

CHECKLIST FOR NORMAL OPERATION PIPER P32R

Parameters, restrictions, procedures and emergency procedures according AFM

BEFORE ENGINE START

1	Aircraft & Cockpit inspection	- COMPLETED	1
2	Parking brake.....	- SET	2
3	Flight time counter.....	- RECORDED	3
4	Ignition key	- OFF	4
5	Passenger briefing.....	- COMPLETED	5
6	Seats.....	- ADJUSTED & LOCKED	6
7	Seat belts / shoulder harnesses	- FASTENED & ADJUSTED	7
8	Propeller	- FULL INCREASE	8
9	Mixture.....	- IDLE CUT OFF	9
10	Alternate air	- CLOSED	10
11	Controls	- FREE & CORRECT	11
12	Elevator & Rudder trim	- TAKE OFF	12
13	Flaps (full range)	- CHECKED / UP	13
14	Altimeters.....	- SET	14
15	Battery & Alternator	- ON	15
16	Fuel quantity	- CHECKED.....	16
17	Fuel selector	- FULLEST TANK	17
18	Gear.....	- DOWN / 3 GREEN	18
19	Annunciator warnings.....	- TEST	19
20	Avionic Master	- OFF.....	20

READY FOR ENGINE START**ENGINE START**

1	Propeller area.....	- CLEAR	1
2	Engine start.....	- according AFM	2

ENGINE START COMPLETED**AFTER ENGINE START**

1	Oil pressure.....	- CHECKED.....	1
2	Alternator output.....	- CHECKED.....	2
3	Gyro suction	- CHECKED.....	3
4	Fuel pump.....	- OFF	4
5	Avionic Master	- ON	5
6	IFR / SPECIAL VFR: startup	- RECEIVED	6
7	Annunciator warnings incl. GPS	- CHECKED / OFF	7
8	Slave System.....	- TEST / SET TO SLAVE.....	8
9	Electrical pitch trim	- ON, TEST.....	9
10	Autopilot	- DISCONNECT	10
11	Transponder.....	- MODE CHECKED	11

READY FOR TAXI

TAXI

- 1 Brakes & steering - CHECKED 1
 2 Gyro instruments - CHECKED 2

TAXI CHECK COMPLETED**ENGINE TEST**

- 1 Warm up time - CHECKED 1
 2 Run up - according AFM and page 4 2

ENGINE TEST COMPLETED**BEFORE DEPARTURE**

- 1 Seats - LOCKED 1
 2 Seat belts / shoulder harnesses - FASTENED 2
 3 Fuel pump - ON 3
 4 Fuel quantity - CHECKED 4
 5 Fuel selector - FULLEST TANK 5
 6 Mixture - SET 6
 7 Propeller - FULL INCREASE 7
 8 Friction - SET 8
 9 Alternate air - CLOSED 9
 10 Magnetos - BOTH 10
 11 Controls - FREE & EASY 11
 12 Elevator & Rudder trim - TAKE OFF 12
 13 Flaps - TAKE OFF 13
 14 Flight instruments - SET 14
 15 Avionic - SET 15
 16 Takeoff Briefing - COMPLETED 16
 17 Transponder - CODE SET 17
 18 Autopilot - DISCONNECTED 18
 19 Doors & stormwindow - CLOSED & LOCKED 19

READY FOR DEPARTURE**CLIMB**

- 1 Flaps - UP 1
 2 Gear - UP 2
 3 Power - CHECKED 3
 4 Fuel pump - OFF 4

CLIMB CHECK COMPLETED**CRUISE**

- 1 Flight- & Engine instruments - CHECKED 1
 2 Fuel - CHECKED 2
 3 Power - CHECKED 3

CRUISE CHECK COMPLETED

APPROACH

1	Approach briefing	- COMPLETED	1
2	Seats	- LOCKED	2
3	Seat belts / shoulder harnesses	- FASTENED	3
4	Flight instruments	- SET	4
5	Avionic	- SET	5
6	Autopilot	- DISCONNECT	6
7	Fuel pump	- ON	7
8	Fuel quantity	- CHECKED	8
9	Fuel selector	- FULLEST TANK	9
10	Mixture	- SET	10

APPROACH CHECK COMPLETED**FINAL**

1	Flaps	- SET	1
2	Gear	- 3 GREEN	2
3	Brakes (pressure)	- CHECKED	3
4	Brakes	- FREE	4

FINAL CHECK COMPLETED**AFTER LANDING**

1	Propeller	- FULL INCREASE	1
2	Flaps	- UP	2
3	Electrical consumers	- AS REQUIRED	3
4	Transponder	- MODE CHECKED	4

AFTER LANDING CHECK COMPLETED**ENGINE SHUT DOWN & PARKING**

1	Electrical consumers	- OFF except avionic	1
2	Alternator	- OFF	2
3	Throttle	- IDLE	3
4	Magnetos grounding	- AS REQUIRED	4
5	Mixture	- CUT OFF	5
6	Magnetos	- OFF	6
7	Avionic	- 121.500 TEST	7
8	Flight data	- RECORDED	8
9	Avionic Master	- OFF	9
10	Battery	- OFF	10
11	Aircraft	- CHOCKED / SECURED	11

PARKING CHECK COMPLETED

SPEEDS FOR OPERATION AT MAX. TAKE OFF MASS (MTOM)

			KIAS
Rotate	FLAPS	UP	75
Best angle Vx	FLAPS	UP	80
Best rate Vy	FLAPS	UP	91
Cruise climb Vcc	FLAPS	UP	105
Initial approach	FLAPS	10°	100
Intermediate approach	FLAPS	25° GEAR DOWN	95
Final approach	FLAPS	40° GEAR DOWN	79
Go around before	FLAPS	UP	80
Best glide	CLEAN		80
Max. speed for Flaps			112
Max. speed for Gear up			110
Max. speed for Gear down			132
Max. demonstrated x-wind			17 KT

Power Settings

	MP	RPM
Take off	full open	2700
Climb	25"	2500
Cruise and descent	55 - 65 %	2400
Approach / circuit	as required	2200

RUN UP

Engine.....	2000
Magnetos	max. drop/diff	175/50
Idle	500-700

POSTFLIGHT

Refuel standard	25 USG <i>wing indicator</i>	50USG/187lt
Refill Oil	if below 6 QTS	max. 12 QTS

LOADING

HB-	Empty mass		Moment	[kg] cabine load with fuel:			MTOM	
	[lbs]	[kg]		standard	Filler	full	[lbs]	[kg]
PES	2272	1031	191117	466	412	325	3600	1633

REFUELING

Standard	50 USG	189 lt	136 kg	300 lbs
Inner Tank	70 USG	265 lt	191 kg	420 lbs
Full	102 USG	384 lt	278 kg	612 lbs

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
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ELECTRICAL FIRE (Smoke in cabin)

1	Battery / Alternator	- OFF	1
2	Vents	- OPEN	2
3	Cabin heat	- OFF	3

LAND AS SOON AS PRACTICABLE

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.....	- SET FOR BEST GLIDE 79 KIAS	6

PREPARE FOR POWER OFF EMERGENCY LANDING

ENGINE POWER LOSS IN FLIGHT

- | | | | |
|---|---------------------|----------------------------------|---|
| 1 | Attitude | - BEST GLIDE SPEED 80 KIAS | 1 |
| 2 | Fuel selector | - SWITCH | 2 |
| 3 | Fuel pump | - ON | 3 |
| 4 | Mixture | - RICH | 4 |
| 5 | Alternate Air | - ON | 5 |
| 6 | Ignition | - BOTH | 6 |
| 7 | Engine gauges | - CHECK CAUSE OF POWER LOSS. | 7 |

When power is restored

- | | | | |
|---|---------------------|-------------|---|
| 8 | Alternate Air | - OFF | 8 |
| 9 | Fuel pump | - OFF | 9 |

If power is not restored

- | | | | |
|----|---------------------|-----------------------------------|----|
| 10 | Elevator trim | - SET FOR BEST GLIDE 80 KIAS | 10 |
|----|---------------------|-----------------------------------|----|

PREPARE FOR POWER OFF EMERGENCY LANDING

EMERGENCY LANDING

Trim for best glide speed 80 KIAS

Locate suitable field

When the landing field can easily be reached

- | | | | |
|---|---------------------------------|-------------------------------|---|
| 1 | Seat belts / shoulder harnesses | - TIGHT | 1 |
| 2 | Fuel selector | - OFF | 2 |
| 3 | Mixture | - IDLE CUT OFF | 3 |
| 4 | Throttle | - IDLE | 4 |
| 5 | Ignition | - OFF | 5 |
| 6 | Battery / Alternator | - OFF | 6 |
| 7 | Flaps | - FULL DOWN | 7 |
| 8 | Speed | - REDUCE FOR FINAL APPROACH . | 8 |

ALTERNATOR FAILURE

No Alternator output or Alternator-Warning (Annunciatorpanel) illuminates

- | | | | |
|---|---------------------------------|-----------------------|---|
| 1 | Alternator Switch | - CHECK ON | 1 |
| 2 | Alternator Circuit breaker..... | - CHECK PUSH IN | 2 |

if 1 and 2 are checked on/in and still no output

ALTERNATOR RECYCLING PROCEDURE

- | | | | |
|---|----------------------------|---------------------------|---|
| 3 | Electrical consumers | - OFF as practicable..... | 3 |
| 4 | Alternator Switch | - OFF | 4 |
| 5 | Alternator Switch | - ON aft. 5-10 sec..... | 5 |
| 6 | Alternator output..... | - CHECKED | 6 |

if still no output

- | | | | |
|---|----------------------------|---------------------------|---|
| 7 | Electrical consumers | - OFF as practicable..... | 7 |
|---|----------------------------|---------------------------|---|

Land on the nearest Airport as practicable

RADIO FAILURE

NO RADIOCONTACT WITH TWR / ACC

- | | | | |
|---|----------------------------|-----------------|---|
| 1 | Radio | - ON | 1 |
| 2 | Vol | - TEST..... | 2 |
| 3 | Frequency | - CHECKED | 3 |
| 4 | Headset / Mike Plugs | - CHECKED | 4 |

if still no contact

remain outside of controlled airspace

LOSS OF RADIOCONTACT WITH TWR / ACC

- | | | | |
|---|----------------------------|-----------------|---|
| 1 | Radio | - ON | 1 |
| 2 | Vol | - TEST..... | 2 |
| 3 | Headset / Mike Plugs | - CHECKED | 3 |

if still no contact

- | | | | |
|---|------------------|-----------------------|---|
| 4 | Transponder..... | - 7600 / ALT | 4 |
| 5 | Procedure | - ACCORDING AIP | 5 |

GEAR EMERGENCY

NO GEAR DOWN INDICATION (one or more green lights u/s)

- | | | | |
|---|----------------------------|-------------------------|---|
| 1 | Master..... | - ON | 1 |
| 2 | Circuit breakers..... | - IN..... | 2 |
| 3 | Panel lights | - OFF | 3 |
| 4 | Gear indicator bulbs | - CHECKED, PUSH IN..... | 4 |

If gear does not check down and lock continue with

GEAR EMERGENCY DOWN

- | | | | |
|---|----------------------------|----------------------------|---|
| 1 | Speed | - BELOW 92 KIAS | 1 |
| 2 | Gear selector | - DOWN | 2 |
| 3 | Gear circuit breaker | - PULL OUT | 3 |
| 4 | Emergency gear lever | - PUSH EMERGENCY DOWN..... | 4 |

If main gear has failed to lock down

- | | | | |
|---|------------------------------------|---------------------------------|---|
| 5 | Yaw airplane with the rudder | - ABRUPTLY FROM SIDE TO SIDE .. | 5 |
|---|------------------------------------|---------------------------------|---|

If nose gear will not 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"

If visual gear check positiv

- NORMAL LANDING

If visual gear check negativ

- PREPARE GEAR UP LDG. acc AFM

Prefer concrete runway when ever possible

GEAR UNSAFE INDICATION IN FLIGHT

- | | | | |
|---|---------------------|------------------------|---|
| 1 | Speed | - BELOW 132 KIAS | 1 |
| 2 | Gear selector | - DOWN | 2 |
| 3 | Speed | - BELOW 110 KIAS | 3 |
| 4 | Gear selector | - UP | 4 |

GROUND PROCEDURES**BEFORE FIRST TAXI**

1	Time (Block off).....	-	TABULATED.....	1
2	Directional Gyro.....	-	SET.....	2
3	Taxi Area.....	-	FREE.....	3

TAXI

1	Taxi Light.....	-	ON.....	1
2	Power.....	-	SET.....	2
3	Parking Brake.....	-	RELEASED.....	3

AFTER FIRST TAXI

1	Brakes.....	-	CHECKED.....	1
2	Attitude Indicator.....	-	ERECTED / STABLE.....	2
3	Turn Coordinator.....	-	L/R TURNING.....	3
4	Directional Gyro.....	-	L/R TURN: DECREASING/INCREASING.....	4

STOP

1	Power.....	-	SET.....	1
2	Parking Brake.....	-	SET.....	2
3	Taxi Light.....	-	OFF.....	3

LINING UP

1	Wind (RTF / Windssock).....	-	DIRECTION / SPEED.....	1
2	Runway.....	-	IDENTIFIED.....	2
3	Approach Sector.....	-	FREE.....	3
4	Lights (Landing / Strobe).....	-	ON.....	4

LINED UP & TAKE OFF

1	Brakes.....	-	PUSH.....	1
2	Runway & Gyro Heading.....	-	COMPARE.....	2
3	Take Off Power.....	-	SET.....	3
4	Power (min. RPM).....	-	CHECKED.....	4
5	Brakes.....	-	RELEASED.....	5
6	Speed.....	-	RISE.....	6

PARKING

1	Time (Block on).....	-	TABULATED.....	1
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TAKEOFF BRIEFING

Departure

Wind.....Richtung, Stärke, Einfluss auf Start
 Takeoff procedureGewicht, Temperatur, Pistenzustand
 Speeds.....Profil & Geschwindigkeit bis 2000 ft AAL
 Routing / airspace restrictions.....Flugweg zum verlassen Flugplatzzone

Emergency

Malfunction on GroundMassnahmen vor dem Abheben
 Engine failure TO & Climbout.....erste Massnahmen nach dem Start
 Major Malfunction after TOMassnahmen und Flugweg nach dem Start

APPROACH BRIEFING

Runway in use, routingFlugweg und Höhengates beim Anflug
 Airspace restrictionsEinschränkungen auf dem Flugweg
 Missed approach.....Flugweg und Höhen nach einem Durchstart

FINAL SPEED CALCULATION

MASS FACTOR

Speed Reduction on Final

1 KT per 30 kg below MTOM

WIND FACTOR

Speed Increments Final

if windspeed or gust is exceeding 10% of v-FINAL

Add 1/2 of headwind component to v-FINAL

EXAMPLE FINAL-SPEED INCREMENT

v-FINAL	66 KIAS			
v-HEADWIND	6 KT			
Windspeed	below 10% v-FINAL	=>	increment 0	=> 66 KIAS
v-FINAL	66 KIAS			
v-HEADWIND	20 KT			
Windspeed	above 10% v-FINAL	=>	increment +10 KT	=> 76 KIAS
v-FINAL	66 KIAS			
v-HEADWIND	20 up to 36 KT			
Gustspeed above	10% v-FINAL	=>	increment +18 KT	=> 84 KIAS

FINAL APPROACH SPEED

=

v-FINAL - Mass Factor + Wind Factor

BANK FACTOR

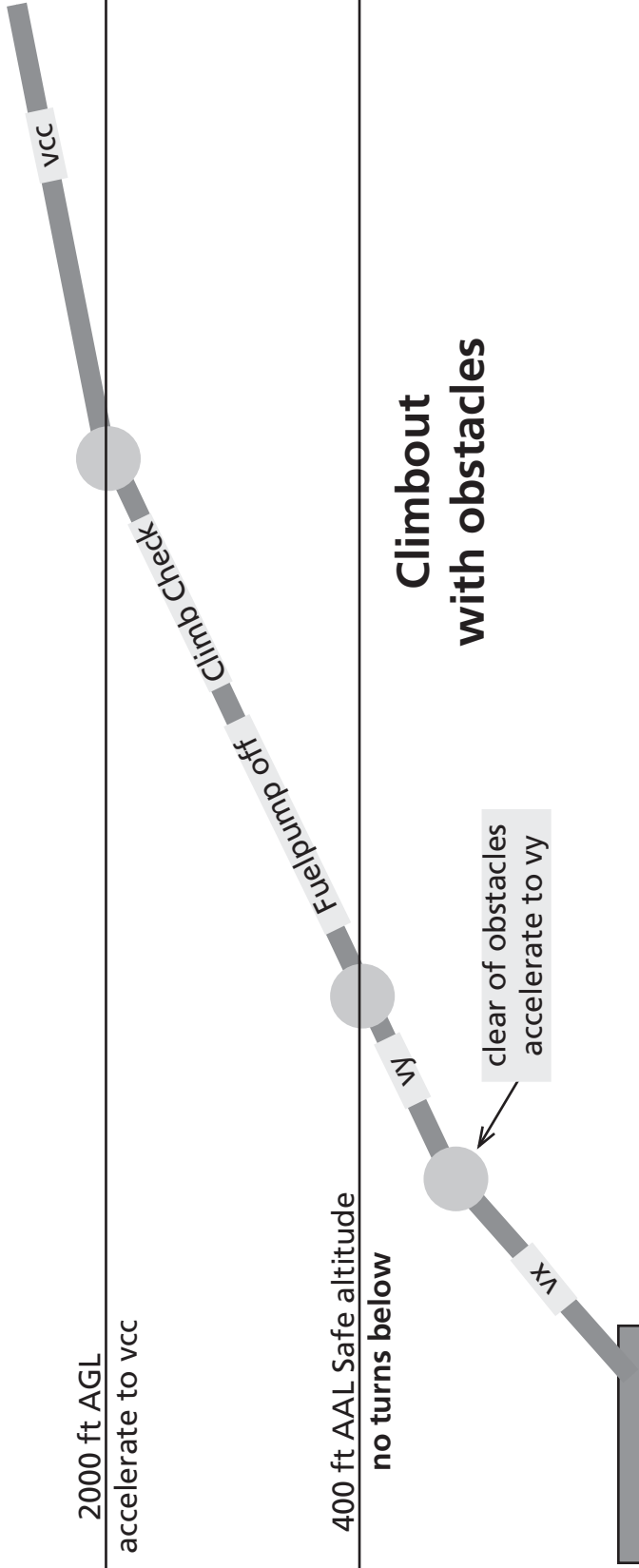
if bankangle for turning final is more than 25°

Add 5 KT to v-INTERMEDIATE

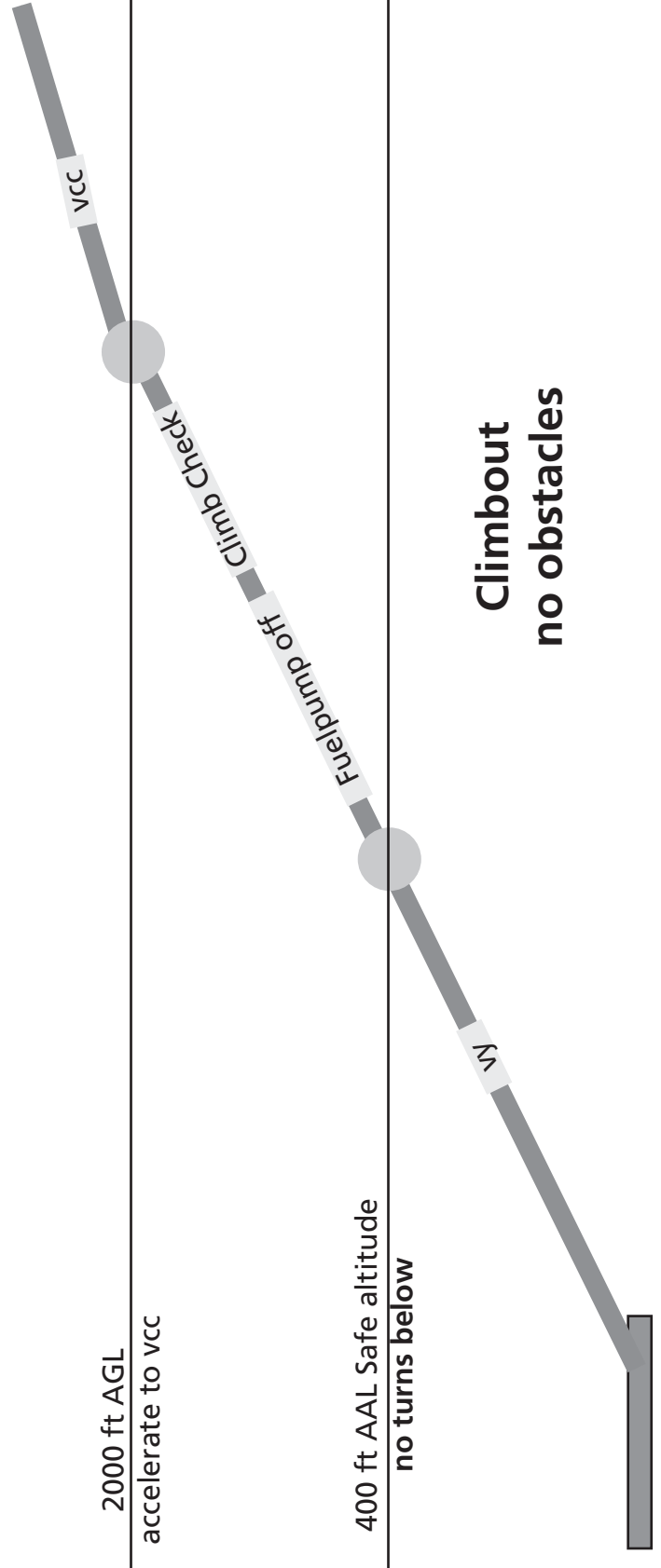
FLIGHTPATH CALCULATION

Flight angle	Gradient [ft/nm], [%]	ROD/ROC [ft/min]	ref. RPM (no wind)
3°	300 ft/nm = 5%	GS x 5	1700
4°	400 ft/nm = 7%	GS x 7	1600
5°	500 ft/nm = 9%	GS x 9	1500

ROD/ROC[ft/min] = GS [kts] x Gradient [%]



**Climbout
with obstacles**



**Climbout
no obstacles**

APPROACHING GLIDE

ABM THR

APPROACH

INITIAL APPROACH

v 100 / Flaps 10

CHECK

Time

DOWNWIND

Gear down, v 90, Flaps 25, start descent

INTERMEDIATE APPROACH

BASE

APPROACHING FINAL

FINAL APPROACH

FINAL

PROPELLER

GATE

CLIMB

reduce to v Final

CHECK

FINAL FULL INCREASE

CLIMB OUT

CHECK

v 95 / Flaps 25

Flaps 40

CROSSWIND

GO AROUND before GATE

- CLIMB RPM
- CLIMB POWER
- ROTATE according speed
- FLAPS RETRACT
- GEAR UP

Propeller.....

Throttle.....

Attitude.....

Speed min. for flaps up + positive ROC

Speed below max gear retract.....

GO AROUND after GATE

- FULL INCREASE
- TAKE OFF POWER
- ROTATE according speed
- FLAPS RETRACT
- GEAR UP

Propeller.....

Throttle.....

Attitude.....

Speed min. for flaps up + positive ROC

Speed below max gear retract.....

