

# Junkers Ju188A-2

Country: Germany

Service Entry Date: Feb, 1944

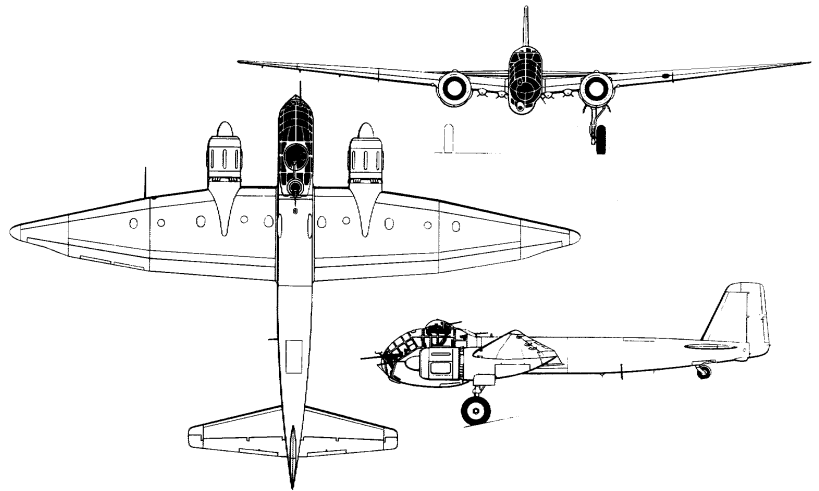
A/C Type: Medium Recon Bomber  
 Engine(s): Two Jumo 213A-1w/MW-50 Boost  
 Eng. Pwr: 3200-3552 hp, liquid-cooled  
 A/C Crew: Pilot, navigator, bombardier, radio-operator/gunner

Maximum Speed: 325 mph @ 20,500 ft  
 Maximum Ceiling: 33,000 / 26,000 / 18,700 ft.

Defense factor: 6 Size Modifier: +1  
 Damage Factor: 18/27 Endurance: 220  
 Cockpit View: Good Blind Area: None

Protection: Cockpit +1 Fuel +1 Engine +0  
 Climb Dece/ Dive Accel: 2.0 / 1.0  
 Weight and Load Limit: 6,615 / 10-18

Wpn Stations	Weight	Allowed Loads
1, 5	2,200	1x bomb or torp
2 (bombbay)	3,307	10x 70 or 3x 250 kg
3 (bombbay)	3,307	as above or Aux FT
4 (external)	4,410	4x 500 or 2x 1,000 kg



Class: M

Victory Points: 8-16

## AIRCRAFT PERFORMANCE CHART

Altitude Levels	Bands	Minimum Speed	Maximum Speed	Maximum Dive Spd	Min TT(5)	Min HT(6)	Min BT(-)	Min ET(-)	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	4.5	6.0	--	--	31-36	VH	200
25-30	HI	3.0	6.0	9.5	4.0	5.5	--	--	25-30	HI	600
19-24	MH	2.5	6.5	10.0	3.5	5.0	--	--	19-24	MH	800
13-18	ML	2.5	6.0	9.0	3.5	4.5	--	--	13-18	ML	1,100
7-12	LO	2.5	5.5	8.0	3.0	4.5	--	--	7-12	LO	1,200
1-6	VL	2.0	5.0	7.0	3.0	4.0	--	--	1-6	VL	1,100

## FIRE POWER CHART

Guns	Type Weapons	Ammo	Criticals
FG	One 20mm MG151/20	8	2
TT	One 20mm MG151/20	8	2
DG	One 13mm MG131 mg	12	3
VG	One 7.92mm MG81Z mg	12	4

## GUN ATTACK FACTORS

Rng	FG	TT	DG	VG
0	11	22	6	8
1	8	15	4	6
2	6	10	3	4
3	4	6	2	3
4	3	4	1	2
5	2	3	1	1
6	1	2	1	--
7	--	--	--	--

## WEAPON STATION LOCATION



1 2,3,4 5

## 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	1.0/1.5	0.5/-	--	--	VH
25-30	HI	1.5/2.0	0.5/1.0	--	--	HI
19-24	MH	2.0/2.5	1.0/1.5	--	--	MH
13-18	ML	2.5/3.0	1.5/2.0	--	--	ML
7-12	LO	2.5/3.5	1.5/2.0	--	--	LO
1-6	VL	2.5/3.5	1.5/2.0	--	--	VL
Banking FPs		2	3	5	7	
Side Slip FPs		3	4	6	8	

## NOTES AND VARIANTS

### Defensive Gun Arcs

FG: Front, level to high  
 TT: All, level to high; 6:00 hi only  
 DG: Rear +30, lv to hi; 6:00 hi only (283 built '43; 783 in '44 - 570 were D&F).  
 VG: Rear, low only

**Ju188:** Available Feb 1944. An improved Ju88. Not produced in large numbers. Most assigned to recon units.

Ju188A-2: Equipped KG26 during Steinbok raids against England (1943-1944). Roll 1-4 on 1D10, VG is an MG131 mg. Aux FT= +40 End

**Ju188A-3:** Torp model w/FuG 200 surf search radar. No BBs; carried 2 torps on wings.

**MW-50 boost:** +0.5 accel/eng for one op-scale turn or one combat. Max level speed +0.5; roc +200.

# Junkers Ju188E-1

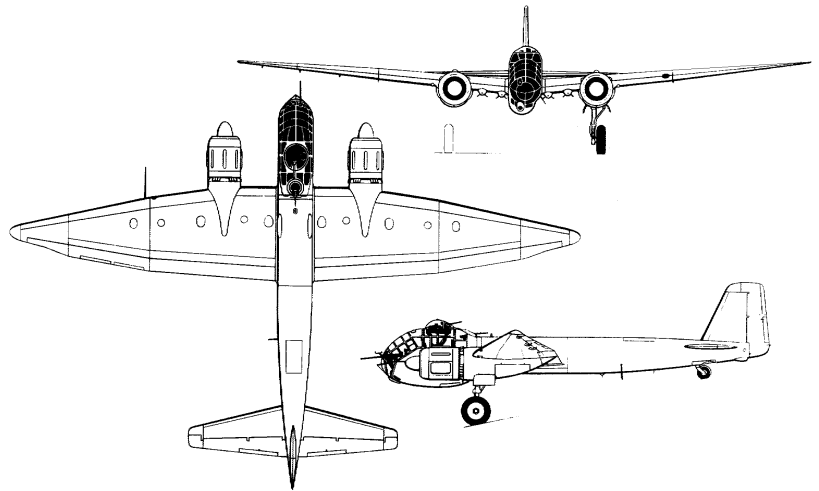
A/C Type: Medium Recon Bomber  
 Engine(s): Two BMW 801D-2 radials  
 Eng. Pwr: 2880-3400 hp, air-cooled  
 A/C Crew: Pilot, navigator, bombardier, radio-operator/gunner  
 Maximum Speed: 310 mph @ 16,405 ft  
 Maximum Ceiling: 31,300 / 24,500 / 17,700 ft  
 Defense factor: 6 Size Modifier: +1  
 Damage Factor: 18/27 Endurance: 180  
 Cockpit View: Good Blind Area: None

Protection: Cockpit +1 Fuel +1 Engine +0  
 Climb Dece/ Dive Accel: 2.0 / 1.0  
 Weight and Load Limit: 6,615 / 10-18

Wpn Stations	Weight	Allowed Loads
1, 4	2,200	1x bomb or torp
2 (bombbay)	6,614	20x 70 or 6x 250
3 (external)	4,410	4x 500 or 2x 1,000 kg bomb

Country: Germany

Service Entry Date: Oct, 1943



Class: M

Victory Points: 8-16

## AIRCRAFT PERFORMANCE CHART

Altitude Levels	Bands	Minimum Speed	Maximum Speed	Maximum Dive Spd	Min TT(5)	Min HT(6)	Min BT(-)	Min ET(-)	Altitude Levels	Bands	Average Rate of Climb
43+	UH	--	--	--	--	--	--	--	43+	UH	--
37-42	EH	--	--	--	--	--	--	--	37-42	EH	--
31-36	VH	3.0	5.0	9.0	4.5	6.0	--	--	31-36	VH	200
25-30	HI	3.0	5.5	9.5	4.0	5.5	--	--	25-30	HI	600
19-24	MH	2.5	6.0	9.5	3.5	5.0	--	--	19-24	MH	800
13-18	ML	2.5	6.0	9.0	3.5	4.5	--	--	13-18	ML	1,100
7-12	LO	2.5	5.5	8.0	3.0	4.5	--	--	7-12	LO	1,100
1-6	VL	2.0	5.0	7.0	3.0	4.0	--	--	1-6	VL	1,100

## FIRE POWER CHART

Guns	Type Weapons	Ammo	Criticals
FG	One 20mm MG151/20	8	2
TT	One 13mm MG131 mg	12	3
DG	One 13mm MG131 mg	12	3
VG	One 7.92mm MG81Z mg	12	4

## GUN ATTACK FACTORS

Rng	FG	TT	DG	VG
0	11	22	6	6
1	8	15	4	4
2	6	10	3	3
3	4	6	2	2
4	3	4	1	1
5	2	3	1	1
6	1	2	1	1
7	--	--	--	--

## WEAPON STATION LOCATION



## 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	1.0	0.5	--	--	VH
25-30	HI	1.5	0.5	--	--	HI
19-24	MH	2.0	1.0	--	--	MH
13-18	ML	2.0	1.0	--	--	ML
7-12	LO	2.5	1.5	--	--	LO
1-6	VL	2.5	1.5	--	--	VL
Banking FPs		2	3	5	7	
Side Slip FPs		3	4	6	8	

## NOTES AND VARIANTS

### Defensive Gun Arcs

FG: Front, level to high  
 TT: All, level to high; 6:00 hi only  
 DG: Rear +30, lv to hi; 6:00 hi only built '43; 783 in '44 - 570 were D&F). Most assigned to recon units.  
 VG: Rear, low only

**Ju188:** Available June 1943. An improved Ju88. Not produced in large numbers (283 assigned to recon units).

**Ju188E-1:** Ju188 designed with a "power egg" concept for quick adaptation of engines. E-series had BMW 801 radial engines. Some early ones had dive-brakes (1-2 on a D10).

**Ju188E-2:** Torpedo bomber version with Hohentweil radar (similar to A-3). carried 2 torpedos under the wings. No TT.

# Junkers Ju188D-2

Country: Germany

Service Entry Date: Feb, 1944

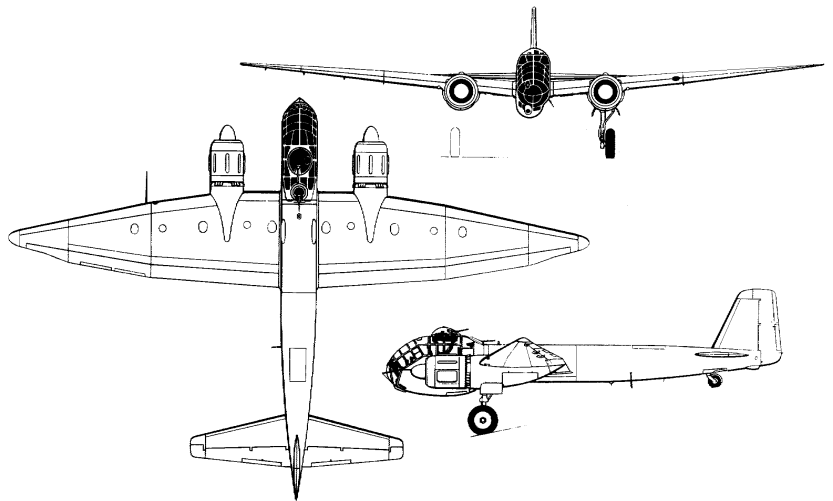
A/C Type: LR Recon  
 Engine(s): Two Jumo 213A-1w/MW-50 Boost  
 Eng. Pwr: 3200-3552 hp, liquid-cooled  
 A/C Crew: Pilot, navigator, radio-op/gunner

Maximum Speed: 325 mph @ 20,500 ft  
 Maximum Ceiling: 33,000 / 26,000 / 18,700 ft.

Defense factor: 6 Size Modifier: +1  
 Damage Factor: 18/27 Endurance: 220  
 Cockpit View: Good Blind Area: None

Protection: Cockpit +1 Fuel +1 Engine +0  
 Climb Dece/ Dive Accel: 2.0 / 1.0  
 Weight and Load Limit: 6,614 / 10-18

Wpn Stations	Weight	Allowed Loads
1, 3		1x 66-gal FT
2 (bombbay)	3,307	Aux FT



Class: M

Victory Points: 8-16

## AIRCRAFT PERFORMANCE CHART

Altitude Levels	Bands	Minimum Speed	Maximum Speed	Maximum Dive Spd	Min TT(5)	Min HT(6)	Min BT(-)	Min ET(-)	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	4.5	6.0	--	--	31-36	VH	200
25-30	HI	3.0	6.0	9.5	4.0	5.5	--	--	25-30	HI	600
19-24	MH	2.5	6.5	10.0	3.5	5.0	--	--	19-24	MH	800
13-18	ML	2.5	6.0	9.0	3.5	4.5	--	--	13-18	ML	1,100
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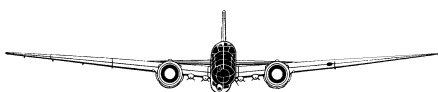
## FIRE POWER CHART

Guns	Type Weapons	Ammo	Criticals
TT	One 20mm MG151/20	8	2
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## GUN ATTACK FACTORS

Rng	TT	DG	VG
0	22	6	8
1	15	4	6
2	10	3	4
3	6	2	3
4	4	1	2
5	3	1	1
6	2	1	--
7	--	--	--

## WEAPON STATION LOCATION



1 2

## 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	1.0/1.5	0.5/-	--	--	VH
25-30	HI	1.5/2.0	0.5/1.0	--	--	HI
19-24	MH	2.0/2.5	1.0/1.5	--	--	MH
13-18	ML	2.5/3.0	1.5/2.0	--	--	ML
7-12	LO	2.5/3.5	1.5/2.0	--	--	LO
1-6	VL	2.5/3.5	1.5/2.0	--	--	VL
Banking FPs		2	3	5	7	
Side Slip FPs		3	4	6	8	

## NOTES AND VARIANTS

### Defensive Gun Arcs

TT: All, level to high; 6:00 hi only **Ju188:** Available June 1943. An improved  
 DG: Rear +30, lv to hi; 6:00 hi only Ju88 series, derived from the Ju88B effort.  
 VG: Rear, low only Not produced in large numbers. Never in

full production. 793 built in 1944 - of which 570 were D & F recon models

**Ju188D-1:** Recon versions. No bombardier. Carries 3 cameras. **D-2** was maritime search version with FuG 200 surface search radar.

**MW-50 boost:** +0.5 accel/eng for one op-scale turn or one combat. Max level speed +0.5; roc +200.

**Ju188F-1/F-2:** Radial recon models (equipped as D-1/D-2). Max level and dive speeds -0.5 at MH & HI; Ceil = 31300; End = 180; roc = -100 VL-MH.

66-Gal DT: Wgt:

Ld:

End: +20

