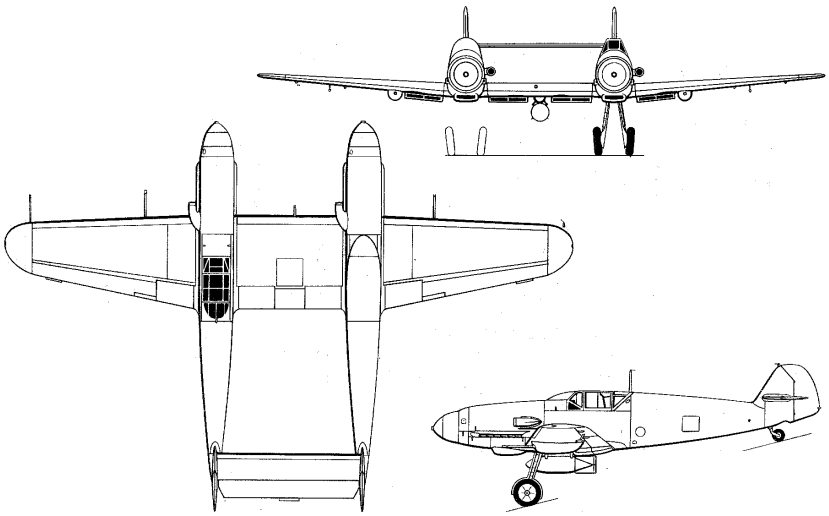
Messerschmitt Bf109Z

A/C Type: Heavy Interceptor
Engine(s): 2x Jumo213E in-line
Eng. Pwr: 2640-2950 hp, liquid-cooled
A/C Crew: Pilot

Maximum Speed: 462 mph @ 26,300
Maximum Ceiling: 34,500 / 31,000 / 28,000
Defense factor: 5 Size Modifier: +0
Damage Factor: 10/15 Endurance: 180
Cockpit View: Fair Blind Area: Rear
Protection: Cockpit +2 Fuel +1 Engine +0
Climb Dece/ Dive Accel: 3.0 / 1.0
Weight and Load Limit: 2,200 / 2-6

Wpn Stations	Weight	Allowed Loads
1, 3	550 lb	2x 250 kg bomb or 66 gal FT
2	1100 lbs	1x 500 kg bomb

Country: Germany Service Entry Date: November 1943



Class: F Victory Points: 5-9

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	8.5	11.5	5.0	6.5	7.5	9.0	31-36	VH	1,000
25-30	HI	3.5	9.0	11.5	4.5	6.0	7.0	8.0	25-30	HI	2,000
19-24	MH	3.0	9.0	11.5	4.0	5.5	6.5	7.5	19-24	MH	3,000
13-18	ML	2.5	8.5	11.5	3.5	5.0	6.0	7.0	13-18	ML	3,900
7-12	LO	2.5	8.0	11.0	3.0	4.5	5.5	6.5	7-12	LO	4,600
1-6	VL	2.5	7.5	10.5	3.0	4.0	5.0	6.0	1-6	VL	5,100

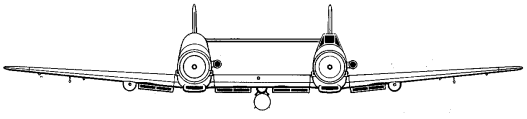
FIRE POWER CHART

Guns	Type Weapons	Ammo	Criticals
N1	1x Mk 103 30mm canon	4	1.5
N2	1x Mk 108 30mm canon	4	1.5
N3	1x Mk 108 30mm canon	4	1.5
W1	1x Mk 108 30mm canon	5	1.5
W2	1x Mk 108 30mm canon	5	1.5

GUN ATTACK FACTORS

Range	N1	N2	N3	W1	W2	Total
0	23	19	19	19	19	99
1	18	15	15	15	15	78
2	12	11	11	11	11	56
3	8	7	7	7	7	36
4	5	4	4	4	4	21
5	4	3	3	3	3	16
6	3	--	--	--	--	3
7		--	--	--	--	

WEAPON STATION LOCATION



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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	0.5/1.0	0.5	0.5	--	VH
25-30	HI	1.5/2.0	0.5/1.0	0.5	--	HI
19-24	MH	2.5/3.0	1.5/2.0	0.5/1.0	--	MH
13-18	ML	3.5/4.0	2.5/3.0	1.5/2.0	--	ML
7-12	LO	3.5/4.0	2.5/3.0	1.5/2.0	--	LO
1-6	VL	3.5/4.0	2.5/3.0	1.5/2.0	--	VL
Banking FPs		3	4	6	8	
Side Slip FPs		4	5	7	9	

NOTES AND VARIANTS

Bf109Z Zwilling (Twin): The Zwilling was designed to provide a strong, hi-speed platform for powerful cannon to be used in an anti-bomber role. Built from two Bg-109F airframes joined by a strong central wing. The second cockpit was replaced by a fuel tank. This was actually built and test flown, but the prototype was destroyed by bombers. Since the Ta-152 program was developing a high altitude fighter, development was ended. Flaps.

66-gal FT: Wght: 550 Ld: 3.0 End: +20 each

mks 8/25/97

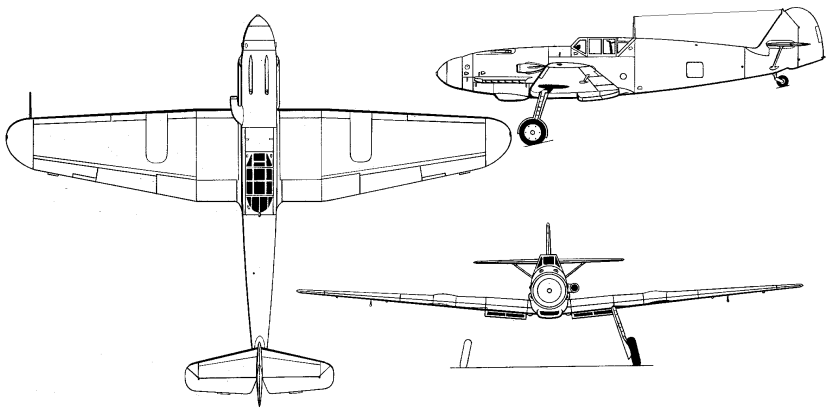
Messerschmitt Bf109H-1

A/C Type: High altitude Interceptor
Engine(s): 1x DB605A w/GM-1 boost
Eng. Pwr: 1490-1600 hp, liquid-cooled
A/C Crew: Pilot

Maximum Speed: 367 mph @19.6 (427 w/boost)
Maximum Ceiling: 47,500
Defense factor: 5 Size Modifier: +0
Damage Factor: 8/12 Endurance:
Cockpit View: Poor Blind Area:
Protection: Cockpit + 2 Fuel +1 Engine +0
Climb Dece/ Dive Accel: 3.0 / 1.0
Weight and Load Limit: 550 / 2-5

Wpn Stations	Weight	Allowed Loads
1	550	66-gal FT

Country: Germany Service Entry Date: Sept 1944



Class: F Victory Points: 5-10

AIRCRAFT PERFORMANCE CHART

Altitude Levels	Bands	Minimum Speed	Maximum Speed	Maximum Dive Spd	Min TT(4)	Min HT(4)	Min BT(6)	Min ET(7)	Altitude Levels	Bands	Average Rate of Climb
43+	UH	4.5	6.0 (7.0)	10.0	6.0	7.5	8.5	--	43+	UH	500
37-42	EH	4.0	6.5 (7.5)	10.5	5.5	7.0	8.0	9.5	37-42	EH	1,000
31-36	VH	3.0	7.0 (8.0)	10.5	5.0	6.5	7.5	9.0	31-36	VH	1,600
25-30	HI	3.0	7.0 (8.0)	11.0	4.5	6.0	7.0	8.5	25-30	HI	2,200
19-24	MH	3.0	7.5 (8.5)	11.0	4.0	5.5	6.5	8.0	19-24	MH	2,900
13-18	ML	2.5	7.5 (8.5)	11.5	3.5	5.0	6.0	7.5	13-18	ML	3,300
7-12	LO	2.5	7.0 (8.0)	10.5	3.0	4.5	5.5	6.5	7-12	LO	3,700
1-6	VL	2.5	6.5 (7.0)	9.5	3.0	4.0	5.0	6.0	1-6	VL	4,300

FIRE POWER CHART

Guns	Type Weapons	Ammo	Criticals
N1	2x 7.62mm MG17 mg	20	4
N2	1x 20mm MG151 cannon	10	2

GUN ATTACK FACTORS

Range	**N1**	N2	Total
0	11	26	37
1	8	20	28
2	6	13	19
3	4	9	13
4	3	6	8
5	2	4	6
6	--	3	3
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	1/2 (4/5)	1/1 (2/3)	--	--	UH
37-42	EH	1/2 (6/7)	1/1 (4/5)	--	--	EH
31-36	VH	3/4 (7/9)	1/2 (5/6)	-- (-/3)	--	VH
25-30	HI	5/6 (7/9)	3/4 (5/7)	-- (-/4)	--	HI
19-24	MH	7/9 (8/10)	5/7 (6/8)	-- (-/5)	--	MH
13-18	ML	9/11 (8/10)	7/9 (6/8)	-- (-/5)	--	ML
7-12	LO	9/11	7/9	-- (-/6)	--	LO
1-6	VL	9/11	7/9	--	--	VL
Banking FPs		3	4	5	7	
Side Slip FPs		4	5	6	8	

NOTES AND VARIANTS

Bf109H-1 Hochleistungjaeger: The H-1 was developed as a high-altitude bomber interceptor, with an eye toward quick results. Development did not pan out fast enough and the RLM (Reich Air Ministry) dropped its development for the Ta 152. (10 H-0 preproduction versions were built and used.) Based on G5 airframe with longer wings. Speeds in parentheses require the GM-1 boost system in use.

Bf209H/DB628 engine: Daimler Benz was working a powerful high-altitude performance engine that was tested on a 109 airframe in 1943. Mated to the H-1 airframe, it would have provided a truly magnificent aircraft. Power values for the Bf209H in parentheses. roc +200.

(The Bf209H should not be mistaken for the Bf209, a 1942 program to produce an improved 109 that was an utter failure).

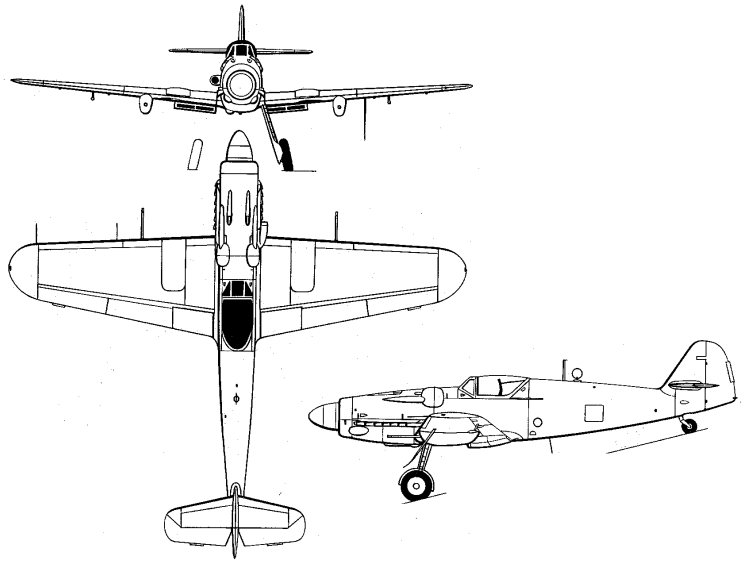
Avia S-199 *Mezec*

A/C Type: Day Fighter
Engine(s): 1x Jumo 211F inline
Eng. Pwr: 1050-1350 hp, liquid-cooled
A/C Crew: Pilot

Maximum Speed: 342 @ 19,500
Maximum Ceiling: 31, 700
Defense factor: 5 Size Modifier: +0
Damage Factor: 8/12 Endurance: 65
Cockpit View: Fair Blind Area: Rear, low
Protection: Cockpit + 2 Fuel +1 Engine +0
Climb Dece/ Dive Accel: 3.0 / 1.0
Weight and Load Limit: 550 / 1-3

Wpn Stations	Weight	Allowed Loads
1	550	66-gal FT

Country: Czechoslovakia, Israel Service Entry Date: March, 1947



Class: F Victory Points: 4-8

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	4.0	6.0	11.0	5.5	7.5	9.0	--	31-36	VH	500
25-30	HI	3.5	6.5	11.0	5.0	7.0	8.0	--	25-30	HI	900
19-24	MH	3.0	7.0	11.0	4.5	6.0	7.5	8.5	19-24	MH	1,200
13-18	ML	3.0	6.5	11.5	4.0	5.5	7.0	8.0	13-18	ML	1,600
7-12	LO	2.5	6.5	10.5	3.5	5.0	6.0	7.0	7-12	LO	1,900
1-6	VL	2.5	6.0	9.5	3.0	4.5	5.5	6.5	1-6	VL	2,100

FIRE POWER CHART

Guns	Type Weapons	Ammo	Criticals
N1	2x 13mm MG131 mg	11	3
W1	1x 20mm MG151 cannon	10	2
W2	1x 20mm MG151 cannon	10	2

GUN ATTACK FACTORS

Range	**N1**	W1	W2	Total
0	18	26	26	70
1	13	20	20	53
2	9	13	13	35
3	6	9	9	24
4	4	6	6	16
5	3	4	4	11
6	2	3	3	8
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	1/2	1	--	--	VH
25-30	HI	3/4	1/2	--	--	HI
19-24	MH	5/6	2/3	--	--	MH
13-18	ML	6/7	4/5	--	--	ML
7-12	LO	6/7	4/5	--	--	LO
1-6	VL	6/7	4/5	--	--	VL
Banking FPs		3	4	5	7	
Side Slip FPs		4	5	6	8	

NOTES AND VARIANTS

S-199: The S-199 was a Bf109G-14 variant built in post-war Czechoslovakia in a surviving factories. Unfortunately, the only engine available in quantity was the Jumo 211F - designed for the He111. Oversensitive, S-199 required constant correction (+1 End/Opturn). Its pilots called it *Mezec* (Mule). It suffered synchronization problems: roll D10 the first time N1 is fired per flight; 1= synchronization critical. Served the Czech air force until replaced in the 50s by Soviet jet fighters. Additional +1 on TO. Flaps. Slatted wings. 550 built.

Israeli Service: 25 S-199s were sold to the not-quite-born state of Israel in May, 1948 and used as Chel Ha'avir Sqdn 101 when Israel declared its independence and was attacked by its Arab neighbors in June. By June, 1949, the few survivors were absorbed into the Spitfire-armed sqdn 102.