front section detachable. Cockpit with cushion seat for usage of a parachute pack equipped with integrated oxygen supply. Full glass canopy . Bad weather window. Windows behind the seat. Protection against enemy fire by armored nose cover. Armored glass and armored plates around the cockpit and storage room.

2. Wing Assembly

Fabricated as a two-holm wooden construction. Each wing connected to fuselage at 3 points. Solid slats. On the rear edge of wings are ailerons and trim flaps; on the underside of the wings are landing flaps. Manual drive of the trim flaps via shafts, bevel gear and push rods, landing flaps driven via hydraulics.

3. Tail Unit

Vertical stabilizer is assembled onto the rear fuselage. Rudder is provided with a fireproof paint. Ailerons also used as elevator.

4. Control Unit

Hand control by flight stick, foot control by pedals. Transmission of steering forces by push rods. Trim flaps controlled by hand wheel; transmitted by torsional waves, bevel gear and spindle gear.

5. Gear

Jettisonable, hydraulically linked gear. Takeoff possible using the takeoff-cart. Hydraulically retractable landing skid and tail wheel. Indicator device for raised and lowered status of the landing skid, aswell as attached or detached gear in the cockpit.

6. Engine

Installation of the HWK 109-509 engine in the rear fuselage. Engine functions as repulsion unit. Thrust is adjustable using the handle (throttle) left-hand inside the

cockpit. Fuel tank inside the storage room (behind the cockpit), inside the cockpit and inside the wings.

7. Pressure System

The device is driven by pneumatic-hydraulics. Power supply by pressure accumulators in the nose section.
Operated by the device are:

a. Latch-in and drop of the gear
b. Landing skid
c. Tail wheel

Operation of the landing flaps also by oil-pressure-system (hand pump) independently from the pneumatic-hydraulic device

8. Emergency Locator Transmitter

Power is generated by a 2000 watt at 24 volts wind propeller. Nickel collectors at 20 Ah. An automatic switch for segregation of the collector, the power generator and the starter engine from the onboard wiring system in the right-hand console each. An outboard port for a ground power supply while onboard wiring system detached (press disconnect button!).
Operated by electrics are:

a. Starter engine (button for starter engine on left-hand side of the cockpit)
b. Artificial horizon
c. Pilot tube
d. Radio equipment
e. Weapons
f. Indicator and warning devices

9. Radio Systems

Funkgerätesatz FuG 16 ZE (radio) with installation kit FuE 16 ZE without additional modulation device aswell as the Funkgerätesatz FuG 25a with the installation kit FuE 25 a.

10. Weapons

A MK 108 or a MG 151,20 in the transition section of each wing.

D. Dimensions, Weights and Loading Plan

Wingspan	9,30 m
Length	5,92 m
Height (Including Antenna)	2, 80 m
Wing Surface	19,6 m
Wing Loading on takeoff	210 kg/m
Wing loading on landing	110 kg/m

Spread of weight (look at the load planning)

E. Utilization and stress groups

Utilization group H.
Stress group: Until g-flight = 2900 kg H 5; above that H 4.
Takeoff weight: 4100 kg, landing weight 2100 kg.

F. Operation Data

1. Fuel

Tank For	Installation Site	Content in liters
T-Stoff	Container Room	1040
T-Stoff	Cockpit Left*	60
T-Stoff	Cockpit Right*	60
C-Stoff	Wing Left	177
C-Stoff	Wing Right	177
C-Stoff	Nose section left	73
C-Stoff	Nose section right	73
	T-Stoff Supply	1160
	C-Stoff supply	500
	Total supply in liters	1660
	Totall supply in kilograms	2026

* Protected Containers

2. Performance and consumption

Engine thrust is controllable via the handle (throttle) left-hand inside the cockpit. Control range from 200 to 1500 N thrust, corresponding to the display of the thrust indication device from 3 to 19 at (1 at = 98.0665 kPa) of combustor pressure at ground level

Consumption: Look at engine manual

3. Allowed maximum speed*

In vertical flight

In vertical flight: Look at admission-paper

When trim flaps at an angle:

Maximum permissible thrust: 1500N

* Look at admission

II. Preparation for flight

A. **Responsible work by the aircraft mechanic**

III. Flight

A. **Preparation for flight**

1. Put on parachute (inside seat cushion, equipped with oxygen mask), check seat configuration and strap yourself.
2. Turn on the whole wiring system and all automatic switches. Turn on gear indicator.
3. Set altimeter
4. When high air humidity and temperatures below 0°C turn on pilot tube (Indicator must respond).
5. Check oxygen supply: Open valve with two complete rotations. Plug in breathing tube into mask and put it on. Press button on breathing mask. O2-guard must open lips.
6. Close canopy (pull handle and push canopy forward).

B. Taxiing

1. Taxiing to runway

Taxi to takeoff position with attached gear part using a tractor unit and tow bar or carry it there on a transport vehicle.

2. Rolling on self-takeoff

Set trim flaps as described in the chart. (Hand wheel and indicator with trim chart left-hand inside the cockpit).

C. **Takeoff**

1. Self takeoff