Flight Checklist for Normal Operations

Massgebend ist das AFM (Parameters, Restrictions, Emergency, etc.)

COCKPIT PREPARATION BEFORE STARTING ENGINE

1	Aircraft + Cockpit Inspection	COMPLETED	1
2	Seats	ADJUSTED + LOCKED	2
3	Seat Belts, Shoulder Harness	ADJUSTED + FASTENED	3
4	Parking Brake	SET	4
5	El. Switches / Radio-Master Switch	OFF	5
6	Circuit Breakers	IN	6
7	Propeller Control	HIGH RPM	7
8	Mixture	CUT OFF	8
9	Alternate Air	CLOSE	9
10	Flaps	UP	10
11	STBY Altimeter	SET	11
12	Auto Pilot	OFF	12
13	Battery, Alternator	ON	13
14	Gear Control	DOWN, 3 GREENS	14
15	Emergency Gear Lever	UP	15
16	Annunciator Lights	TESTED	16
17	(ATIS, Startup Clearance)	RECEIVED	17

ENGINE START, COLD ENGINE

1	Fuel Pump	ON	1
2	Throttle	0,5 CM OPEN	2
3	Propeller Area	FREE	3
4	Mixture	RICH, THEN CUT OFF	4
5	Starter	ENGAGE	5
6	Mixture	RICH	6
7	Throttle	1000 - 1200 RPM	7

ENGINE START, WARM ENGINE

1	Fuel Pump	ON	1
2	Throttle	0,5 CM OPEN	2
3	Mixture	CUT OFF	3
4	Propeller Area	FREE	4
5	Starter	ENGAGE	5
6	Mixture	RICH	6
7	Throttle	1000 - 1200 RPM	7

AFTER ENGINE START CHECK

1	Oil Pressure > 25 PSI (PFD)	CHECKED	1
2	Fuel Pump	OFF	2
3	Annunciator Lights	OFF	3
4	Ventilation, Heater	SET	4

BEFORE TAXI

1	Radio-Master	ON	1
2	Electrical. Trim	ON	2
3	Autopilot	ON + TESTED	3
4	Audio Panel	SET	4
5	Avionics (COM, NAV, GPS)	SET	5
6	PFD + MFD	SET	6
7	Landing Light	ON	7

TAXI CHECK

1	Brake, Steering	CHECKED	1
2	AI, HSI, Compass, Turn-Coordinator	CHECKED	2

RUN-UP

1	Parking Brake	SET	1
2	Landing Light	OFF	2
3	Engine Temperature	GREEN	3
4	Propeller	HIGH RPM	4
5	Throttle	2000 RPM	5
6	Alternator Output	CHECKED	6
7	Engine Instruments	CHECKED	7
8	Annunciators	CHECKED	8
9	Magnetos	CHECKED (Drop RPM < 175 / Diff < 50)	9
10	Propeller	CHECKED (2 x 300 RPM)	10
11	Mixture	CHECKED	11
12	Alternate Air	CHECKED	12
13	Throttle	IDLE (700-900 RPM)	13
14	Throttle	1000-1200 RPM	14

DEPARTURE CHECK

1	Fuel Quantity	CHECKED	1
2	Tank Selector	FULLER TANK	2
3	Fuel Pump	ON	3
4	Propeller	HIGH RPM	4
5	Mixture	RICH / AS REQUIRED	5
6	Alternate Air	CLOSED	6
7	Magnetos	BOTH	7
8	Flaps	UP, SHORT FIELD FLAPS 2	8
9	Elevator + Rudder Trim	SET	9
10	Avionics (COM, NAV, GPS, Autopilot)	SET	10
11	PFD	CHECKED	11
12	MFD	CHECKED	12
13	Seat Belts + Shoulder Harness	FASTENED	13
14	Seats	LOCKED	14
15	Door	LATCHED	15
16	Controls	FREE and CORRECT	16

DEPARTURE BRIEFING

1	Surface Wind, $V_{rot\ short\ field}$ 50-60KIAS	
2	V_x 78 KIAS, V_y 90 KIAS	
3	Routing, Altitudes, Restrictions	
4	Emergencies, Best Glide 79 KIAS	

LINE-UP

1	Approach Sector, Runway	CHECKED FREE	1
2	Wind, Runway Heading	CHECKED	2
3	Lights	ON	3
4	Transponder	SET 7000 or ACCORDING ATC	4
5	Pitot Heat	AS REQUIRED	5
6	Time	NOTED	6

TAKE OFF

1	Power	RPM + MP CHECKED	1
2	Speed	RISING	2

CLIMB CHECK

1	Gear	UP	1
2	Flaps	UP	2
3	Power	25" / 2500 RPM	3
5	Fuel Pump	OFF	5

CRUISE CHECK

1	Flight- / Engine Instruments	CHECKED	1
2	Cruise Power	ACCORDING AFM	2
3	Mixture / Fuel	CHECKED	3

DESCENT CHECK

1	ATIS	RECEIVED	1
2	Approach Briefing	COMPLETED	2
3	PFD + Avionics (COM, NAV, GPS)	PRESELECTED	3
4	Cabin, Pax	CHECKED	4

APPROACH BRIEFING

1	Runway In Use	
2	Routing, Altitude, Restrictions	
3	Missed Approach Procedure	
4	Surface Wind, Final Approach Speed	

	APPROACH PREPARATION		
1	Altimeters	QNH	1
2	Auto Pilot	OFF	2
3	Landing Lights	CHECKED, ON	3
4	Fuel Pump	ON	4
5	Fuel Quantity	CHECKED	5
6	Fuel Selector	FULLER TANK	6
7	Mixture	RICH	7
8	Gear	DOWN (MAX. 129 KTS)	8
9	Flaps	SET (MAX. 103 KTS)	9
	FINAL CHECK		
1	Gear	CHECKED, 3 GREENS	1
2	Brakes (pressure)	CHECKED	2
3	Flaps	CHECKED	3
4	Propeller	HIGH RPM	4
	GO AROUND		
1	Propeller	HIGH RPM	1
2	Throttle	FULL POWER	2
3	Attitude	ROTATE (> 65 KIAS)	3
4	Flaps	UP (SLOWLY RETRACT SPEED > 78)	4
5	Gear	UP	5
	AFTER LANDING		
1	Electrical Consumers	AS REQUIRED	1
2	Fuel Pump	OFF	2
3	Flaps	UP	3
	ENGINE SHUT DOWN		
1	Parking Brake	SET	1
2	Throttle	1200 RPM	2
3	Electrical Consumers	OFF	3
4	Radio Master	NO SIGNAL 121.5 / OFF	4
5	Mixture	CUT OFF	5
6	Ignition	OFF	6
7	Alternator, Battery	OFF	7
8	Flight Time Counter	NOTED	8

SPEEDS FOR OPERATION AT MAXIMUM TAKE OFF MASS (MTOM)

Rotate	Flaps up	65-75	KIAS
Rotate Short Field	Flaps 2	50-60	KIAS
Best Angle	Gear up,	78	KIAS
Best Rate	Gear up,	90	KIAS
Cruise Climb	Flaps up	min. 104	KIAS
Gear Down		max. 129	KIAS
Flaps Extend		max. 103	KIAS
Initial Approach Speed	Flaps 1	100	KIAS
Intermediate Approach Speed	Flaps 2	90	KIAS
Final Approach Speed	Flaps full	75	KIAS
Go Around / T+G Before	Flaps up	min. 78	KIAS
Best Glide	Gear + Flaps	79	KIAS
Max Maneuvering Speed V_A	Flaps up	118 - 96	KIAS
Max. Demonstrated Crosswind		17	KT

POWER SETTINGS

Take Off	Full Power
Climb Power	25" / 2500 RPM
Cruise: Best Economy / Best Power	acc. AFM
Circuit	20" / 2100 RPM

LOADING HB-PQY

MTOM	1247 kg	
		Max. cabin load remaining
Empty (Including 5 USG unusable Fuel)	837 kg	=> 410 kg
Usable Fuel, Filler Neck 50 USG / 189 Liter	136 kg	=> 274 kg
Usable Fuel, Full 72 USG / 272 Liter	196 kg	=> 214 kg

Power / Consumption / Cruisespeed at MTOM, EGT = Peak -50°F to rich

			ISA -20°C			ISA			ISA +20°C		
ALT(ft)	**RPM**	**MAP**	**PWR**	**GpH**	**TAS**	**PWR**	**GpH**	**TAS**	**PWR**	**GpH**	**TAS**
					-9°C			**11°C**			**31°C**
	2300	**21**	64%	10.3	113	61%	9.5	110	59%	8.7	107
		22	67%	10.6	117	64%	9.8	113	62%	9.0	110
		23	70%	12.5	121	67%	11.6	117	65%	10.7	114
2000		**24**	73%	12.8	125	70%	11.9	122	68%	11.0	118
	2500	**21**	71%	11.5	123	68%	11.3	122	66%	11.1	121
		23	77%	12.3	132	75%	12.1	131	72%	11.8	129
		24	81%	12.6	137	78%	12.4	135	75%	12.1	134
		26.8	90%	13.5	139	87%	13.2	137	84%	12.9	136
					-13°C			**7°C**			**27°C**
	2300	**21**	64%	10.2	118	61%	9.9	116	59%	9.6	113
		22	67%	10.5	122	64%	10.2	119	62%	9.9	117
		23	70%	11.0	126	67%	10.7	123	65%	10.3	121
4000		**24**	73%	11.4	129	70%	11.0	126	68%	10.7	124
	2500	**22**	74%	11.4	127	72%	11.0	125	69%	10.7	123
		23	77%	11.7	132	75%	11.4	129	72%	11.0	128
		24	81%	12.2	137	78%	11.8	134	75%	11.4	132
		25	84%	12.6	137	81%	12.2	135	78%	11.8	132
					-17°C			**3°C**			**23°C**
	2300	**20**	61%	9.8	118	59%	9.5	115	56%	9.1	112
		21	64%	10.2	122	61%	9.8	119	59%	9.4	116
		22	67%	10.9	126	64%	10.5	123	62%	10.1	120
6000		**23.2**	70%	11.2	132	68%	10.8	128	65%	10.4	125
	2500	**20**	68%	10.6	125	65%	10.2	123	63%	9.9	120
		21	71%	10.9	130	68%	10.6	127	66%	10.2	125
		22	74%	11.4	135	72%	11.0	132	69%	10.7	129
		23	78%	11.8	137	75%	11.4	134	72%	11.1	132
					-21°C			**-1°C**			**19°C**
	2300	**18**	55%	9.0	113	53%	8.7	110	51%	8.4	107
		19	58%	9.3	116	56%	9.0	113	54%	8.7	110
		20	61%	10.0	120	59%	9.7	117	56%	9.3	114
8000		**21.5**	65%	10.5	128	63%	10.1	125	61%	9.7	121
	2500	**18**	61%	10.0	120	59%	9.6	117	57%	9.2	114
		19	64%	10.3	124	62%	9.9	121	60%	9.6	117
		20	68%	10.8	129	65%	10.4	125	63%	10.1	122
		21.3	72%	11.5	137	69%	11.1	133	67%	10.7	129
					-25°C			**-5°C**			**15°C**
	2300	**17**	52%	8.7	111	50%	8.3	108	48%	8.0	106
		18	55%	9.0	115	53%	8.6	112	51%	8.2	109
		19	58%	9.7	122	56%	9.3	118	54%	8.9	115
10000		**19.7**	60%	10.0	124	58%	9.5	121	56%	9.1	118
	2500	**17**	58%	9.6	120	56%	9.2	117	54%	8.9	114
		18	61%	9.9	124	59%	9.5	121	57%	9.2	117
		19	64%	10.4	129	62%	10.0	125	60%	9.7	122
		19.7	67%	10.8	135	64%	10.4	131	62%	10.0	127

Flight Checklist for Emergency

Massgebend ist das AFM

FIRE ON GROUND

1	Starter	CRANK ENGINE	1
2	Mixture	IDLE CUT OFF	2
3	Throttle	FULL OPEN	3
4	Fuel Pump	OFF	4
5	Fuel Selector	OFF	5
6	Battery / Alternator	OFF	6
7	Pax and Crew	EVACUATE	7

FIRE IN FLIGHT

1	Source of Fire	IDENTIFY	1

ELECTRICAL FIRE (Smoke in cabin)

1	Battery / Alternator	OFF	1
2	Vents	OPEN	2
3	Cabin Heat	OFF	3

Land as soon as practical

ENGINE FIRE

1	Fuel Selector	OFF	1
2	Throttle	CLOSED	2
3	Mixture	IDLE CUT OFF	3
4	Fuel Pump	OFF	4
5	Cabin Heater and Defroster	OFF	5
6	Elevator Trim	BEST GLIDE 79 KIAS	6

Prepare for power off emergency landing

ENGINE POWER LOSS IN FLIGHT

1	Attitude	BEST GLIDE 79 KIAS	1
2	Fuel Selector	SWITCH	2
3	Fuel Pump	ON	3
4	Mixture	RICH	4
5	Alternate Air	OPEN	5
6	Ignition	BOTH	6
7	Engine Gauges	CHECK CAUSE OF POWER LOSS	7

When Power Is Restored

8	Alternate Air	CLOSE	8
9	Fuel Pump	OFF	9

When Power Is Not Restored

10	Elevator Trim	BEST GLIDE 79 KIAS	10

Prepare for Power Off Emergency Landing

EMERGENCY LANDING

Trim for Best Glide 79 KIAS
Locate Suitable Field
When the Landing Field can easily be reached

1	Gear Selector	DOWN	1
2	Flaps	AS DESIRED	2
3	Throttle	CLOSED	3
4	Mixture	IDLE CUT OFF	4
5	Ignition	OFF	5
6	Battery / Alternator	OFF	6
7	Fuel Selector	OFF	7
8	Speed	FINAL APPROACH, 72 KIAS	8
9	Seat Belts / Shoulder Harness	TIGHT	9

GEAR EMERGENCY DOWN

	NO GEAR DOWN INDICATION (One Or More Green Lights U/S)		
1	Battery	ON	1
2	Circuit Breakers	IN	2
3	Day/Night Switch	DAY	3
4	Green Indicators	CHECKED, PUSH IN	4
	If gear does not check down and lock continue with		
	GEAR EMERGENCY DOWN		
1	Speed	BELOW 87 KIAS	1
2	Gear Selector	DOWN	2
3	Gear Circuit Breaker	PULL OUT	3
4	Emergency Gear Lever	PUSH DOWN + HOLD	4
	If main gear has failed to lock down		
5	YAW AIRPLANE WITH THE RUDDER ABRUPTLY FROM SIDE TO SIDE		5
	If nose gear has failed to lock down		
6	Speed	REDUCE TO LOWEST SAFE	6
7	Power	LOWEST FOR SAFE OPERATION	7
	If nose gear still failed to lock down		
8	Gear Circuit Breaker	IN	8
9	Gear Selector	UP	9
10	Gear Selector	DOWN	10
	If main or nose gear still does not check down advise tower for "low passing and visual gear check"		
11	Visual gear check positive	NORMAL LANDING	11
12	Visual gear check negative	PREPARE GEAR UP LDG (AFM)	12
	Prefer concrete runway when ever possible		
	GEAR UNSAFE INDICATION IN FLIGHT		
1	Emergency Gear Lever	CHECK, UP	1
	If GEAR UNSAFE INDICATION persists		
2	Speed	BELOW 129 KIAS	2
3	Gear Selector	DOWN	3
4	Speed	BELOW 109 KIAS	4
5	Gear Selector	UP	5

ALTERNATOR FAILURE

	NO ALTERNATOR OUTPUT		
1	Alternator switch	CHECK ON	1
2	Alternator circuit breaker	CHECK IN	2
	When checked and still not output		
3	Alternator switch	OFF	3
4	Electrical consumers	OFF AS PRACTICABLE	4
5	Alternator switch	ON (after > 10 sec)	5
	If still no output		
6	Electrical consumers	OFF AS PRACTICABLE	6
	Land on the nearest airport as practicable		

RADIO FAILURE

1	Radio	ON	1
2	Volume	TEST	2
3	Frequency	CHECKED	3
4	Headset / Mike Plugs	CHECKED	4
	If no radio contact		
5	Transponder	7600 (if necessary)	5
6	Procedure	ACCORDING AIP	6