IFR - CHECKLIST

	Notfall Nummern		
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Technische Sachen / Oel..etc.	Rene Mühletahler	076 367 78 46	032 652 21 49	aerotec.ltd @bluewin.ch
Flugplatz Grenchen		032 396 96 96		

	AIRCRAFT PREPARATION	COMPLETED (ACCORDING AFM)	
	PREFLIGHT CHECK		
1	Outside check	COMPLETED …..(OIL 8-12 quarts)	1
2	Fuel quantity	CHECKED	2
3	Mass & balance	CHECKED	3
4	Baggages	STOWED & SECURED	4
5	All documents on board	CHECKED	5
	PREFLIGHT CHECK COMPLETED		
	CHECK BEFORE ENGINE START		
1	Seat & seatbelts	ADJUSTED / FASTEN	1
2	Gear selector	DOWN	2
3	Emergency gear handle	STOWED	3
4	Alternate air	CLOSED	4
5	Alternate static pressure	CLOSED	5
6	Propeller Anti-Ice Switch	OFF	6
7	Cowl flaps	OPEN (draw)	7
8	Flight controls	CHECKED	8
9	Parking brake	SET	9
10	Clock	SET	10
11	Electrical switches	OFF	11
12	Circuit breakers	ALL IN	12
13	Battery - & alternator switch	ON	13
14	Fuel quantity	WHITE ARC	14
15	Fuel selector	FULLER TANK	15
16	Gear lights / Annunciator	TEST / CHECK	16
17	Avionic master switch	ON	17
18	Atis	CHECHED	18
19	Startup & Clearance	REQUEST	19
20	COM / NAV / GPS / AUDIO	SET	20
21	Avionic master switch	OFF	21
	CHECK BEFORE ENGINE START COMPLETED		

	STARTING cold ENGINE		
1	Beacon	ON	1
2	Throttle	FORWARD / FULL	2
3	Propeller	FORWARD /HIGH	3
4	Mixture	FORWARD / RICH	4
5	Electrical fuel pump	ON	5
1	Fuel flow	STABILIZED	1
2	Electrical fuel pump	STABILIZED	2
3	Throttle	1 cm open (draw+2*back)	3
4	Propeller area	FREE	4
5	Ignition	START	5
6	RPM	1000 – 1200 RPM	6
7	Ampermeter	CHECKED	7
8	Oil pressure	CHECKED / GREEN	8
9	Suction	CHECKED	9
	STARTING ENGINE COMPLETED		
1	***BEFORE TAXI***		1
2	Avionic master switch	ON	2
3	Slaving selector on slave	CHECKED	3
4	Altimeters	SET, CHECKED WITH FIELD ELEVATION	4
5	Autopilot	TEST	5
6	HDG – BUG	RWY IN USE	6
7	Horizon	CHECK AND SET	7
8	Navigation lights	ON	8
9	Request taxi		9
10	Taxi lights	ON	10
	Wings free, parking brake	OFF	11
	BEFORE TAXI COMPLETED		

	TAXI CHECK		
1	Brakes and steering	CHECKED	1
	STRAIGHT AHEAD		
2	Speed indicator – Altimeter – Vertical Speed indicator	CHECKED	2
3	***LEFT TURN***		3
	Gyro	DECREASING	
	Turn & Bank	LEFT	
	Ball	RIGHT	
	Horizon	STABILIZED	
4	***RIGHT TURN***		4
	Gyro	INCREASING	
	Turn & Bank	RIGHT	
	Ball	LEFT	
	Horizon	STABILIZED	
	TAXI CHECK COMPLETED		
	RUN-UP		
5	Parking brake	SET	5
6	Taxi light	OFF	6
7	Engine instruments	CHECKED all GREEN ARC	7
8	Throttle	SET 1700 RPM	8
9	Magnetos	CHECKED (drop -175 diff- 50 RPM)	9
10	Propeller 2 times	CHECKED (1400)	10
11	Alternate air (IFR)	CHECKED	11
12	Oil pressure, amp & suction	CHECKED	12
13	Throttle idle	CHECKED (500 – 700 RPM)	13
14	Throttle	SET 1000 RPM	14
	RUN-UP COMPLETED		

CHECK BEFORE DEPARTURE

1	Fuel selector	FULLER TANK	1
2	Mixture	RICH / AS REQUIRED	2
3	Propeller	HIGH RPM	3
4	Flaps	UP, CHECKED	4
5	Cowl flaps	OPEN, draw	5
7	Trims 2 times	3 UP - NEUTRAL	7
8	Flight controls	FREE, CHECKED	8
9	Cabin, doors & windows	SECURED / CLOSED	9
10	Passengers	SECURED	10

IR PREPARATION

ATC Clearance and SID	READ and CHECKED
Avionic Setting	CHECKED
AUDIO Panel	CHECKED
MKR	CHECKED
GYRO & HDG – Bug	CHECKED
Flightplan – GPS EDIT	READ and CHECKED
Transition Altitude	READ and CHECKED
TAKE – of - Briefing	ROUTE, SPEED EMERGENCY

CHECK BEFORE DEPARTURE COMPLETED

LINE UP CHECK

1	Approach sector & runway	CHECK, FREE	1
2	Landing light	ON	2
3	Strobe lights	ON	3
4	Transponder	AS REQUIRED (STB or ALT)	4
5	Pitot - heat	AS REQUIRED	5
6	Propeller Anti-Ice Switch	AS REQUIRED	6

WHEN ESTABLISHED ON CENTERLINE

6	Gyros	CHECKED	6
7	HDG – BUG	SET RWY HEADING	7
8	Time	CHECKED / NOTED	8

WHEN CLEART FOR TAKE - OFF

9	Trottle advance full	29.6 MP – 2700 RPM	9
10	Speed rising	CHECKED	10
11	Rotate	71 KIAS	11
12	Increase speed (Vx)	77 KIAS	12
13	Brake - gear	UP	13
14	Increase speed (Vy)	96 KIAS	14
15	PWR	25 MP 2500 RPM 20 G/h	15

LINE UP CHECK COMPLETED

CLIMB CHECK

1	Gear	UP	1
2	Flaps	UP	2
3	Power	25 MP 2500 RPM 20 G/h	3
4	Cowl flaps	OPEN	4
5	Landing light	OFF	5

WHEN PASSING TRANSITION ALTITUDE

6	Altimeters	STANDART…(1013)	6
7	Cruise climb	107 KIAS	7

CLIMB CHECK COMPLETED

CRUISE CHECK

1	Altimeter & gyro	SET (STD / QNH)	1
2	Cruise power / mixture	22 MP 2300 RPM 14 G/h.	2
3	Cowl flaps	AS REQUIRED	3
4	Pitot - heat	AS REQUIRED	4
5	Propeller Anti-Ice Switch	AS REQUIRED	6
6	Engine instruments	CHECKED (Green)	7
7	Fuel quantity	CHECKED (ENDURANCE)	8

CRUISE CHECK COMPLETED

DESCENT CHECK

1	ATIS	RECEIVED	1
2	Approach briefing	COMPLETED	2
3	Circuit Breakers	CHECKED	3
4	Directional Gyro	CHECKED / SET	4
5	Further Planning	AVIONIC SET	5
6	Mixture (when descending)	AS RECQUIRED	6

DESCENT CHECK COMPLETED

APPROACH CHECK *(WHEN CLEART TO AN ALTITUDE)*

1	Altimeter	SET on QNH	1
2	Landing light	ON	2
3	Fuel	CHECKED	3
4	Fuel selector	FULLER TANK	4
5	Fuel pump	OFF	5
6	Cowl flaps	CLOSED	6

APPROACH CHECK COMPLETED

POWER SETTING

Power	Not below 20 MP
Flaps below 154 KIAS	App 15° / below 123 KIAS..30°
Gear below 154 KIAS	App speed 90-95 KIAS

WIND

Max Crosswind	17 Kt
Head Wind over 10 Kt	+ ½ to App. Speed

FINAL CHECK

1	Gear down	3 GREENS	1
2	Flaps	AS REQUIRED	2
3	Propeller	FULL FORWARD	3
4	Mixture	RICH / AS REQUIRED	4

FINAL CHECK COMPLETED

AFTER LANDING CHECK)

1	Landing lights	OFF or AS REQUIRED	1
2	Strobe lights	OFF	2
3	Pitot heat	OFF	3
4	Propeller Anti-Ice Switch	OFF	4
5	Transponder	SBY or AS REQUIRED (Automatic)	5
6	Flaps	UP	6
7	Cowl flaps	OPEN	7
8	Time	NOTED	8

AFTER LANDING CHECK COMPLETED

ENGINE SHUT DOWN AND PARKING

	Parking brake	SET	
	Throttle	SET 1000 RPM	
	Radio master	OFF	
1	Electrical switches	ALL OFF	1
2	Alternator	OFF	2
3	Mixture	LEAN / CUT OFF	3
4	Ignition key	OFF	4
5	Battery master	OFF	5
6	Parking brake	SET AS CONVENIENT	6
7	Flight Data and Documents	NOTED / COMPLETED	7

PARKING CHECK COMPLETED

SPEEDS

Vx	77 Kts	V_{FE} (step 1 Flaps speed)	150 Kts
Vy	96 Kts	$V_{initial\ approach}$	90-95 Kts
V_A (Manoeuvring speed)	134 Kts	V_{final} (Full Flaps)	70 Kts
$V_{best\ gliding\ angle}$	105 Kts	Max Crosswind comp.	17 Kts

Emergency:

Emergency Descent = 154 kt
Best Glide = 105 kt
Landing without Motor = 83 kt

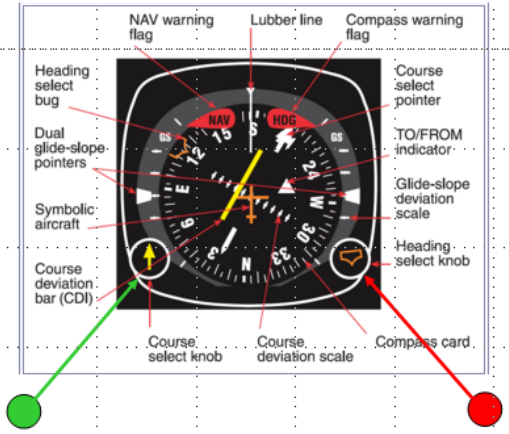
Emergency Frequency = 121.5
Loss of Communication = 7600
Emergency = 7700
Hijacking = 7500

Electrical Fault = Switch on Emergency Power Unit, Inform ATC, Verify Problem, Make further Decisions.

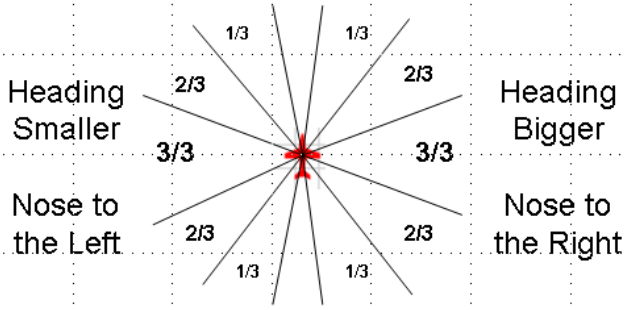
Power Loss = Turn on Electrical Fuel Pump, Try to get Engine going again.

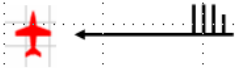
Station Overflight 5 T

T = Time (Start Stopwatch)
T = Turn (Set HDG Bug to Int. HDG)
T = Twist (Set OBS to Outbound Radial)
T = Talk (Position Report)
T = Tabulate (Fill in Flight Plan)



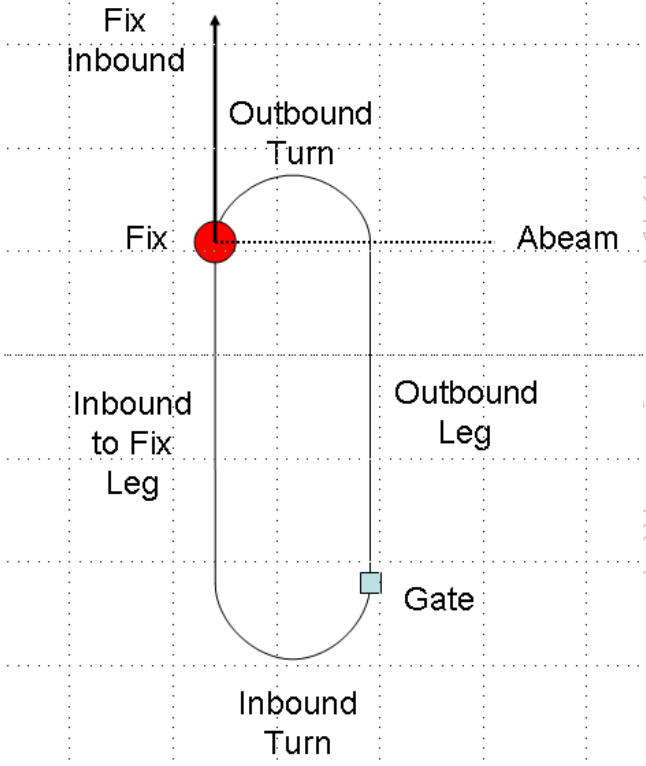
Wind Correction



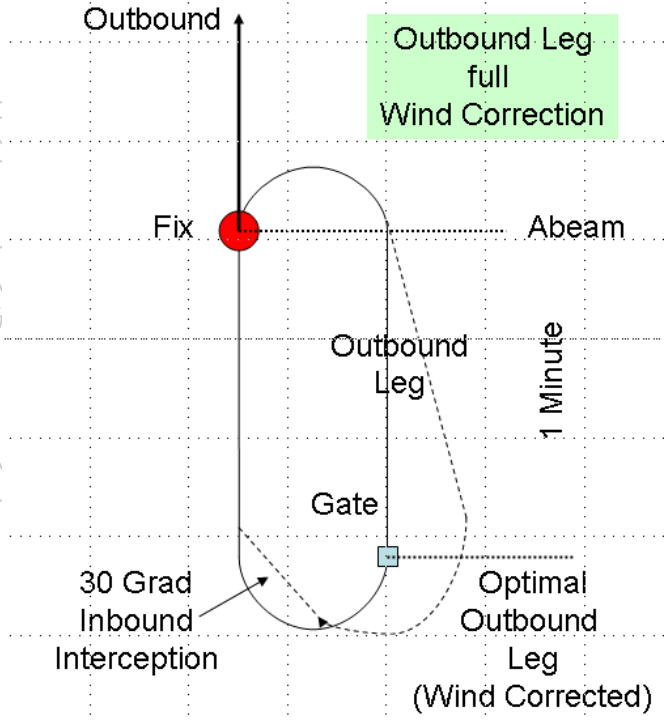


By 240 Kt = ¼ Wind correction.
By 120 Kt = ½ Wind correction.
By 60 Kt = 1/1 Wind correction.

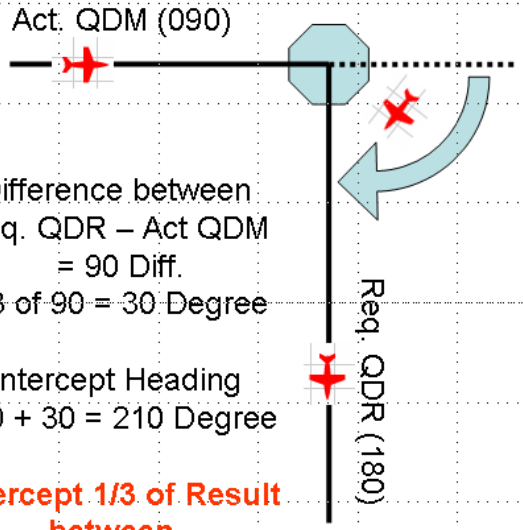
Holding Definition



Holding Wind Correction



Station Overflight Interception

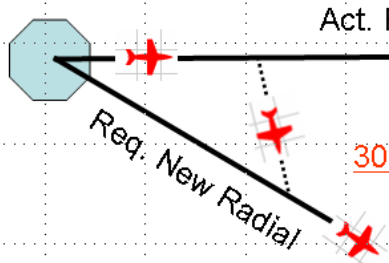


Difference between
Req. QDR – Act QDM
= 90 Diff.
1/3 of 90 = 30 Degree

Intercept Heading
180 + 30 = 210 Degree

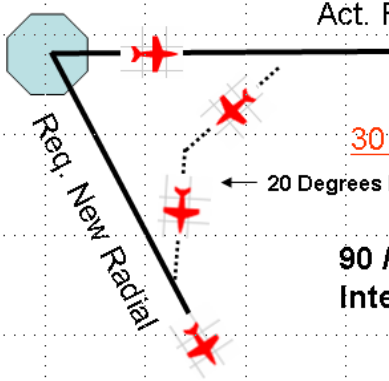
Intercept 1/3 of Result between Req QDR and Act QDM but max. 30 Degree

In Flight Radial Change



Less than
30 Degrees diff.

45 Grad Interception

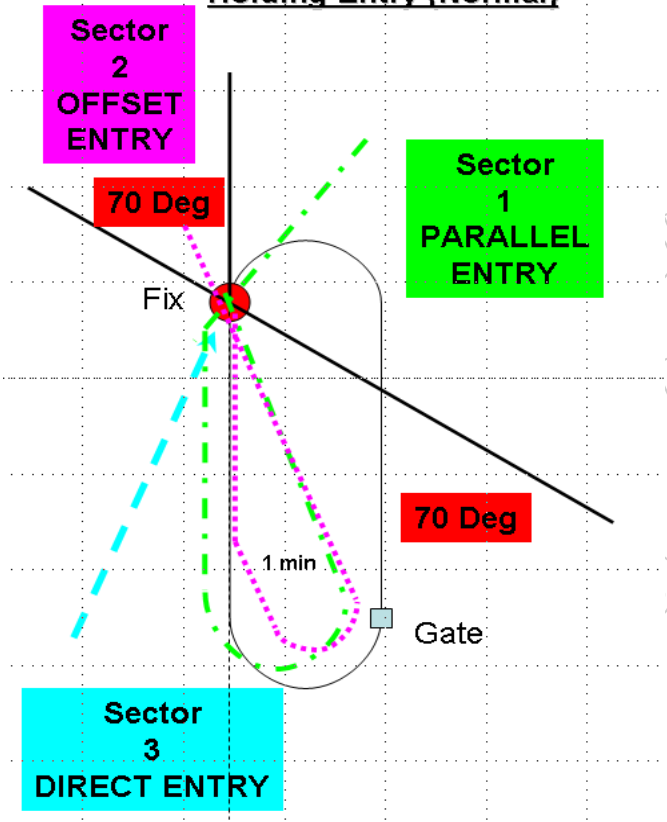


More than
30 Degrees diff.

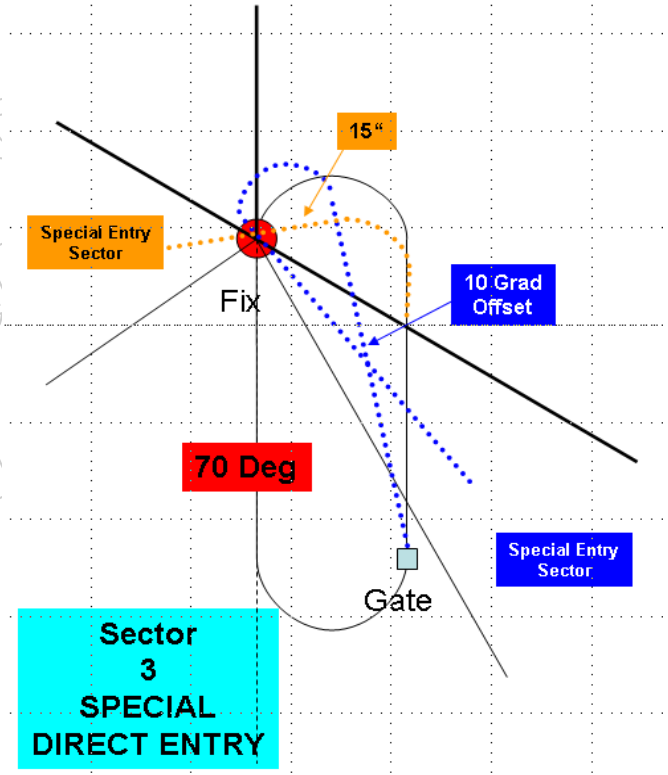
20 Degrees before

90 / 45 Grad Interception

Holding Entry (Normal)

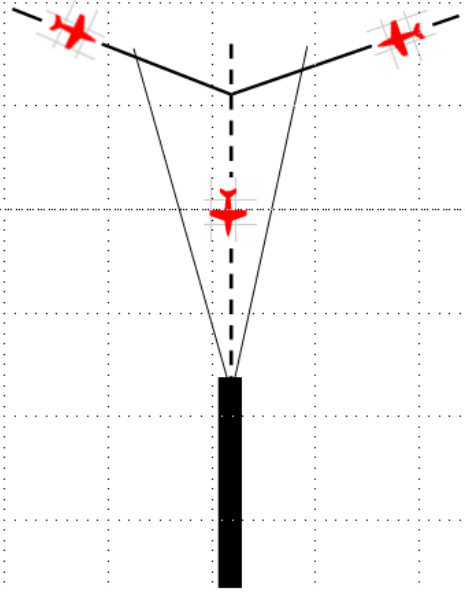


Holding Entry (Special)



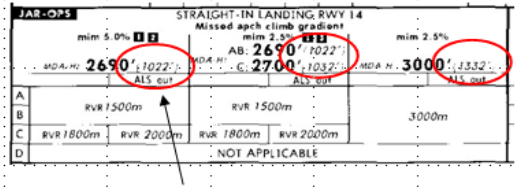
ILS Interception

ILS Interception are always done with **30 Degree**



VDP Calculation

For none Precision AP a **MUST**



MDA / 3 eg 1022 / 3 = 340

340 = 3.4 Miles

Meaning that the VDP is 3.4 Miles from Runway End.

Latest Point for Descent if no steep decent Procedure is possible.

(Divided by 3 = 3 Deg. APP)
(Divided by 4 = 4 Deg. APP)