

Martin 167 A3 / Maryland I

Country: France

Service Entry Date: August, 1939

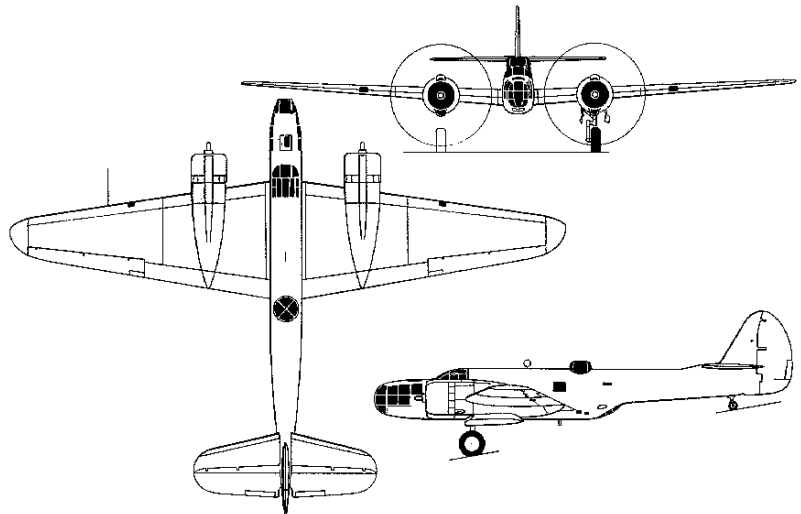
A/C Type: Recon Bomber
 Engine(s): 2x P&W R-1830-SC3G radial
 Eng. Pwr: 2x 900-1050 hp, air-cooled
 A/C Crew: Pilot, Radio/Gunner, Bombadier

Maximum Speed: 304 mph at 13,100 ft
 Maximum Ceiling: 29,500 ft./24,00/20,000

Defense factor: 6 Size Modifier: +0
 Damage Factor: 11/17 Endurance: 150
 Cockpit View: Fair Blind Area: None

Protection: Cockpit +0 Fuel +0 Engine +0
 Climb Dece/ Dive Accel: 3.0 / 1.0
 Weight and Load Limit: 1,250 / 3-6

Wpn Stations Weight Allowed Loads
 1 (bombbay) 1250 5x 100Kg bombs



Class: L

Victory Points: 6-12

AIRCRAFT PERFORMANCE CHART

Altitude		Minimum Speed	Maximum Speed	Maximum Dive Spd	Min TT(2)	Min HT(3)	Min BT(4)	Min ET(4)	Altitude		Average Rate of Climb
Levels	Bands								Levels	Bands	
43+	UH	--	--	--	--	--	--	--	43+	UH	--
37-42	EH	--	--	--	--	--	--	--	37-42	EH	--
31-36	VH	--	--	--	--	--	--	--	31-36	VH	--
25-30	HI	3.0	5.0	9.5	3.5	5.0	7.0	--	25-30	HI	400
19-24	MH	2.5	5.5	9.5	3.5	4.5	6.0	--	19-24	MH	900
13-18	ML	2.5	6.0	9.5	3.0	4.0	5.5	--	13-18	ML	1200
7-12	LO	2.0	6.0	9.0	3.0	4.0	5.0	--	7-12	LO	1800
1-6	VL	1.5	5.5	8.5	2.5	3.5	4.5	--	1-6	VL	2000

FIRE POWER CHART

Guns	Type Weapons	Ammo	Criticals
W1	2x 7.5mm Browning	9	4
W2	2x 7.5mm Browning	9	4
DT	1x 7.5mm Browning	3x3	4
VG	1x 7.5mm Browning	3x3	4

GUN ATTACK FACTORS

Range	W1	W2	DT	VG	Total
0	12	12	4	3	24
1	8	8	3	3	16
2	6	6	2	1	12
3	4	4	1	1	8
4	3	3	1	1	6
5	2	2	1	1	4
6	-	-	--	--	--
7	-	-	--	--	--

WEAPON STATION LOCATION



1

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	1.0/1.5	0.5/-	--	--	HI
19-24	MH	1.5/2.0	0.5/-	--	--	MH
13-18	ML	2.5/3.0	1.0/1.5	--	--	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	3	4	6	8

NOTES AND VARIANTS

Defensive Gun Arcs

DT: All, level to high. 1 gunner: only one defensive gun may fire each turn.
 VG: Rear, Low (radio/op)

Martin 167: 75 in France before it fell. Served GB I/62 & I/63, flying tough missions with only 8% casualties. Reported as 'fast, nice to fly, cramped, and underarmed.' Served Vichy in Syria and North Africa; raided Gibraltar 1941. British took 50 left on order as Maryland I; used .303s vice 7.5mm MGs.

Maryland II: Avail Dec 40. 150 Diverted to UK. Flew recon for Taranto Raid. Served in Med, North Africa, & Mideast. 1000-1200 hp P&W R-1830-S3C4-G engines: +.5 pwr/eng; +10 End; max level speed -0.5; - 200 roc. Ceiling: 26,000 ft. Max load: 2000 lbs. Called A-22 by USAAC, but not used.

Potez Po.633 B2

Country: France

Service Entry Date: 1939

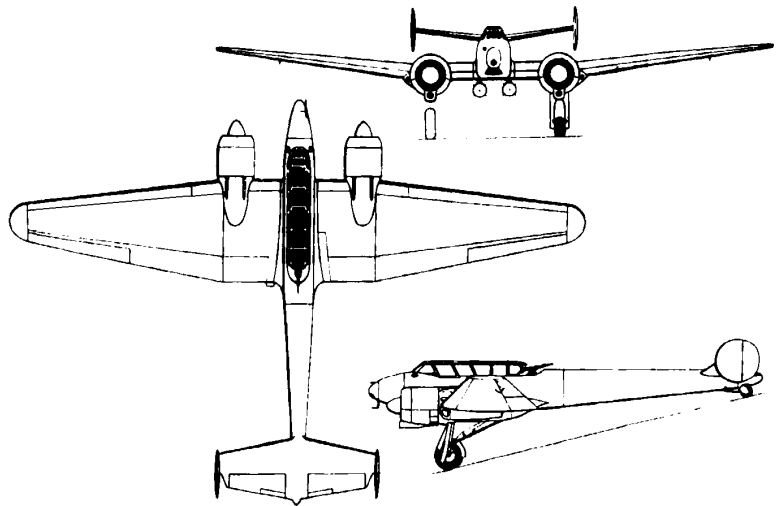
A/C Type: Light Bomber
 Engine(s): Two Hispano-Suiza 14M-6/7 radial
 Eng. Pwr: 2x660-700 hp, air-cooled, Non-F.I.
 A/C Crew: Pilot, radio operator/gunner
 (Observer - 637)

Maximum Speed: 273 mph at 15,000 ft
 Maximum Ceiling: 26,300 ft./22,000 ft/19,000 ft

Defense factor: 6 Size Mod: +0
 Damage Factor: 13/20 Endurance: 240
 Cockpit View: Fair Blind Area: Rear,low

Protection: Cockpit +0 Fuel +0 Engine +0
 Climb Dece/ Dive Accel: 3.0 / 1.0
 Weight and Load Limit: 1400 / 5-9

Wpn Stations	Weight	Allowed Loads
1, 3	250	1x 100 kg bomb or 4x 22 kg flares
2 (bombbay)	880	4x100 or 8x50 kg



Class: L

Victory Points: 5-10

AIRCRAFT PERFORMANCE CHART

Altitude Levels	Bands	Minimum Speed	Maximum Speed	Maximum Dive Spd	Min TT(3)	Min HT(4)	Min BT(5)	Min ET(6)	Altitude Levels	Bands	Average Rate of Climb
43+	UH	--	--	--	--	--	--	--	43+	UH	--
37-42	EH	--	--	--	--	--	--	--	37-42	EH	--
31-36	VH	3.0	4.5	7.5	4.0	4.5	6.5	--	31-36	VH	300
25-30	HI	3.0	5.0	8.0	3.5	4.5	6.0	7.5	25-30	HI	600
19-24	MH	2.5	5.0	8.5	3.5	4.0	5.5	7.0	19-24	MH	900
13-18	ML	2.5	5.5	8.5	3.0	4.0	5.0	6.5	13-18	ML	1200
7-12	LO	2.0	5.5	8.5	3.0	3.5	4.5	6.0	7-12	LO	1500
1-6	VL	2.0	5.0	8.0	2.5	3.5	4.5	5.5	1-6	VL	1800

FIRE POWER CHART

Guns	Type Weapons	Ammo	Criticals
N1	1x 7.5mm MAC34	9	4
DG	1x 7.5mm MAC34	3x3	4

GUN ATTACK FACTORS

Range	N1	DG
0	6	4
1	4	3
2	3	2
3	2	1
4	1	1
5	1	1
6	-	-
7	-	-

WEAPON STATION LOCATION



1 2 3

POWER VERSUS SPEED CHART

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

NOTES AND VARIANTS

Potez 633 B2: Available 1939. Bomber version. Also bought by Greece (10) and Rumania (21). 40 available in May, 40, but not used much operationally. Served in both army and naval air units.

Potez 633 Grec: Available 1940. Equipped with underfuselage racks, capable of carrying either 4x 50kg bombs or (if no internal load) 2x 200 kg bombs. Served in October, 1940 against the Italians in Albania. Driven out of service in weeks due to lack of parts.

Potez 637 A3: Available November, 1938. Recon/army cooperation version. No bombbay, no N1. Did have stations 1&3. Crew includes observer in glazed underdome. Phased out by May 1940 by the Po.63-11. 60 built.

Potez Po.63-11 A3

A/C Type: Observation/Coop
 Engine(s): 2 Hispano-Suiza 14M-4/5 radials
 Eng. Pwr: 2x660-700 hp, air-cooled, Non-F.I.
 A/C Crew: Pilot, radio operator/gunner, Observer

Maximum Speed: 239 mph at 15,000 ft
 Maximum Ceiling: 26,300 ft./22,000 ft/19,000 ft

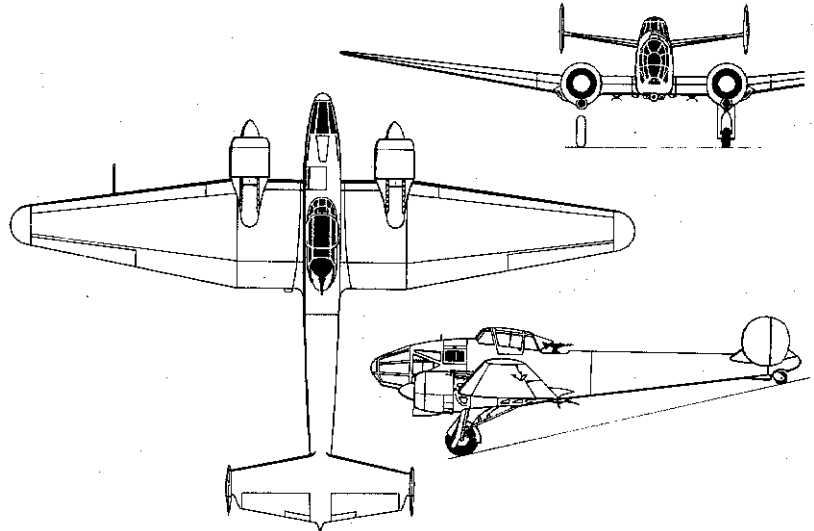
Defense factor: 6 Size Mod: +0
 Damage Factor: 13/20 Endurance: 190
 Cockpit View: Fair Blind Area: Rear,low

Protection: Cockpit +0 Fuel +0 Engine +0
 Climb Dece/ Dive Accel: 3.0 / 1.0
 Weight and Load Limit: 1320 / 2-5

Wpn Stations	Weight	Allowed Loads
1, 4	250	Gunpacks
2, 3	250	100 kg bomb

Country: France

Service Entry Date: 1940



Class: L

Victory Points: 5-10

AIRCRAFT PERFORMANCE CHART

Altitude Levels	Bands	Minimum Speed	Maximum Speed	Maximum Dive Spd	Min TT(3)	Min HT(4)	Min BT(5)	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	4.0	7.5	3.5	4.5	6.0	--	25-30	HI	600
19-24	MH	2.5	4.0	7.5	3.5	4.0	5.5	--	19-24	MH	900
13-18	ML	2.5	4.5	7.5	3.0	4.0	5.0	--	13-18	ML	1200
7-12	LO	2.0	4.5	7.5	3.0	3.5	4.5	--	7-12	LO	1500
1-6	VL	2.0	4.0	6.5	2.5	3.5	4.5	--	1-6	VL	1800

FIRE POWER CHART

Guns	Type Weapons	Ammo	Criticals
N1	1x 7.5mm MAC34	9	4
DG	1x 7.5mm MAC34	3x3	4
GP	2x 7.5mm MAC34	5	4

GUN ATTACK FACTORS

Range	N1	DG	Gp1	Gp2	Total*
0	6	4	12	12	30
1	4	3	8	8	20
2	3	2	6	6	15
3	2	1	4	4	10
4	1	1	3	3	7
5	1	1	2	2	5
6	-	-	-	-	-
7	-	-	-	-	-

WEAPON STATION LOCATION



1 2 3 4

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	0.5	--	--	--	HI
19-24	MH	0.5	--	--	--	MH
13-18	ML	1.0	--	--	--	ML
7-12	LO	2.0	--	--	--	LO
1-6	VL	2.0	--	--	--	VL
Banking FPs		3	4	5	--	
Side Slip FPs		3	5	6	--	

NOTES AND VARIANTS

Potez 63-11 A3: Available May, 1939. Recon version. About 400 available in May 40. Total production 717. Originally armed with N1 & DG only. Crew included observer in glazed nose. Under Vichy (1941+), added 2 underwing hardpoints (1, 4) for gunpacks with 2 MAC34 each for ground attack only.

Gunpack: Wgt: 250 lbs Load: 1.5 pts.

Bloch MB.174 A3

A/C Type: Light Bomber & Army Recon
 Engine(s): 2 Gnome-Rhone 14N 48/49 radials
 Eng. Pwr: 2070-2280 hp, air-cooled, Non-F.I.
 A/C Crew: Pilot, radio operator/gunner, Bombadier/observer

Maximum Speed: 329 mph at 17,160 ft
 Maximum Ceiling: 36,100 ft./30,000/24,000

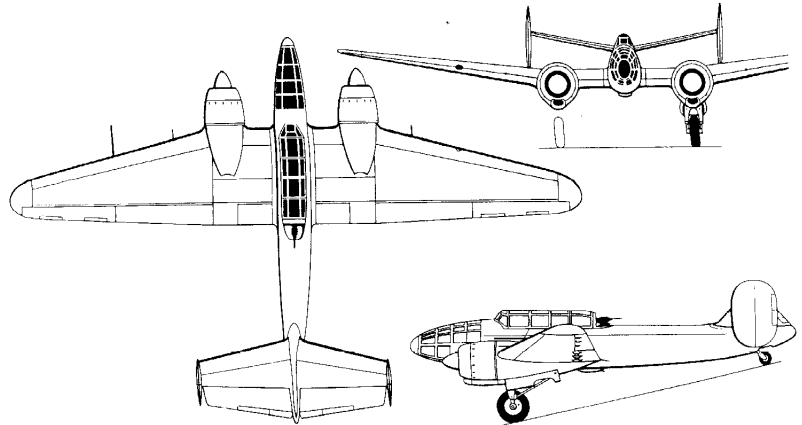
Defense factor: 5 Size Mod: +0
 Damage Factor: 13/20 Endurance: 130
 Cockpit View: Fair Blind Area: Rear low

Protection: Cockpit +0 Fuel +0 Engine +0
 Climb Dece/ Dive Accel: 3.0 / 1.0
 Weight and Load Limit: 880 / 3-5 (6)

Wpn Stations	Weight	Allowed Loads
1, 3	132	3x 22 kg bomb/flare
2 (bombbay)	880	8x50/16x22kg bomb
2 (175 bombbay)	1320	3x 200/4x100/8x50 or 1 torpedo (T)

Country: France

Service Entry Date: MB.174: March, 1940
 MB.175: May, 1940



Class: L

Victory Points: 5-10

AIRCRAFT PERFORMANCE CHART

Altitude Levels	Bands	Minimum Speed	Maximum Speed	Maximum Dive Spd	Min TT(3)	Min HT(4)	Min BT(5)	Min ET(6)	Altitude Levels	Bands	Average Rate of Climb
43+	UH	--	--	--	--	--	--	--	43+	UH	--
37-42	EH	--	--	--	--	--	--	--	37-42	EH	--
31-36	VH	3.0	5.5	9.5	4.0	4.5	6.5	--	31-36	VH	800
25-30	HI	3.0	6.0	10.0	3.5	4.5	6.0	7.5	25-30	HI	1,400
19-24	MH	2.5	6.5	10.0	3.5	4.0	5.5	7.0	19-24	MH	1,800
13-18	ML	2.5	6.5	10.0	3.0	4.0	5.0	6.5	13-18	ML	2,100
7-12	LO	2.0	6.0	9.0	3.0	3.5	4.5	6.0	7-12	LO	2,500
1-6	VL	2.0	5.5	8.0	2.5	3.5	4.5	5.5	1-6	VL	3,000

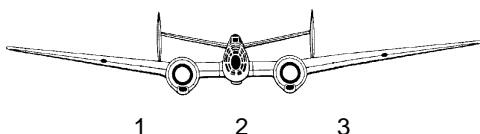
FIRE POWER CHART

Guns	Type Weapons	Ammo	Criticals
W1	1x 7.5mm MAC34 mg	8	4
W2	1x 7.5mm MAC34 mg	8	4
DG	2x 7.5mm MAC34 M39	4x3	4
R1,2,3	1x 7.5mm MAC34 mg	8	4

GUN ATTACK FACTORS

Range	W1	W2	DG	R1-3	Total
0	6	6	8	4	12
1	4	4	6	3	8
2	3	3	4	2	6
3	2	2	3	1	4
4	1	1	2	1	2
5	1	1	1	1	2
6	-	-	-	-	-
7	-	-	-	-	-

WEAPON STATION LOCATION



POWER VERSUS SPEED CHART

Levels	Bands	(per engine)				Band
		1.0 - 4.5	5.0 - 7.5	8.0 - 9.5	10.0+	
43+	UH	--	--	--	--	UH
37-42	EH	--	--	--	--	EH
31-36	VH	1	.5	--	--	VH
25-30	HI	1	.5	--	--	HI
19-24	MH	2.0	1.0	--	--	MH
13-18	ML	3.0	2.0	--	--	ML
7-12	LO	3.5	2.5	--	--	LO
1-6	VL	3.5	2.5	--	--	VL
Banking FPs		2	3	5	7	
Side Slip FPs		3	4	6	9	

NOTES AND VARIANTS

DEFENSIVE GUN ARCS

DG: Rear, High

MB.174/175 : Three fixed guns (R1,R2,R3) on wobble mounts pointing aft used for strafing only.

MB.174 A3: Built as recon bomber and target marker. Performance and handling was superb. Does shallow dive-bombing. By early 42, only GR II/33 in Tunis, flew BM.174s, modified to carry 1x 250kg bomb. 50 built.

MB.175 B3: Avail May 40. Purpose-built as bomber carrying bombs up to 200 kg. End: 210. Can do shallow dive-bombing. 11 became available May-June '40. Many awaiting completion, but Messerschmitt took the engines. External racks built for 250 & 500 kg bombs 41/42 & sent to GR II/52 in Tunis. Most of GR II/52 destroyed by strafing 8-Nov-42.

MB.175T: Avail Oct 1946. Torpedo attack version carried one torpedo or 3 DCs, 8 90mm rockets, 2 MG151/20. 80 built. Flew until 1950.

Loire-Neiuport LN 41

A/C Type: Ship-borne Dive Bomber
 Engine(s): 1 Hispano-Suiza 12 Xrs inline
 Eng. Pwr: 690 hp, liquid-cooled, Non-F.I.
 A/C Crew: Pilot

Maximum Speed: 236 mph at 12,000 ft
 Maximum Ceiling: 31,160 ft./25,000/19,000

Defense factor: 5 Size Mod: +0
 Damage Factor: 6/9 Endurance: 240
 Cockpit View: Fair Blind Area: Rear,low

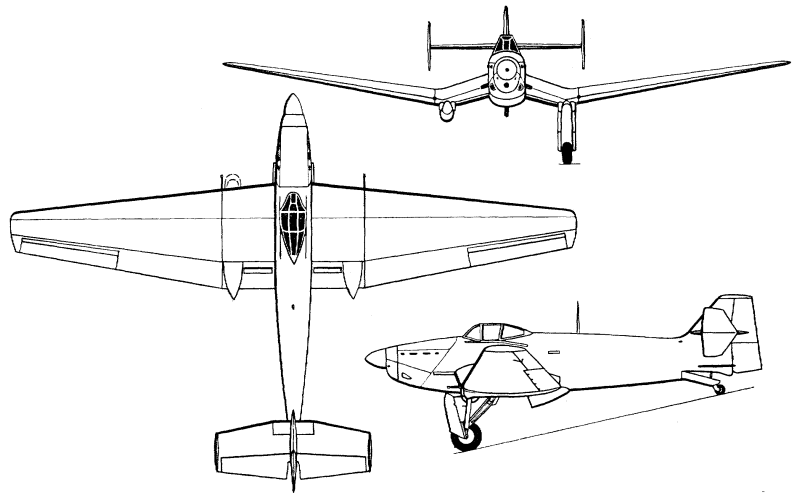
Protection: Cockpit +0 Fuel +0 Engine +0

Climb Dece/ Dive Accel: 3.0 / 1.0
 Weight and Load Limit: 500 / 2-4

Wpn Stations Weight Allowed Loads
 1 500 1x 225 kg bomb or
 1x 150 kg bomb or
 9x 15 kg bombs or
 10x 10 kg bombs

Country: France

Service Entry Date: May, 1940



Class: LD

Victory Points: 3-5

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	2.0	3.5	6.5	3.5	5.0	6.0	7.0	31-36	VH	200
25-30	HI	2.0	3.5	7.0	3.0	4.5	5.5	6.5	25-30	HI	600
19-24	MH	2.0	4.0	7.0	2.5	4.0	5.0	6.0	19-24	MH	900
13-18	ML	1.5	4.5	7.5	2.5	3.5	4.5	5.5	13-18	ML	1100
7-12	LO	1.5	4.5	7.0	2.0	3.0	4.0	5.0	7-12	LO	1300
1-6	VL	1.5	4.0	6.0	2.0	3.0	4.0	4.5	1-6	VL	1400

FIRE POWER CHART

Guns Type	Weapons	Ammo	Criticals
N1	1x 20mm HS 404 cannon	3	2
WT	1x 7.5mm Darme mg	9	4
W2	1x 7.5mm Darme mg	9	4

GUN ATTACK FACTORS

Range	N1	W1	W2	Total
0	23	6	6	35
1	18	4	4	26
2	12	3	3	18
3	8	2	2	12
4	6	1	1	8
5	4	1	1	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	--	--	--	--	UH
37-42	EH	--	--	--	--	EH
31-36	VH	1	--	--	--	VH
25-30	HI	1	--	--	--	HI
19-24	MH	2	--	--	--	MH
13-18	ML	3	--	--	--	ML
7-12	LO	4	--	--	--	LO
1-6	VL	4	--	--	--	VL
Banking FPs		2	3	4	6	
Side Slip FPs		3	4	5	7	

NOTES AND VARIANTS

Loire-Neiuport LN 41: 24 operational in May, 1940, arming 2 Aeronavale escadrilles (AB2 and AB4). Slow, but well-armed, l'Armée de l'Air spurned the aircraft (Douhet be damned) and the original order was cut from 120 to 42 only for the Navy. The 2 squadrons, which had just received the aircraft a few days before, were requested by the army for support on the Meuse. They (along with AB1 & AB3, flying Vought Vindicators) dropped depth charges rigged to explode on contact in the face of strong AAA and were decimated. To top everything off, a few were shot down by French AAA who assumed from its gull wings that it was a relative of the Stuka.

Dive brakes (built into landing gear; if landing gear damaged, they don't function), arrestor gear, folding wings.

Breguet Bre.693 AB2

A/C Type: Attack Bomber
 Engine(s): 2x Gnome-Rhone 14M 6/7 radial
 Eng. Pwr: 2x 680-hp, air-cooled, Non-FI
 A/C Crew: Pilot, Radio/Gunner,

Maximum Speed: 295 mph at 13,100 ft
 Maximum Ceiling: 27,900 ft./23,00/18,000

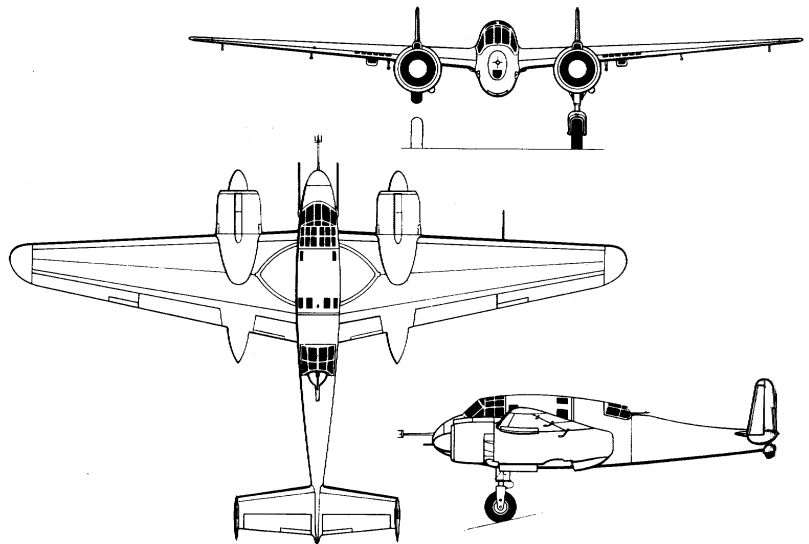
Defense factor: 6 Size Modifier: +0
 Damage Factor: 10/15 Endurance: 270
 Cockpit View: Fair Blind Area: None

Protection: Cockpit +0 Fuel +0 Engine +0
 Climb Dece/ Dive Accel: 3.0 / 1.0
 Weight and Load Limit: 880 / 3-5

Wpn Stations Weight Allowed Loads
 1 (bombbay) 880 8x 50 kg bombs

Country: France

Service Entry Date: 1936



Class: L

Victory Points: 5-9

AIRCRAFT PERFORMANCE CHART

Altitude Levels	Bands	Minimum Speed	Maximum Speed	Maximum Dive Spd	Min TT(3)	Min HT(4)	Min BT(5)	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	5.0 (5.5)	9.0	4.5	6.0	7.0	--	25-30	HI	500
19-24	MH	2.5	5.5 (6.0)	9.0	4.0	5.5	6.5	--	19-24	MH	900
13-18	ML	2.5	6.0 (6.5)	9.5	3.5	5.0	6.0	--	13-18	ML	1200
7-12	LO	2.0	6.0 (6.5)	9.0	3.0	4.5	5.5	--	7-12	LO	1800
1-6	VL	2.0	5.5 (6.0)	8.0	3.0	4.0	5.0	--	1-6	VL	1800

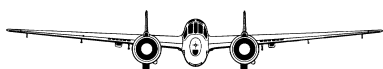
FIRE POWER CHART

Guns	Type Weapons	Ammo	Criticals
N1	1x 20mm HS404 cannon	3	2
N2	2x 7.5mm MAC34	9	4
DG	1x 7.5mm MAC34	3x3	4
R1	1x 7.5mm MAC34	5	4
R2/3	1x 7.5mm MAC34	5	4

GUN ATTACK FACTORS

Range	N1	N2	VG	R1	R2/3	Total
0	23	12	4	4	4	35
1	18	8	3	3	3	26
2	12	6	2	2	2	18
3	8	4	1	1	1	12
4	6	3	1	1	1	9
5	4	2	1	1	1	6
6	3	-	--	--	--	3
7	--	-	--	--	--	--

WEAPON STATION LOCATION



1

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	1.0	0.5	--	--	HI
19-24	MH	1.5	0.5	--	--	MH
13-18	ML	2	1	--	--	ML
7-12	LO	2	1	--	--	LO
1-6	VL	2	1	--	--	VL
Banking FPs		2	3	5	7	
Side Slip FPs		3	4	6	8	

NOTES AND VARIANTS

DEFENSIVE GUN ARCS

DG: Rear, Level

Bre.690 Series: Armed 4 groupes in May '40.

Best attack was 45° dive from 3,000 ft w/fighter cover. As cover evaporated, used hedge-hop approach and bombed from under 1000 ft. Sturdy, with excellent maintenance features (engine change in 80 minutes). Flaps. Three fixed guns (R1,R2, R3) on pointing aft and down used for strafing only. Post Vichy, several used by Regia Aeronautica as trainers.

Bre.693 A3: Available April, 1940. 106 available May-June '40. Flew 500+ sorties, losing 47 a/c. 26 available when Vichy overrun in Nov '42.

Bre.695 A3: Available Apr-40. Up-engined w/ 825-hp P&W SB4G Twin Wasp Jr: +.5 pwr/eng, Ceiling: 29,500, roc +200. Use values in parens. Cockpit view: Poor (llarger nacelles). Ceiling: 29,500. 33 available during May '40.