IL2 Cockpit Guide German Plane

Version 2.1 17/11/19

SharpTiger

IL2 Cockpit Guide

Vous trouverez dans ce document des infos de conduite moteur et de performances vous permettant de piloter sans l'affichage du « techno tchat ».
Il existe beaucoup de différences dans les données techniques en fonction des sources. Le document officiel BOS a été pris comme référence à chaque fois qu'il y avait une incohérence.
https://forum.il2sturmovik.com/topic/25993-aircraft-flight-and-technical-specifications-and-operational/
Les vitesses d'approche sont données pour les masses les plus lourdes. En cas de variation importante elles sont également données pour les masses les plus faibles. En général elles sont calculées pour 1,25 Vs (Vitesse de décrochage en configuration atterrissage) ce qui est la norme pour un atterrissage court.
Pour toutes demandes de mise à jour contacter SharpTiger@gmail.com

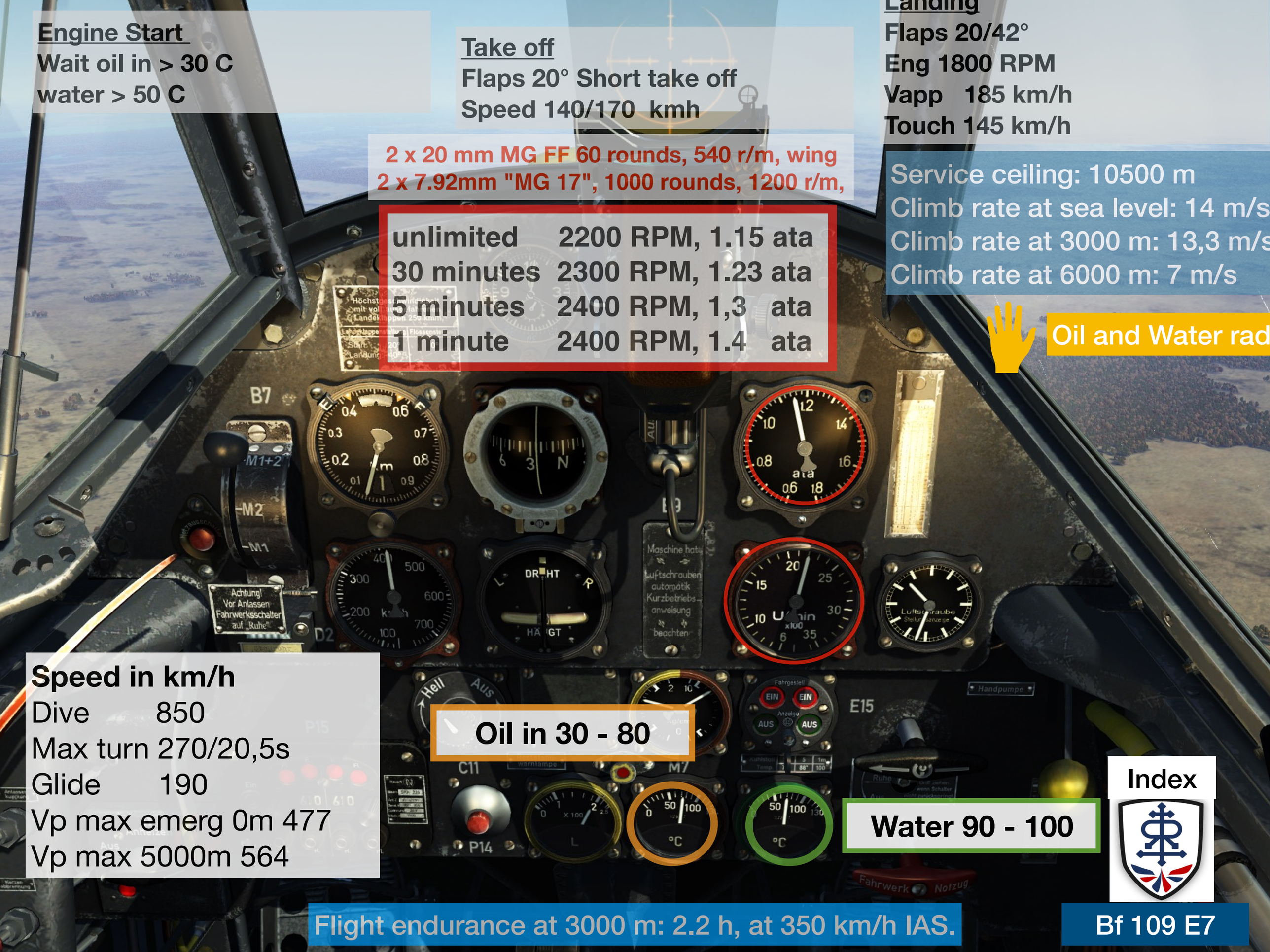
IL2 Cockpit Guide

Classement des appareils

Vous trouverez les appareils classés dans l'ordre suivant

Fighters
Attackers
Bombers

Dans chaque section le classement se fait ensuite selon le numéro lié au nom par ordre de grandeur croissant
(ex Bf 109, FW 190…)



Engine Start
Wait oil in > 30 C
water > 50 C

Take off
Flaps 20° Short take off
Speed 140/170 kmh

Landing
Flaps 20/42°
Eng 1800 RPM
Vapp 185 km/h
Touch 145 km/h

2 x 20 mm MG FF 60 rounds, 540 r/m, wing
2 x 7.92mm "MG 17", 1000 rounds, 1200 r/m,

unlimited	2200 RPM, 1.15 ata
30 minutes	2300 RPM, 1.23 ata
5 minutes	2400 RPM, 1,3 ata
1 minute	2400 RPM, 1.4 ata

Service ceiling: 10500 m
Climb rate at sea level: 14 m/s
Climb rate at 3000 m: 13,3 m/s
Climb rate at 6000 m: 7 m/s

Oil and Water rad

Speed in km/h
Dive 850
Max turn 270/20,5s
Glide 190
Vp max emerg 0m 477
Vp max 5000m 564

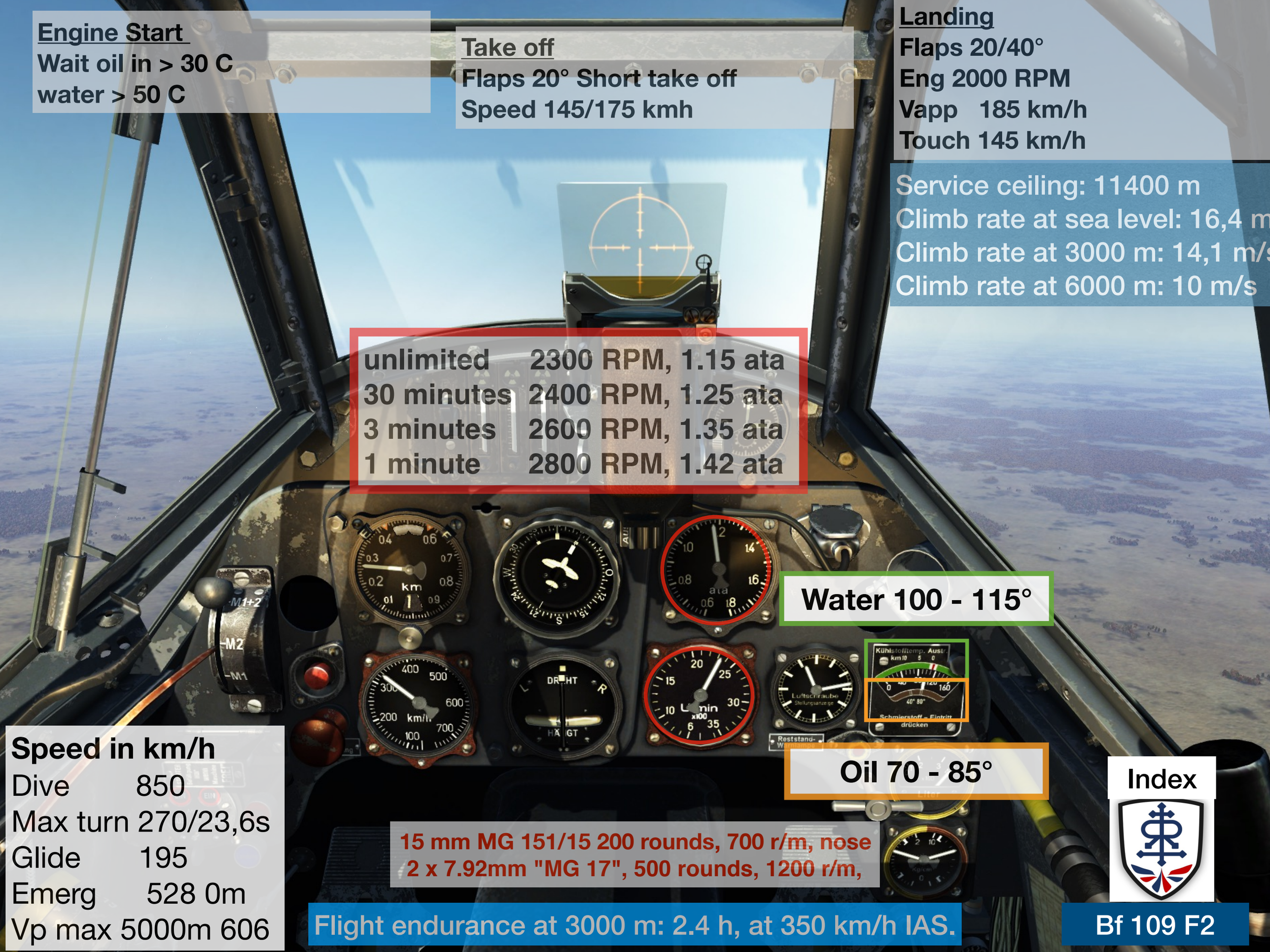
Oil in 30 - 80

Water 90 - 100

Index

Flight endurance at 3000 m: 2.2 h, at 350 km/h IAS.

Bf 109 E7



Engine Start
Wait oil in > 30 C
water > 50 C

Take off
Flaps 20° Short take off
Speed 145/175 kmh

Landing
Flaps 20/40°
Eng 2000 RPM
Vapp 185 km/h
Touch 145 km/h

Service ceiling: 11400 m
Climb rate at sea level: 16,4 m
Climb rate at 3000 m: 14,1 m/s
Climb rate at 6000 m: 10 m/s

unlimited	2300 RPM, 1.15 ata
30 minutes	2400 RPM, 1.25 ata
3 minutes	2600 RPM, 1.35 ata
1 minute	2800 RPM, 1.42 ata

Water 100 - 115°

Oil 70 - 85°

Speed in km/h

Dive	850
Max turn	270/23,6s
Glide	195
Emerg	528 0m
Vp max 5000m	606

15 mm MG 151/15 200 rounds, 700 r/m, nose
2 x 7.92mm "MG 17", 500 rounds, 1200 r/m,

Flight endurance at 3000 m: 2.4 h, at 350 km/h IAS.

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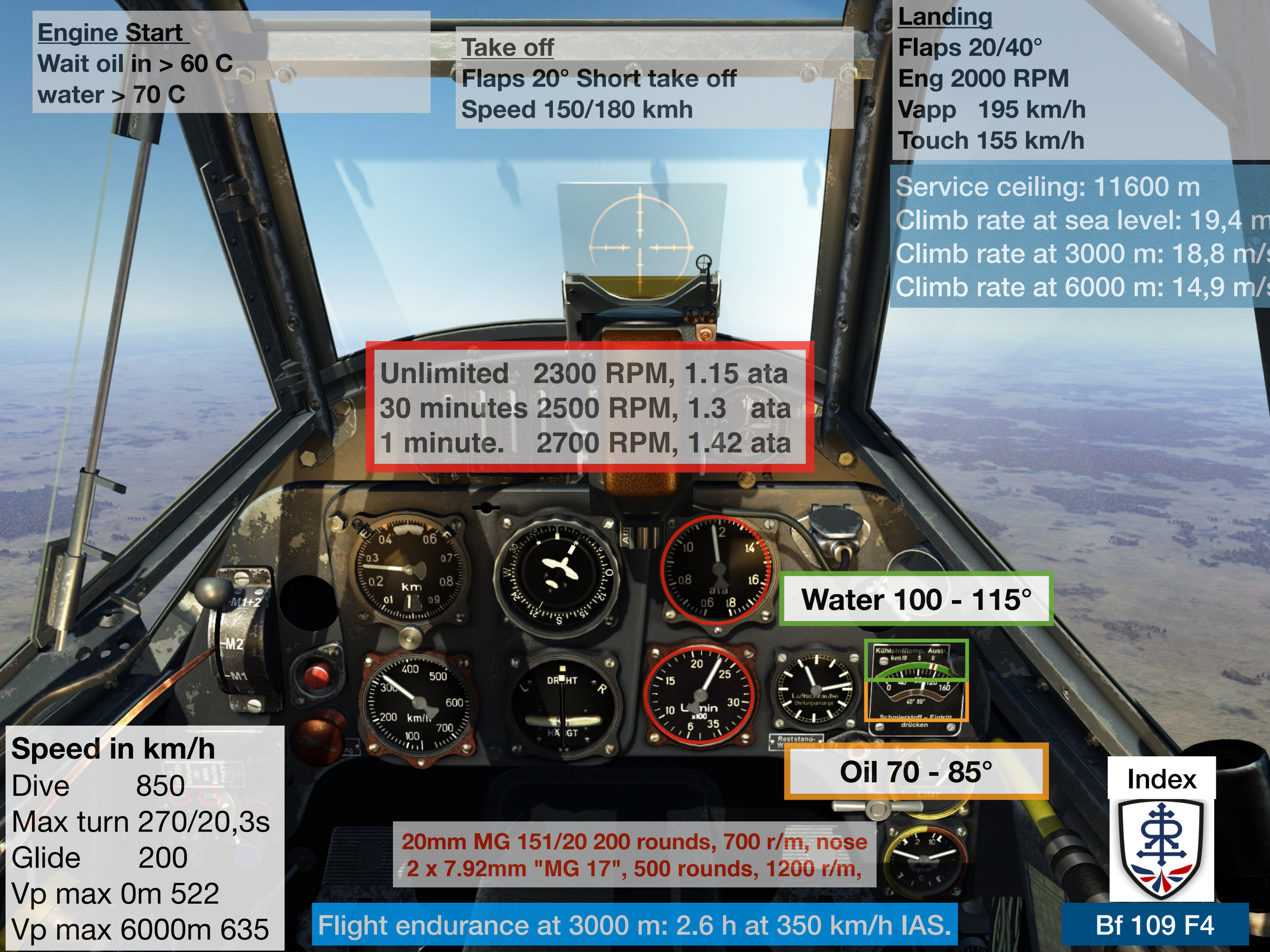
Bf 109 F2


Engine Start
Wait oil in > 60 C
water > 70 C
Take off
Flaps 20° Short take off
Speed 150/180 kmh
Landing
Flaps 20/40°
Eng 2000 RPM
Vapp 195 km/h
Touch 155 km/h
Service ceiling: 11600 m
Climb rate at sea level: 19,4 m
Climb rate at 3000 m: 18,8 m/s
Climb rate at 6000 m: 14,9 m/s
Unlimited 2300 RPM, 1.15 ata
30 minutes 2500 RPM, 1.3 ata
1 minute. 2700 RPM, 1.42 ata
Water 100 - 115°
Oil 70 - 85°
Speed in km/h
Dive 850
Max turn 270/20,3s
Glide 200
Vp max 0m 522
Vp max 6000m 635
20mm MG 151/20 200 rounds, 700 r/m, nose
2 x 7.92mm "MG 17", 500 rounds, 1200 r/m,
Flight endurance at 3000 m: 2.6 h at 350 km/h IAS.
Index
Bf 109 F4


Engine Start
Wait oil in > 70 C
water > 80 C
Take off
Flaps 20° Short take off
Speed 155/180 kmh
Landing
Eng 2000 RPM
Flaps 20/40°
Vapp 195 km/h
Touch 155 km/h
Service ceiling: 12100 m
Climb rate at sea level: 21 m/s
Climb rate at 3000 m: 19,5 m/s
Climb rate at 6000 m: 16,5 m/s
Unlimited 2300 RPM 1,15 ATA
30 min. 2600 RPM 1,3 ATA
Water 100 - 115°
Oil 70 - 85°
Index
Speed in km/h
Dive 850
Max turn 270/22,2s
Glide 205
Vp max 0m 530
Vp max 7000m 656
20mm MG 151/20 200 rounds, 700 r/m, nose
2 x 7.92mm "MG 17", 500 rounds, 1200 r/m,
Flight endurance at 3000 m: 4.0 h, at 300 km/h IAS.
Bf 109 G2


Engine Start
Wait oil in > 70 C
water > 80 C
Take off
Flaps 20° Short take off
Speed 155/180 kmh
Landing
Eng 2000 RPM
Flaps 20/40°
Vapp 195 km/h
Touch 155 km/h
Service ceiling: 11800 m
Climb rate at sea level: 20,1 m
Climb rate at 3000 m: 18,9 m/s
Climb rate at 6000 m: 15,4 m/s
Unlimited 2300 RPM, 1.15 ata
30 minutes 2600 RPM, 1.3 ata
1 minute. 2800 RPM, 1.42 ata
Water 100 - 115°
Oil 70 - 85°
Index
Speed in km/h
Dive 850
Max turn 270/21,2s
Glide 205
Vp max. 517 0m
Vp max 7000m 640
20mm MG 151/20 200 rounds, 700 r/m, nose
2 x 7.92mm "MG 17", 500 rounds, 1200 r/m,
Flight endurance at 3000 m: 2.4 h, at 350 km/h IAS.
Bf 109 G4

Engine Start
Wait oil in > 70 C
water > 80 C

Take off
Flaps 20° Short take off
Speed 155/180 kmh

Landing
Eng 2000 RPM
Flaps 20/40°
Vapp 195 km/h
Touch 155 km/h

Service ceiling: 11800 m
Climb rate at sea level: 20,1 m/s
Climb rate at 3000 m: 18,8 m/s
Climb rate at 6000 m: 15,2 m/s

Unlimited	2300 RPM, 1.15 ata
30 minutes	2600 RPM, 1.3 ata
1 minute.	2800 RPM, 1.42 ata

Water 100 - 115°

Oil 70 - 85°

Speed in km/h

Dive	850
Max turn	270/21,5
Glide	205
Vp max 0m	505
Vp max 7000m	632

20mm MG 151/20 200 rounds, 700 r/m, nose
2 x 13 mm MG 131, 300 rounds, 900 r/m,

Flight endurance at 3000 m: 2.2 h at 350 km/h IAS.

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Bf 109 G6

Engine Start
Wait oil in > 70 C
water > 80 C

Take off
Flaps 20° Short take off
Speed 155/180 kmh

Landing
Eng RPM 1800
Flaps 20/40°
Vapp 200 km/h
Touch 160 km/h

Service ceiling: 11500 m
Climb rate at sea level: 19,2 m/s
Climb rate at 3000 m: 17,5 m/s
Climb rate at 6000 m: 13,1 m/s

Unlimited 2300 RPM, 1.15 ata
30 minutes 2600 RPM, 1.3 ata
10 minutes 2800 RPM, 1.7 ata

Water 100 - 115°

Oil 70 - 85°

Speed in km/h
Dive 850
Max turn 270/23s
Glide 205
Vp max 0m 505
Vp max 5500m 668

20mm MG 151/20 200 rounds, 700 r/m, nose
2 x 13 mm MG 131, 300 rounds, 900 r/m,

Flight endurance at 3000 m: 2.15 h at 350 km/h IAS.

Index

Bf 109 G14

Take off
Flaps 20° Short take off
Speed 160/190 kmh

Unlimited 2400 RPM, 1.35 ata
30 minutes 2600 RPM, 1.45 ata
10 minutes 2800 RPM, 1.8 ata
10 minutes 2800 / 1.98 (DB605DC)
Water methanol < 6000m only

Landing

Flaps 20/40°
Vapp 200 km/h
Touch 160 km/h

30 mm MK 108 65 rounds, 650 r/m, nose
2 x 13 mm MG 131, 300 rounds, 900 r/m,

Water 100 - 115°

Speed in km/h DB
Emergency/combat
599 0m / 543 0m
702 7500 m / 684 8000m
Turn 24 s 0m 270 kmh

Speed in km/h DC
Emergency/combat
614 0m / 536 0m
713 6800 m /684 8000m
Turn 24,2 s 0m 270 kmh

Service ceiling: 12300 m DB
Climb rate at sea level: 20.5 m/s
Climb rate at 3000 m: 17.5 m/s
Climb rate at 6000 m: 13.4 m/s

Oil 70 - 95°

Service ceiling: 12300 m DC
Climb rate at sea level: 19,7 m/s
Climb rate at 3000 m: 17,4 m/s
Climb rate at 6000 m: 13,3 m/s

Flight endurance at 3000 m: 2.15 h at 350 km/h IAS.

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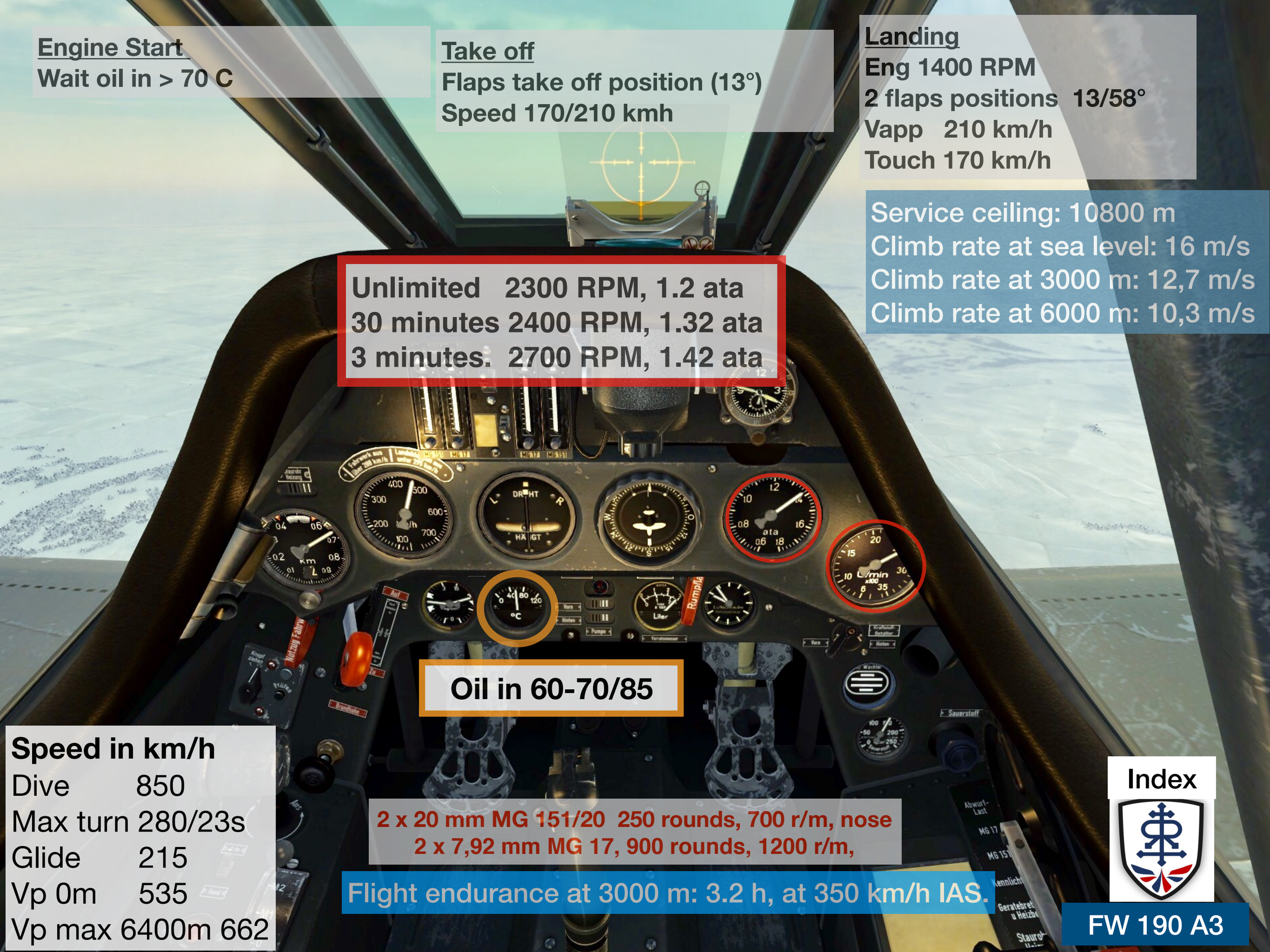
Bf 109 K4



Engine Start
Wait oil in > 70 C

Take off
Flaps take off position (13°)
Speed 170/210 kmh

Landing
Eng 1400 RPM
2 flaps positions 13/58°
Vapp 210 km/h
Touch 170 km/h

Service ceiling: 10800 m
Climb rate at sea level: 16 m/s
Climb rate at 3000 m: 12,7 m/s
Climb rate at 6000 m: 10,3 m/s

Unlimited 2300 RPM, 1.2 ata
30 minutes 2400 RPM, 1.32 ata
3 minutes. 2700 RPM, 1.42 ata

Oil in 60-70/85

Speed in km/h

Dive	850
Max turn	280/23s
Glide	215
Vp 0m	535
Vp max 6400m	662

2 x 20 mm MG 151/20 250 rounds, 700 r/m, nose
2 x 7,92 mm MG 17, 900 rounds, 1200 r/m,

Flight endurance at 3000 m: 3.2 h, at 350 km/h IAS.

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FW 190 A3

Engine Start
Wait oil in > 70 C

Take off
Flaps take off position (13°)
Speed 170/210 kmh

Landing
Eng 1400 RPM
2 flaps positions
13/58°
Vapp 210 km/h
Touch 170 km/h

Unlimited 2300 RPM, 1.2 ata
30 minutes 2400 RPM, 1.32 ata
3 minutes. 2700 RPM, 1.42 ata
10 min Boost 1.65 ata <1000m

Service ceiling: 10600 m
Climb rate at sea level: 15,4 m/s
Climb rate at 3000 m: 11,9 m/s
Climb rate at 6000 m: 9,7 m/s

Engines cowl outlet Shutters control

Oil in 60-70/85

Speed in km/h

Dive	850
Max turn	280/23,5s
Glide	215
VP 0m.	533
Vp max 6400m	658

2 x 20 mm MG 151/20 250 rounds, 700 r/m, nose
2 x 7,92 mm MG 17, 900 rounds, 1200 r/m,

Flight endurance at 3000 m: 3.0 h, at 350 km/h IAS.

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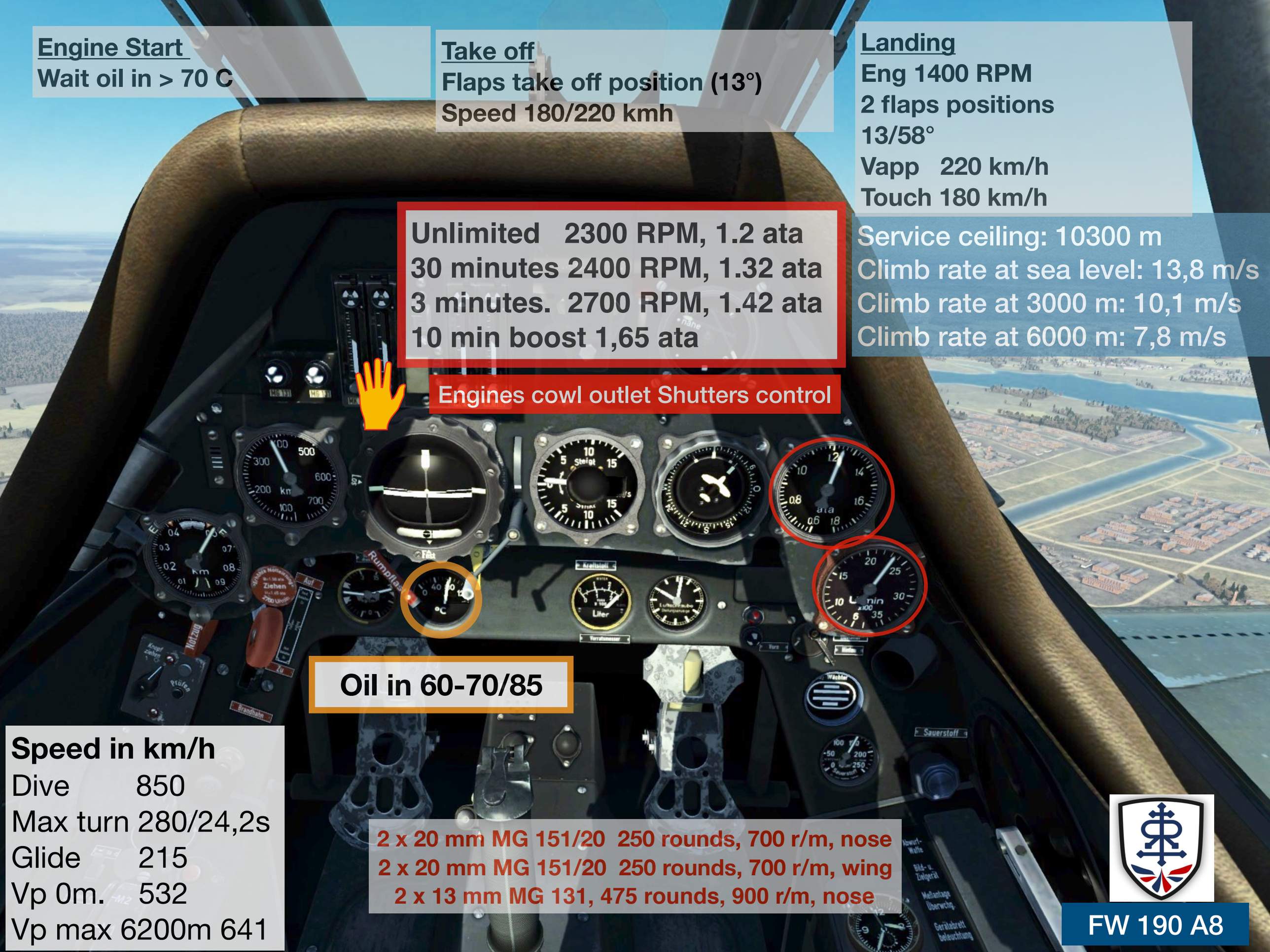
FW 190 A5



Engine Start
Wait oil in > 70 C

Take off
Flaps take off position (13°)
Speed 180/220 kmh

Landing
Eng 1400 RPM
2 flaps positions
13/58°
Vapp 220 km/h
Touch 180 km/h

Unlimited 2300 RPM, 1.2 ata
30 minutes 2400 RPM, 1.32 ata
3 minutes. 2700 RPM, 1.42 ata
10 min boost 1,65 ata

Service ceiling: 10300 m
Climb rate at sea level: 13,8 m/s
Climb rate at 3000 m: 10,1 m/s
Climb rate at 6000 m: 7,8 m/s

Engines cowl outlet Shutters control

Oil in 60-70/85

Speed in km/h

Dive	850
Max turn	280/24,2s
Glide	215
Vp 0m.	532
Vp max 6200m	641

2 x 20 mm MG 151/20 250 rounds, 700 r/m, nose
2 x 20 mm MG 151/20 250 rounds, 700 r/m, wing
2 x 13 mm MG 131, 475 rounds, 900 r/m, nose

FW 190 A8

Service ceiling: 11600 m
Climb rate at sea level: 19 m/s
Climb rate at 3000 m: 17,3 m/s
Climb rate at 6000 m: 14,6 m/s

Take off 200 klh
Flaps take off position

Landing
Eng RPM
2 flaps positions
Vapp 220 km/h
Touch 180 km/h

Unlimited 3000 RPM, 1.42 ata
30 minutes 3250 RPM, 1.51 ata
3 minutes. 3250 RPM, 1.7 ata
10 min boost 1.8 ata W&M

Speed in km/h

Dive	850
Gear.	300
Flaps.	295
Climb	300
Turn 300 20s 0ft	
Vp 0m.	532
Vp max 5200	694

2 x 20 mm MG 151/20 250 rounds, 700 r/m, wing
2 x 13 mm MG 131, 475 rounds, 900 r/m, nose

FW 190 D9

START
1000 RPM IGN HOLD
2000 RPM Throttle up
3000 RPM IGN RELEASE

TAKE OFF
Flaps 20
Trim 0/1 aux tank empty
Trim 2/3 aux tank full
RPM 7000 on brake
Full thrust, rotate 200
Climb 450/500

LANDING
6000 RPM
Gear Down < 350 kmh
End down wind 300
Flaps full
Final 250

Speed
Dive 1000
Gear < 350 kmh
Flaps< 300
Ceiling 12000m
Best turn 0ft/ 450 kmh
6000m/380 kmh
Best climb 475 kmh

Service ceiling: 12000 19.3 m/s
Climb rate at 6000 m 9.7 m/s
Climb rate at 9000 m: 5.4 m/s

Unlimited	8400 RPM
15 minutes	8700 RPM

EGT Opt 600°C
EPR Min 0,20
Fuel P° Min 40
Oil P° Min 2

EGT Max 650°C
EPR Max 0,38
Fuel P° max 80
Oil P° max 5

EPR EGT EGT EPR
Oil P° Fuel P° Fuel P° Oil P°
Fuel R Fuel F

Me 262

Engine Start

Close outlet cowl
Wait oil > 30 C
water > 70 C

Take off

Flaps 20°
Speed 180/220 kmh

Landing

Eng 1800 RPM
Flaps 0/50°
Vapp 170/ 200 km/h
Touch 130/160 km/h

Service ceiling: 9500 m
Climb rate at sea level: 10,3 m/
Climb rate at 3000 m: 9,6 m/s
Climb rate at 6000 m: 6,1 m/s

Unlimited	2200 RPM, 1.15 ata
30 minutes	2300 RPM, 1,23 ata
5 minutes	2400 RPM. 1,3 ata
1 minute.	2600 RPM, 1.40 ata

oil radiator muliple fixed positions.
water radiator multiple fixed positions.

Speed in km/h

Dive	740
Max turn	270
Glide	220
Vp max 5000m	410

2 x 20 mm MG FF 180 rounds, 540 r/m, nose
4 x 7,92 mm MG 17, 1000 rounds, 1200 r/m,

Flight endurance at 3000 m: 3.5 h, at 300 km/h IAS.

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BF 110 E2

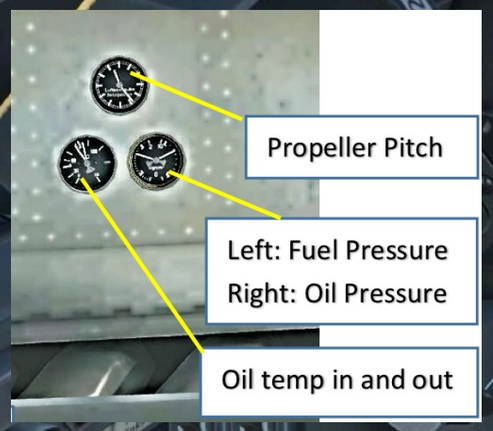
Service ceiling: 10800 m
Climb rate at sea level: 15,6 m/s
Climb rate at 3000 m: 14,1 m/s
Climb rate at 6000 m: 10,7 m/s

Take off
Flaps 20°
Speed 190/230 kmh

Landing
Eng 1900 RPM
Flaps 0/50°
Vapp 190/210 km/h
Touch 150/170 km/h

Unlimited	2300 RPM, 1.15 ata
30 minutes	2600 RPM, 1,3. ata
1 minute.	2800 RPM, 1.42 ata

oil radiator muliple fixed positions.
water radiator multiple fixed positions.



Oil 70 - 85°

Water 100 - 115°

2 x 20 mm MG 151/20 400 rounds, 700 r/m, nose
4 x 7,92 mm MG 17, 1000 rounds, 1200 r/m,

Flight endurance at 3000 m: 4.0 h, at 300 km/h IAS.

Speed in km/h

Dive	740
Max turn	270
Glide	230
Vp 0m.	489
Vp max 6500m	581

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BF 110 G2


Engine Start
Close oil and water radiator
Wait oil in > 80 C
water > 70 C
Take off
Flaps 25°
Speed 140170 kmh
Landing
Eng 2000 RPM
2 flaps positions 25/40°
Flaps 40°
Vapp 185 km/h
Touch 145 km/h
Service ceiling: 7000 m
Climb rate at sea level: 8 m/s
Climb rate at 3000 m: 7 m/s
Climb rate at 6000 m: 2,5 m/s
Unlimited 2250 RPM, 1.15 ata
30 minutes 2400 RPM, 1.25 ata
1 minute 2600 RPM, 1.42 ata
Oil and Water rad
Water rad position
Speed in km/h
Dive 650
Max turn 230
Glide 195
Vp 0m. 387
Vp max 6000m 442
Oil 90 - 105°
Water 80 - 110°
Conso 6l / min
Max fuel 780 l
Index
JU 87


Engine Start
Close outlet cowl
Wait oil > 80 C
water > 70 C
Take off
Flaps 25°
Speed 170/210 kmh
Landing
2 Flaps positions 25/50°
Eng 0,65 Ata
Vapp 200 km/h
Touch 160 km/h
use throttle to set the ata to the desired power level then adjust RPM as needed
Unlimited 2250 RPM, 1.15 ata
30 minutes 2400 RPM, 1.25 ata
1 minute 2600 RPM, 1.42 ata
Service ceiling: 7500 m
Climb rate at sea level: 7 m/s
Climb rate at 3000 m: 5,1 m/s
Climb rate at 6000 m: 3,4 m/s
Engines cowl outlet Shutters control
Oil 70 - 110°
Water 80 - 130°
Speed in km/h
Dive 670
Max turn 250
Glide 220
Vp 0m. 424
Vp max 5000 486
Flight endurance at 3000 m: 3.8 h, at 300 km/h IAS
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JU 88

Engine Start
Close outlet cowl
Wait oil > 80 C
water > 70 C

Take off
Flaps 20°
Speed 170/210 kmh

Landing
Eng 0,65 Ata
Flaps 0/60°
Vapp 155/ 180km/h
Touch 125/150 km/h

RPM

Oil 90 - 105°

ATA

Oil and Water rad

Water 80 - 110°

Service ceiling: 6300 m
Climb rate at sea level: 4,5 m/s
Climb rate at 3000 m: 3,6 m/s
Climb rate at 6000 m: 1,8 m/s

Speed in km/h

Dive	560
Max turn	250
Glide	180/200
Vp max 5000	410

Unlimited : 2250 RPM, 1.15 ata
30 minutes: 2400 RPM, 1.25 ata
1 minute : 2600 RPM, 1.42 ata

oil radiator multiple fixed positions.

Fuel 0,9 l/Km + 5 l min climb
Max fuel 4280 l

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He 111 H6

Engine Start
Close outlet cowl
Wait oil > 80 C
water > 70 C

Take off
Flaps 20°
Speed 170/210 kmh

Landing
Flaps 0/60°
Eng 0,65 Ata
Vapp 155/180 km/h
Touch 125/150 km/h

Service ceiling: 6850 m
Climb rate at sea level: 5,3 m/s
Climb rate at 3000 m: 4,1 m/s
Climb rate at 6000 m: 2,3 m/s

Unlimited : 2250 RPM, 1.15 ata
30 minutes: 2400 RPM, 1.25 ata
1 minute : 2600 RPM, 1.40 ata

oil radiator multiple fixed positions.

Oil 90 - 105°

Water 80 - 110°

Speed in km/h
Dive 560
Max turn 250
Glide 180/200
Vp max 5000 410

Fuel 0,9 l/Km + 5 l min climb
Max fuel 3500 l

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He 111 H16

Service ceiling: 7000 m
Climb rate at sea level: 8,4 m/s
Climb rate at 3000 m: 8,1 m/s
Climb rate at 6000 m: 2,6 m/s
No Oxy supply, max alt 4000m

Take off
Flaps fixed take off position
Speed 155 kmh

Landing
Flaps 0/40°
Vapp 175 /190 km/h
Touch 135 /150 kmh

Unlimited	2350 RPM, 1.1 ata
30 minutes	2750 RPM, 1.25 ata
1 minute.	3030 RPM, 1.5 ata

Oil 60-75 / 125 max

Speed in km/h

Dive	670
Max turn	255
Glide	200
Vp max 3000m	396

- Controlling the propellers RPM is possible only in the manual mode by changing the propeller pitch.
- The automatic mode keeps the RPM at 2750.
- The engine control lever allows setting the pressure up to the combat mode (1.25 ATA).
- To switch the engines to the take-off mode, move the boost lever to 1.5 ATA position and set the propellers pitch manually to 3030 RPM

Flight endurance at 3000 m: 2.1 h, at 300 km/h IAS.

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HS129

Service ceiling: 6800 m
Climb rate at sea level: 6,9 m/s
Climb rate at 3000 m: 4,2 m/s
Climb rate at 6000 m: 1,4 m/s

Take off

100/120 km/h

Stabilizer to flight position +2°, engage the link and then move the stabilizer to take-off position 0° - flaps will be extended to 25°
When airborn stab back to +2

Landing

Flaps 0/40°
App 120/140 km/h
Touch 95/110 km/h

Stabilizer to flight position +2°, engage the link and then move the stabilizer to landing position -1.5° - flaps will be fully extended to 40°.

Unlimited	1925 RPM
30 min	1975 RPM
5 min	2050 RPM

Oil pres

Oil Out 80 - 100°

Oil in 60 - 80°

Fuel pres

Brake Pº

Speed in km/h

Dive	330
Max turn	165
Glide	140/155
Vp max sea lvl	260

Airplane is equipped with a hydraulic tail wheel parking brake system.

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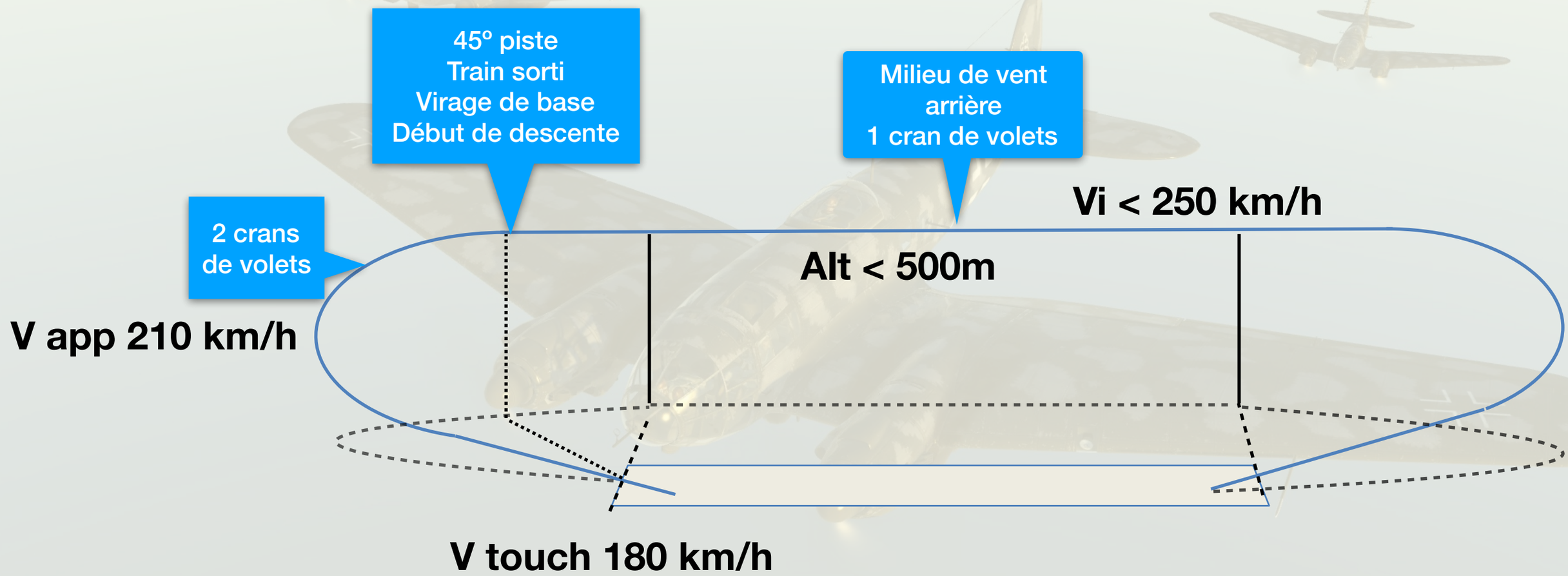
Ju 52

Avions concernés
Mig 3 / La5 / Lagg3 / Pe2
Bf 109 F4 - G2 - G4 -G6 - G12
/ Fw190 / Bf 110/ Ju88

Tour de piste rapide



Sortie du premier cran de volet

- Pour les volets à multiple positions (ex Bf 109 / Pe 2) sélectionner 50% de la configuration finale choisie.
- Pour les volets à un seul cran (ex Yak 1 / Spitfire) sortir les volets après la sortie du train à une vitesse inférieure à 220 km/h.

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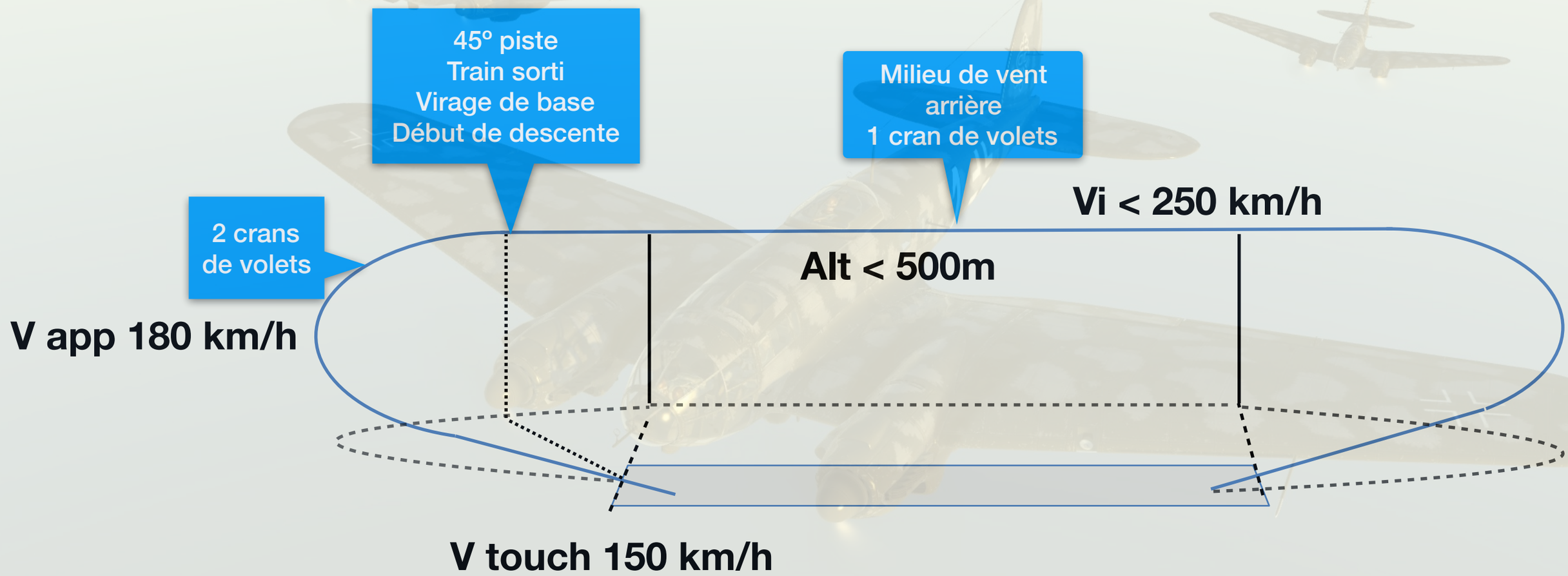
Avions concernés
Yak 1 / Spitfire / I16 / P40 / Il2
Bf 109 E7 - F2 / Ju87/ He111/Hs129

Tour de piste lent



Sortie du premier cran de volet

- Pour les volets à multiple position (ex Bf 109 / Pe 2) sélectionner 50% de la configuration finale choisie.
- Pour les volets à un seul cran (ex Yak 1 / Spitfire) sortir les volets après la sortie du train à une vitesse inférieure à 220 km