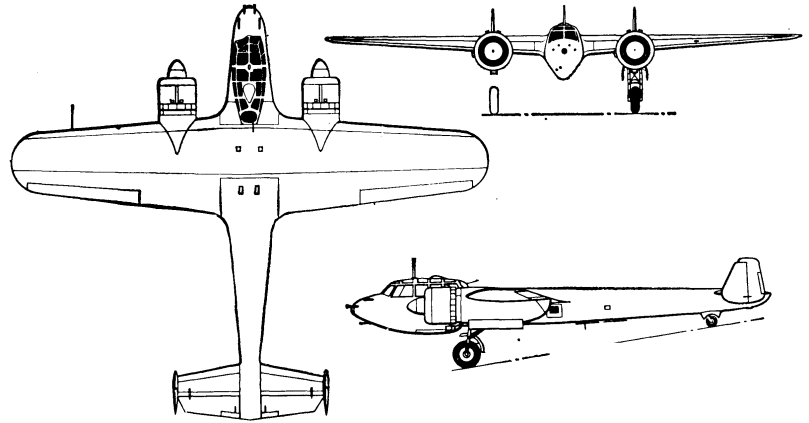


Dornier Do17Z-10 *Kauz II*

Country: Germany

Service Entry Date: November, 1940

A/C Type: Night Fighter
 Engine(s): Two BMW Bramo 323R-2 radials
 Eng. Pwr: 2000-2400 hp, air-cooled
 A/C Crew: Pilot, navigator, radar operator
 radio operator/gunner
 Maximum Speed: 267 mph at 19,685 ft
 Maximum Ceiling: 26,400 ft
 Defense factor: 6 Size Modifier: +1
 Damage Factor: 13/20 Endurance: 90
 Cockpit View: Fair Blind Area: Rear
 Protection: Cockpit +0 Fuel +0 Engine +0
 Climb Dece/ Dive Accel: 2.0 / 1.0
 Weight and Load Limit: 1,600 / 3-6
Wpn Stations Weight Allowed Loads
 1, 2 (bombbay) 800 lbs Aux fuel tanks



Class: MF

Victory Points: 5-11

AIRCRAFT PERFORMANCE CHART

Altitude Levels	Bands	Minimum Speed	Maximum Speed	Maximum Dive Spd	Min TT(2)	Min HT(3)	Min BT(4)	Min ET(5)	Altitude Levels	Bands	Average Rate of Climb
43+	UH	--	--	--	--	--	--	--	43+	UH	--
37-42	EH	--	--	--	--	--	--	--	37-42	EH	--
31-36	VH	--	--	--	--	--	--	--	31-36	VH	--
25-30	HI	3.0	5.0	8.5	3.5	5.5	7.0	8.0	25-30	HI	600
19-24	MH	2.5	5.5	8.5	3.5	5.0	6.5	7.5	19-24	MH	800
13-18	ML	2.0	5.5	8.5	3.0	4.5	5.0	6.5	13-18	ML	1,000
7-12	LO	2.0	5.0	8.0	3.0	4.0	5.0	6.0	7-12	LO	1,200
1-6	VL	2.0	5.0	7.0	3.0	3.5	4.5	5.5	1-6	VL	1,200

FIRE POWER CHART

Guns	Type Weapons	Ammo	Criticals
N1	Two 20mm MG FF can	2x4*	2
N2	Two 7.92mm MG17 mg	20	4
N3	Two 7.92mm MG17 mg	20	4
DG	One 7.92mm MG15 mg	5x3*	4

* See Rule 10.6 for reloading guns in combat.

GUN ATTACK FACTORS

Range	N1	N2	N3	DG	Total
0	22	12	12	4	46
1	18	8	8	3	34
2	12	6	6	2	24
3	8	4	4	1	16
4	6	3	3	1	12
5	4	2	2	1	8
6	--	--	--	--	--
7	--	--	--	--	--

WEAPON STATION LOCATION

none

POWER VERSUS SPEED CHART

(per engine)

Levels	Bands	1.0 - 4.5	5.0 - 7.5	8.0 - 9.5	10.0+	Band
43+	UH	--	--	--	--	UH
37-42	EH	--	--	--	--	EH
31-36	VH	--	--	--	--	VH
25-30	HI	1	--	--	--	HI
19-24	MH	1.5/2	0.5/1	--	--	MH
13-18	ML	2.5/3	1.5/2	--	--	ML
7-12	LO	2.5/3	1.5/2	--	--	LO
1-6	VL	2.5/3	1.5/2	--	--	VL
Banking FPs		2	3	5	7	
Side Slip FPs		2	4	6	8	

NOTES AND VARIANTS

Defensive Gun Arcs

DG: Rear level to High; 6:00 = high only.

Do17Z-6 Kauz I: Built from a Do17Z-3 recon bomber mated to a Ju88C weapon nose (1 MGFF, 3 MG17). 1 built.

Do17Z-10 Kauz II: Available November 1940. Assigned to NJG2. Armed with Spanner-Anlage, an infrared spotlight which reflected off targets seen through a screen attached to the gunsight. Spanner-Anlage was over-sensitive, not adjustable, and short-ranged. Later replaced with Lichtenstein FuG 202 radar sets. 9 built.

Aux Fuel: Each tank adds 50 End. Load pts: .5 per 10 End

Spanner Angale: Extends visual range at night to a maximum of 5 hexes.

FuG 202 Lichtenstein BC : Type: E Max Rng: 35 Min Rng: 2

Focke-Wulf Ta154A-1 Falke

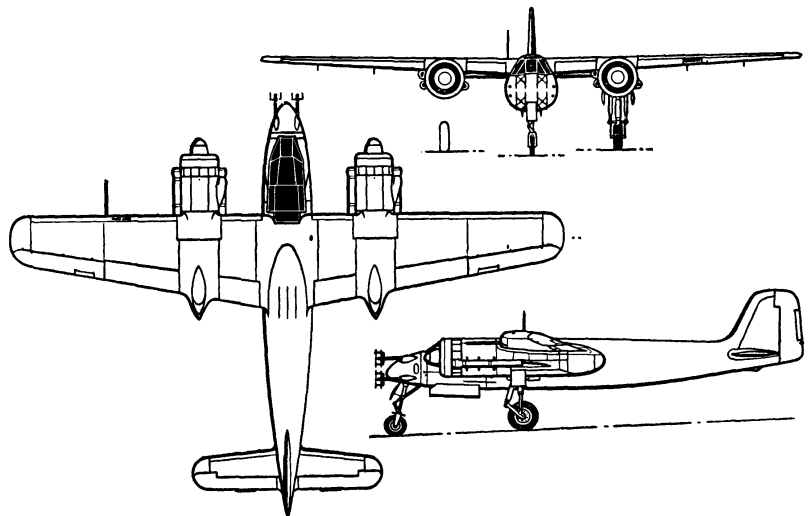
A/C Type: Night Fighter
 Engine(s): Two Jumo 213E 12-cyl inverted-V
 Eng. Pwr: 3500 hp, liquid-cooled
 A/C Crew: Pilot, navigator/radar operator,
 radar operator/gunner
 Maximum Speed: 399 mph at 26,240 ft
 Maximum Ceiling: 35,800 ft
 Defense factor: 5 Size Modifier: +0
 Damage Factor: 15/22 Endurance: 160
 Cockpit View: Good Blind Area: Rear

Protection: Cockpit +1 Fuel +1 Engine +0
 Climb Decel/ Dive Accel: 3.0 / 1.0
 Weight and Load Limit: 1100lbs / 2-4

Wpn Stations Weight Allowed Loads
 1,2 550 lbs 66-gal FT

Country: Germany

Service Entry Date: November, 1944



Class: F

Victory Points: 6-13

AIRCRAFT PERFORMANCE CHART

Altitude Levels	Bands	Minimum Speed	Maximum Speed	Maximum Dive Spd	Min TT(5)	Min HT(6)	Min BT(8)	Min ET(9)	Altitude Levels	Bands	Average Rate of Climb
43+	UH	--	--	--	--	--	--	--	43+	UH	--
37-42	EH	--	--	--	--	--	--	--	37-42	EH	--
31-36	VH	4.0	7.5	11.0	5.5	7.0	8.0	9.0	31-36	VH	600
25-30	HI	3.5	8.0	11.0	5.0	6.5	7.5	8.5	25-30	HI	1,100
19-24	MH	3.0	8.0	10.5	4.5	6.0	7.0	8.0	19-24	MH	1,400
13-18	ML	2.5	7.5	10.5	4.0	5.0	6.0	7.0	13-18	ML	1,800
7-12	LO	2.5	7.0	9.5	3.5	4.5	5.5	6.5	7-12	LO	2,100
1-6	VL	2.0	6.5	8.5	3.0	4.0	5.0	6.0	1-6	VL	2,100

FIRE POWER CHART

Guns	Type Weapons	Ammo	Criticals
N1	2x 30mm Mk108 cannon	5	1.5
N2	2x 20mm MG151 cannon	10	2

GUN ATTACK FACTORS

Range	N1	N2	Total
0	38	46	84
1	30	35	65
2	20	23	47
3	12	15	27
4	8	11	19
5	6	8	14
6	--	6	6
7	--	--	--

WEAPON STATION LOCATION

1

2

POWER VERSUS SPEED CHART

(per engine)

Levels	Bands	1.0 - 4.5	5.0 - 7.5	8.0 - 9.5	10.0+	Band
43+	UH	--	--	--	--	UH
37-42	EH	--	--	--	--	EH
31-36	VH	2	0.5	--	--	VH
25-30	HI	2.5	1	0.5	--	HI
19-24	MH	3.5	2	--	--	MH
13-18	ML	4	2.5	--	--	ML
7-12	LO	4	2.5	--	--	LO
1-6	VL	4	2.5	--	--	VL
Banking FPs		3	4	6	8	
Side Slip FPs		4	5	7	9	

NOTES AND VARIANTS

Ta154A: "Available" Nov 1944: This twin-engine nightfighter was similar to the Mosquito: highly maneuverable and fast. It was also built of formed plywood and held together by a special glue. After a superlative test program, production was cancelled before it started when the factory that produced the special glue was destroyed by allied bombing. A few examples were produced with a substitute that was not strong enough; the aircraft tended to come apart while flying. (This same glue was used on the He162 Salamander.)

FuG220 Lichtenstein SN-2: Type: L Max Rng: 60 Min Rng: 6

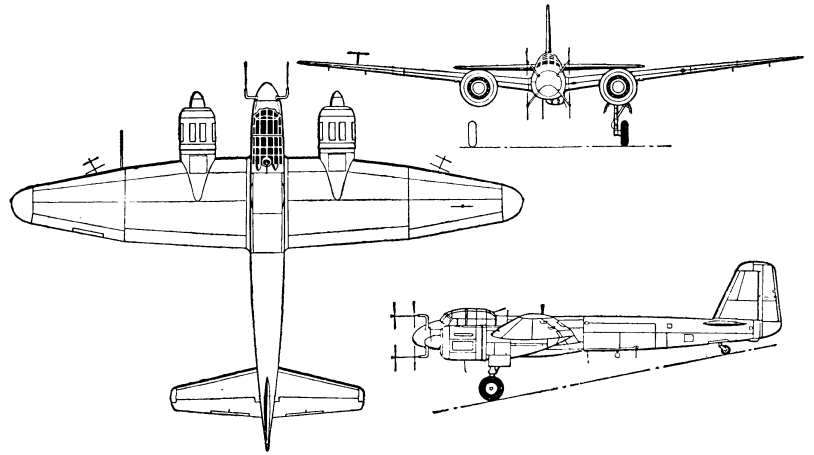
66-gal DT: Wgt: 500 lbs Ld: 3.0/2.0 End: + 52

Junkers Ju-88G-7c

A/C Type: Night Fighter
 Engine(s): 2x Junkers Jumo 213E-1 w/ MW50
 Eng. Pwr: 3450 hp, Liquid-cooled
 A/C Crew: Pilot, navigator, radio-operator
 radar operator/gunner
 Maximum Speed: 363 mph at 23,500 ft.
 Maximum Ceiling: 28,800 ft.
 Defense factor: 6 Size Modifier: +1
 Damage Factor: 20/30 Endurance: 225
 Cockpit View: Fair Blind Area: Rear,Low
 Protection: Cockpit +0 Fuel +0 Engine +0
 Climb Dece/ Dive Accel: 2.0 / 1.0
 Weight and Load Limit: 1400 / 5-8
Wpn Stations Weight Allowed Loads
 1 1400 198 gal DT

Country: Germany

Service Entry Date: November 1944



Class: MF

Victory Points: 6-12

AIRCRAFT PERFORMANCE CHART

Altitude Levels	Bands	Minimum Speed	Maximum Speed	Maximum Dive Spd	Min TT(4)	Min HT(5)	Min BT(6)	Min ET(-)	Altitude Levels	Bands	Average Rate of Climb
43+	UH	--	--	--	--	--	--	--	43+	UH	--
37-42	EH	--	--	--	--	--	--	--	37-42	EH	--
31-36	VH	--	--	--	--	--	--	--	31-36	VH	--
25-30	HI	3.0	7.0	9.5	4.5	6.0	7.0	--	25-30	HI	600
19-24	MH	3.0	7.0	10.0	4.0	5.5	6.5	--	19-24	MH	1,000
13-18	ML	2.5	7.0	9.5	3.5	5.0	6.0	--	13-18	ML	1,300
7-12	LO	2.5	6.5	9.0	3.0	4.5	5.5	--	7-12	LO	1,600
1-6	VL	2.0	5.5	8.0	3.0	4.0	5.0	--	1-6	VL	1,600

FIRE POWER CHART

Guns	Type Weapons	Ammo	Criticals
N1	2x 20mm MG151 cannon	10	2
N2	2x 20mm MG151 cannon	10	2
DG	1x 13mm MG131 mg	16	3
SM	2x 20mm MG151 cannon	10	2

GUN ATTACK FACTORS

Range	N1	N2	DG	SM	Total
0	52	52	8	46	104
1	39	39	6	39	78
2	26	26	4	26	52
3	17	17	3	17	34
4	12	12	2	12	24
5	9	9	1	9	18
6	7	7	1	7	14
7	--	--	--	--	--

WEAPON STATION LOCATION

1

POWER VERSUS SPEED CHART

Levels	Bands	1.0 - 4.5	5.0 - 7.5	8.0 - 9.5	10.0+	Band
43+	UH	--	--	--	--	UH
37-42	EH	--	--	--	--	EH
31-36	VH	--	--	--	--	VH
25-30	HI	1.0/2.5	0.5/1.0	--	--	HI
19-24	MH	2.0/2.5	1/1.5	--	--	MH
13-18	ML	2.5/3.0	1.5/2.0	--	--	ML
7-12	LO	2.5/3.0	1.5/2.0	--	--	LO
1-6	VL	2.5/3.0	1.5/2.0	--	--	VL
Banking FPs		2	3	5	7	
Side Slip FPs		2	4	6	8	

NOTES AND VARIANTS

Defensive Gun Arcs

DG: Rear + 30 level to High; 6:00 = high only.

Ju88G-1: Avail Jan-44 w/BMW 801D air-cooled engine. No boost, no SM.

Ju88G-6: Avail Jun-44 w/BMW 801G air-cooled engine. No boost, has SM.

Ju88G-7a: Avail Nov 1944. Carried four 20mm MG151 in belly pack plus two *Schrage Musik* style. With MW 50, add 0.5 to Max Speeds, +0.5 acc/engine, +200 to roc. Flensburg homer. **G-7b** carries aerodynamic Morgenstern radar cap. +0.25 acc/engine. **G-7c** carries FuG240 Berlin C radar. +0.25 acc/engine

FuG220 Lichtenstein SN-2: Type: L Max Rng: 60 Min Rng: 6

FuG240 Berlin C: Type: L Max Rng: 55 Min Rng: 6

198 gal DT: Weight: 1400 lb Load: 6.0/4.0 End: +70

Heinkel He219A-7/R1 Uhu

A/C Type: High Alt Night fighter
 Engine(s): Two Daimler-Benz DB603G
 Eng. Pwr: 3800 hp, air-cooled, Non-F.I.
 A/C Crew: Pilot, radar operator

Maximum Speed: 416 mph at 22,965 ft.
 Maximum Ceiling: 41,660 ft.

Defense factor: 6 Size Mod: +1
 Damage Factor: 16/24 Endurance: 144
 Cockpit View: Good Blind Area: 6:00 low

Protection: Cockpit +2 Fuel +0 Engine +0

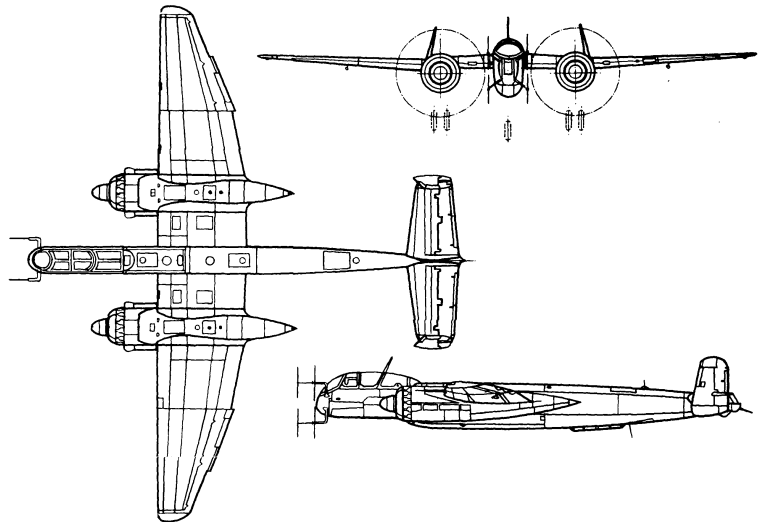
Climb Dece/ Dive Accel: 3.0 / 1.0

Weight and Load Limit: None

Wpn Stations Weight Allowed Loads

Country: Germany

Service Entry Date: November, 1944



Class: M

Victory Points: 7-14

AIRCRAFT PERFORMANCE CHART

Altitude Levels	Bands	Minimum Speed	Maximum Speed	Maximum Dive Spd	Min TT(5)	Min HT(6)	Min BT(7)	Min ET(8)	Altitude Levels	Bands	Average Rate of Climb
43+	UH	--	--	--	--	--	--	--	43+	UH	--
37-42	EH	3.5	7.5	11.0	5.5	7.0	8.5	10.0	37-42	EH	800
31-36	VH	3.0	8.0	11.5	5.0	6.0	7.5	9.0	31-36	VH	1,200
25-30	HI	2.5	8.0	11.5	4.5	5.5	7.0	8.0	25-30	HI	1,600
19-24	MH	2.5	8.5	11.5	4.0	5.0	6.5	7.5	19-24	MH	1,900
13-18	ML	2.0	8.0	11.5	3.5	4.5	6.0	7.0	13-18	ML	1,900
7-12	LO	2.0	7.5	10.5	3.0	4.0	5.5	6.5	7-12	LO	1,800
1-6	VL	2.0	7.0	9.5	3.0	4.0	5.0	6.0	1-6	VL	1,800

FIRE POWER CHART

Guns	Type Weapons	Ammo	Criticals
N1	Two 20mm MG151	10	2
N2	Two 30mm Mk108	5	1.5
N3	Two 30mm Mk103	5	1.5
N4	Two 20mm MG151	10	2
SM	Two 30mm MK108		1.5

GUN ATTACK FACTORS

Rng	N1	N2	N3	N4	SM	Total
0	52	38	46	52	38	136
1	40	30	36	40	30	106
2	26	20	24	26	20	70
3	18	12	16	18	12	46
4	12	8	10	12	8	30
5	8	6	8	8	6	22
6	6	--	6	6	--	12
7	--	--	4	--	--	4

WEAPON STATION LOCATION

none

POWER VERSUS SPEED CHART

(per engine)

Levels	Bands	1.0 - 4.5	5.0 - 7.5	8.0 - 9.5	10.0+	Band
43+	UH	--	--	--	--	UH
37-42	EH	1.5/2.5	0.5/1	--	--	EH
31-36	VH	2/3	1/1.5	--	--	VH
25-30	HI	3/4	2/2.5	1/1.5	--	HI
19-24	MH	3/4	2/2.5	1/1.5	--	MH
13-18	ML	4/5	3/3.5	2/2.5	--	ML
7-12	LO	4/5	3/3.5	--	--	LO
1-6	VL	4/5	3/3.5	--	--	VL
Banking FPs		3	4	5	7	
Side Slip FPs		3	5	6	8	

NOTES AND VARIANTS

He219A-7: Ejection seat. pressurized cabin. Several weaponry variants

A-7/R1: N2 in wingroot, N1+N3 in belly tray

A-7/R2: N2 in wingroot, N1+N2 in belly tray. Tot: 128/100/66/42/28/20/6/-

A-7/R3: N1 in wingroot, N1+N3 in belly tray. Tot: 150/116/76/52/34/24/18/4

A-7/R4: Tail warn radar. N1 in wingroot, N4 in belly tray. Tot: 104/80/52/36/24/12/-

A-7/R5: Jumo 213E engines with methanol-water injection. 6 built for anti-Mosquito duties. +0.5 acc/engine + 0.5 max speed,+ 200 roc. Armed as R4.

A-7/R6: 2500hp Jumo 222A/B engines. Max Speed +0.5 at ML and higher. +100 to roc at ML and higher. +1 accel per engine. 1 built. Armed as R4.

FuG 220 Lichtenstein SN2a : Type: L Max Rng: 60 Min Rng: 6

FuG 218 Neptun Tail Radar: Type: L Max Rng: 55 Min Rng: 2

Messerschmitt Me110G-4/R3

Country: Germany

Service Entry Date: Oct. 1943

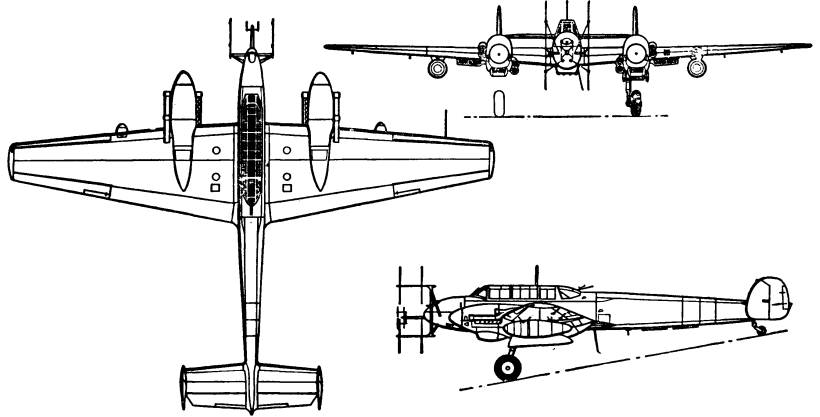
A/C Type: Night Fighter
 Engine(s): Two Daimler-Benz DB605B
 Eng. Pwr: 2950 hp, liquid-cooled
 A/C Crew: Pilot, radio-operator/gunner
 radar operator

Maximum Speed: 342 mph @22,900 ft
 Maximum Ceiling: 36,400/29800/21400 ft.

Defense factor: 5 Size Modifier: +0
 Damage Factor: 11/17 Endurance: 160
 Cockpit View: Fair Blind Area: 6:00 low

Protection: Cockpit +1 Fuel +0 Engine +0
 Climb Dece/ Dive Accel: 3.0 / 1.0
 Weight and Load Limit: None

Wpn Stations	Weight	Allowed Loads
1 (internal)	700	Aux. FT



Class: F

Victory Points: 4-7

AIRCRAFT PERFORMANCE CHART

Altitude Levels	Bands	Minimum Speed	Maximum Speed	Maximum Dive Spd	Min TT(4)	Min HT(5)	Min BT(6)	Min ET(7)	Altitude Levels	Bands	Average Rate of Climb
43+	UH	--	--	--	--	--	--	--	43+	UH	--
37-42	EH	--	--	--	--	--	--	--	37-42	EH	--
31-36	VH	3.5	5.5	9.0	5.0	7.0	8.5	9.5	31-36	VH	300
25-30	HI	3.0	6.0	9.0	4.5	6.0	7.5	8.5	25-30	HI	700
19-24	MH	3.0	6.5	9.5	4.0	5.5	6.5	8.0	19-24	MH	1,200
13-18	ML	2.5	6.5	9.5	3.5	5.0	6.0	7.0	13-18	ML	1,600
7-12	LO	2.5	6.0	9.5	3.0	4.5	5.5	6.5	7-12	LO	1,800
1-6	VL	2.0	6.0	9.0	3.0	4.0	5.0	6.0	1-6	VL	1,900

FIRE POWER CHART

Guns	Type Weapons	Ammo	Criticals
N1	2x 30mm Mk108	9	1.5
N2	2x 20mm MG151/20	12	2
N3	4x 7.92mm MG17	20	4
DG	2x 7.92mm MG81	12	4
SM	2x 20mm MG151/20	12	2

GUN ATTACK FACTORS

Rng	N1	N2	N3	SM	DG	Total
0	38	52	24	52	12	90/76
1	30	40	16	40	9	70/56
2	22	26	12	26	6	48/38
3	14	17	8	17	4	31/25
4	9	12	6	12	3	21/18
5	6	9	4	9	2	15/13
6	--	7	--	7	--	6/7
7	--	--	--	--	--	--

WEAPON STATION LOCATION

POWER VERSUS SPEED CHART

Levels	Bands	1.0 - 4.5	5.0 - 7.5	8.0 - 9.5	10.0+	Band
43+	UH	--	--	--	--	UH
37-42	EH	--	--	--	--	EH
31-36	VH	1/1	1/1	--	--	VH
25-30	HI	1/2	1/1	--	--	HI
19-24	MH	2/3	1/1.5	--	--	MH
13-18	ML	3/4	1.5/2.5	--	--	ML
7-12	LO	3/4	1.5/2.5	--	--	LO
1-6	VL	3/4	1.5/2.5	--	--	VL
Banking FPs		3	4	6	8	
Side Slip FPs		3	5	7	9	

NOTES AND VARIANTS

Defensive Gun Arcs

DG: Rear + 30 level to High; 6:00 = high only.

Bf110G-4: Nose battery of 4x MG17 & 2x MG151/20. All G-4s had FuG212 radar. Some also carried FuG220 radar (better radar, poor min range; treat as loaded). Use N2, N3, DG; total to right of slash. 3,109 Bf110Gs built 1943-4.

Bf110G-4/U7: GM1 power boost.

Bf110G-4/R3: Armed with N1, N2, SM; total to left of slash.

Bf110G-4/R6: R3 + GM1 power boost.

Bf110G-4/R7: R3 + 119 gal fuel tank vice 3rd crew. Load: 4.0/3.0. End: +35.

FuG 212 Lichtenstein C-1 :	Type: E	Max Rng: 66	Min Rng: 3
FuG 220 Lichtenstein SN2a :	Type: L	Max Rng: 60	Min Rng: 6

