PILOTRULES

PC-12 Turbine Transition & Standardization Course

Pilatus PC-12/45 and PC-12/47 · Pratt & Whitney PT6A-67B / -67P

DOCUMENT	REVISION	EFFECTIVE
PC-12 Program	2026-08	1 August 2026
AIRCRAFT	**ENGINE**	**MAINTAINED BY**
PC-12/45 and PC-12/47	PT6A-67B / -67P	Chief Instructor

WARNING — AUTHORITY OF SOURCE DOCUMENTS

The Pilatus PC-12 Pilot's Operating Handbook / Airplane Flight Manual and the applicable Minimum Equipment List are the only authoritative sources for limitations and procedures. Every figure in this document is a *training reference* for study and briefing. Where this document and the POH disagree, the POH governs. Where a PilotRules company limit is more restrictive than the POH, the company limit applies.

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1 Course structure & prerequisites

Cadets entering the FTU phase (weeks 45–52) and company pilots transitioning to the PC-12 line.

1.1 Prerequisites

- Commercial Pilot certificate with instrument rating (Airplane)
- High-performance and complex endorsements, or equivalent turbine time
- Current first- or second-class medical as required by the operation
- Satisfactory completion of the PilotRules General Operations Manual and Flight Standards Manual examinations

1.2 Course hours

PLANNED COURSE TOTALS

ELEMENT	PLANNED
Ground academics	40 h academics + 12 h systems CBT
Simulator / FTD	12 h FTD/simulator (6 sessions)
Aircraft flight training	15 h dual minimum, plus checkride
Calendar duration	3 weeks at the standard 12-hour duty day

> **NOTE**
> Hours are planning targets. Every lesson is flown to proficiency against the published standard, so a repeated lesson extends the course rather than reducing the standard.

2 The three stages, lesson by lesson

Each stage is a gate. A cadet or line pilot does not proceed to the next stage until the current stage's assessments are satisfactory. Stage 2 ends with a line-oriented evaluation in the simulator, and Stage 3 ends with the practical evaluation.

Stage 1 — Systems academics

Days 1–6 · Know every system, limitation, and CAWS annunciation cold.

LESSON	CONTENT	HOURS	ASSESSMENT
T-1	Airframe, flight controls, flaps, landing gear, doors	6 h ground	Systems quiz 1 — 80% to pass
T-2	PT6A-67 powerplant, propeller, and governing	8 h ground	Systems quiz 2 + oral board
T-3	Fuel, electrical, and emergency power	7 h ground	Systems quiz 3; draw the fuel and electrical flow paths from memory
T-4	ECS, pressurization, oxygen, ice protection	7 h ground	Systems quiz 4
T-5	Limitations, performance, weight and balance	6 h ground	Closed-book limitations exam — 100% required
T-6	MEL usage, GOM and FSM policy, dispatch	6 h ground	MEL practical scenarios

Stage 2 — Procedures & simulator

Days 7–13 · Fly standard flows, callouts, and profiles as a crew without prompting.

LESSON	CONTENT	HOURS	ASSESSMENT
S-1	Flows, checklist discipline, division of duties	2 h FTD	All ground flows from memory
S-2	Normal takeoff, climb, cruise, descent, visual pattern	2 h FTD	Standard callouts unprompted
S-3	Precision and non-precision approaches, missed approach	2 h FTD	Stabilized by 500 ft every approach
S-4	Confidence maneuvers — slow flight, stalls, steep turns	2 h FTD	Published tolerances met
S-5	Engine failures, fires, depressurization, emergency descent	2 h FTD	Memory items verbatim; confirmation protocol used

LESSON	CONTENT	HOURS	ASSESSMENT
S-6	Line-oriented evaluation — full route with abnormals	2 h FTD	Stage 2 check — satisfactory to proceed to the aircraft

Stage 3 — Aircraft flight training

Days 14–21 · Operate the aircraft to company standard and pass the practical evaluation.

LESSON	CONTENT	HOURS	ASSESSMENT
A-1	Acceptance, start, taxi, normal takeoff and landing	2.5 h dual	Acceptance checklist and flows to standard
A-2	Pattern work — flaps 15/30/40, crosswind, short field	2.5 h dual	Consistent VREF touchdowns on centerline
A-3	Confidence maneuvers and slow-speed handling	2.5 h dual	Tolerances met; pusher demonstration complete
A-4	Instrument approaches, holding, circling	2.5 h dual	Deviation callouts corrected immediately
A-5	Abnormal and emergency handling, single-engine-out planning	2.5 h dual	Memory items applied in the aircraft
A-6	Checkride profile and mock oral	2.5 h dual	Endorsement for the practical evaluation
A-7	Practical evaluation (check airman or DPE)	1.5 h	Pass — line qualified

3 Airframe & powerplant summary

TYPE SUMMARY

ITEM	DETAIL
Type	Pilatus PC-12 (PC-12/45 and PC-12/47)
Engine	Pratt & Whitney Canada PT6A-67B / PT6A-67P
Rating	1,600 SHP thermodynamic, flat-rated to 1,200 SHP at 1,700 propeller RPM
Propeller	4-blade Hartzell 105" (104" minimum), hydraulically actuated, constant speed, full feathering, reversible
Approved fuel	Jet-A, Jet-A-1, Jet-B, JP-4 — anti-ice additive required below 0 °C ambient
Crew concept	Single-pilot certified; operated two-crew (PIC/SIC) under the PilotRules Flight Standards Manual

DIMENSIONS & GROUND HANDLING

MEASUREMENT	VALUE
Wingspan	53 ft 4 in
Length	47 ft 3 in
Height	14 ft 0 in
Wheelbase	14 ft 10 in
Turn radius — rudder only	57 ft 5 in
Turn radius — max braking	35 ft 7 in

4 Limitations

LIMITATION

Limitations are memory items. The closed-book limitations examination in Stage 1 requires **100%** — there is no partial credit on a limit.

4.1 Engine operating limits

WHERE A COMPANY VALUE IS SHOWN IT IS THE MORE RESTRICTIVE FIGURE AND IT GOVERNS

CONDITION	SHP	TORQUE	MAX ITT	NG	NP	OIL PRESS	OIL TEMP
Takeoff (max 5 min)	1,200	44.3 psi	800 °C (-67B) / 850 °C (-67P)	104%	1,700 RPM	90–135 psi	10–110 °C
Max continuous / max climb & cruise	1,000 (-67B) / 1,200 (-67P)	36.9 psi — company 35.0 (-67B) / 36.0 (-67P)	760 °C — company 700 (-67B) / 760 (-67P)	104%	1,700 RPM	90–135 psi	10–105 °C
Max reverse	900	34.3 psi	760 °C	—	1,650 RPM	90–135 psi	10–105 °C
Starting (max 5 sec)	—	—	1,000 °C	—	—	200 psi max	-40 °C min
Transient (max 20 sec)	—	61 psi	870 °C	104%	1,870 RPM	40–200 psi	-40 to 110 °C
Minimum idle	—	—	750 °C	Ground idle 50.7% · flight idle 64%	—	60 psi min	-40 to 110 °C

4.2 Propeller limits

ITEM	LIMIT / INDICATION
Maximum normal operation	1,700 RPM
Maximum transient (20 sec)	1,870 RPM
Maximum reverse	1,650 RPM
Prohibited range	350–950 RPM
Primary governor failure indication	Np above 1,700 RPM
Overspeed governor failure indication	Np above 1,802 RPM
Nf governor failure indication	Np above 1,853 RPM

ITEM	LIMIT / INDICATION
Blade angle below 6° in flight	CAWS PROP LOW P illuminates

4.3 Airspeed limits (KIAS)

SPEED	PC-12/45	PC-12/47
VR — flaps 15°	79	81
VR — flaps 30°	73	75
VSO	64	66
VS1	91	93
VX	110	110
VY	120	120
VA — max weight	158	163
VLE	236	236
VLO	177	177
VFE — flaps 15°	163	163
VFE — beyond 15°	130	130
VREF — flaps 0°	118	120
VREF — flaps 15°	98	100
VREF — flaps 30°	89	91
VREF — flaps 40°	84	86
VNE	236	236
MMO	0.48	0.48

4.4 Weight limits

LIMIT	PC-12/45	PC-12/47
Maximum ramp	9,965 lb	10,495 lb
Maximum takeoff	9,921 lb	10,450 lb
Maximum landing	9,921 lb	9,921 lb
Maximum zero fuel	9,039 lb	9,039 lb
Baggage compartment	265 / 400 lb	265 / 400 lb

4.5 System & operating limits

SYSTEM	LIMIT
Altitude	FL300 maximum operating; FL250 maximum single-pilot
Pressurization	5.75 psi normal differential; safety valve 6.35 psi; 6.5 psi maximum
Temperature	+50 °C to -55 °C ambient; deice boots +40 °C to -40 °C
Fuel	402 gal usable (2,703.6 lb); maximum imbalance 178 lb (3 LCD segments)
Oil	14.5 qt capacity; operating range full to 4 qt low
Starter	24 V minimum for battery start; sequence–60 s–sequence–60 s–sequence–30 min off
Icing	Boots operative: flaps 15° max. Boots failed: flaps 0° max.
Inertial separator	Open below 10 °C in visible moisture and for all ground operations
Autopilot	Engage/disengage 1,000 ft AGL; 200 ft AGL on ILS with operative radar altimeter
Crosswind (demonstrated)	Flaps 0° 30 kt · 15° 25 kt · 30° 20 kt · 40° 15 kt (landing only)
Tailwind	10 kt maximum — PilotRules company limit
VCCS	POH FL250; PilotRules company limit — ground operations only

CAUTION

Baggage compartment limits depend on the installed configuration and net part number. Confirm the applicable figure in the POH for the specific airframe before loading.

5 Systems study guide

These are the study modules for the Stage 1 academic block and the oral evaluation. A cadet is expected to be able to draw the fuel and electrical flow paths from memory and to explain every CAWS annunciation.

5.1 Flight controls & flaps

- Bellcranks, cables, and push/pull rods — manual, unassisted linkage.
- Aileron trim tab on the left aileron, electrically operated; the /47 adds a geared tab on the right aileron.
- Stabilizer trim electric with a primary motor and an autopilot/standby motor; rudder trim electric.
- Aileron/rudder interconnect engages beyond flaps 0° (/45) or at any flap setting (/47).
- Single-piece Fowler flap per wing driven by one electric Power Drive Unit through two flexible shafts.
- Only 0°, 15°, 30°, and 40° are available; the Flap Control and Warning Unit disengages the PDU on 5° asymmetry, 2° twist, or shaft failure.
- FCWU cannot be reset after it disengages the PDU. Asymmetry or twist also drives the pusher into safe mode — activation approximately 5 kt sooner.

5.2 Landing gear & brakes

- Tricycle gear: nose gear fluid/nitrogen strut, mains trailing link.
- Hydraulically extended and retracted by an electric power pack on the non-essential bus — subject to auto-shedding on GEN 1 failure.
- Mechanical downlocks; no uplocks — held up by hydraulic pressure 2,725–2,875 psi, recharging below 2,450 psi.
- Nitrogen accumulator holds the gear up about 200 minutes after a power-pack failure.
- Nose steering approximately 12° with rudder only, 60° with braking.
- Gear horn evaluates handle position only, not actual gear position. Cannot be silenced with flaps beyond 15°.
- Emergency extension: pull HYD CTL CB, select gear down, slow below 110 KIAS for free fall; hand pump up to 60 strokes if required.
- Brakes are hydraulically actuated single-disc, independent of the aircraft hydraulic system. Whichever pilot applies more pressure has control.

5.3 Powerplant — PT6A-67

- Reverse-flow, free-turbine turboprop: 4 axial stages plus 1 centrifugal compressor stage, annular combustor.
- Approximately 20% of intake air supports combustion; 80% is cooling. Exhaust jet thrust contributes about 6% of total power.

- Inertial separator prevents FOD and ice ingestion — required open on the ground and below 10 °C in visible moisture.
- Compressor bleed valve operates 86–92% Ng to prevent the axial compressor overloading the centrifugal stage.
- 14 duplex nozzles; secondary flow begins near 45% Ng. Insufficient secondary flow produces a hung start at 30–45% Ng.
- Two spark plugs on a single igniter. Auto-ignition arms when ITT falls below 500 °C with Ng above 10%.
- Single compressor turbine (Ng) 37,468 RPM at 100%; two power turbines (Nf) 29,894 RPM at 100%.
- Reduction gearbox drops power-turbine speed to 1,700 propeller RPM. Torque is measured as the ratio of engine oil pressure to RGB pressure.
- Oil tank is integral to the engine casing and pressurized — an unsecured dipstick or filler cap will pump the oil overboard and seize the engine.
- Mixing oil brands is prohibited. Check oil MAX HOT within 10 minutes of shutdown or MAX COLD after 12 hours.
- Fire detection uses a helium-filled sensing tube with a hydrogen core; general or localized heating raises pressure and trips the fire switch.

5.4 Propeller & governing

- Pitch changes hydraulically: oil pressure drives fine, the feathering spring plus counterweights drive coarse.
- Primary low-pitch stop 19°; minimum 6° blade angle in flight.
- Constant Speed Unit at the 12 o'clock position on the RGB maintains 1,700 RPM with a speeder spring and flyweights.
- Nf governor within the CSU limits Np to 1,853 RPM by venting Py air to the FCU, and acts as primary governor in reverse (1,650 RPM).
- Overspeed governor at the 9 o'clock position limits Np to 1,802 RPM and carries the feathering solenoid valve — the battery bus must be powered to feather.
- Beyond the flight-idle detent the PCL directly controls the beta valve, down to -17.5° in full reverse; further PCL movement then increases engine speed.
- Selecting beta or reverse in flight or with the engine shut down is prohibited — the linkage will be damaged without oil lubrication.

5.5 Fuel system

- Two integral tanks per wing: outboard main and inboard collector, 406.8 gal total and 402 gal usable.
- Motive-flow jet pumps do the primary transfer: transfer jet pump main to collector, delivery jet pump collector to the engine.

- One 28 VDC electric boost pump per collector tank supplies start pressure; in AUTO it runs when pressure falls below 2 psi and stays on 10 seconds after pressure exceeds 3.5 psi.
- Automatic balancing runs the boost pump in the fuller tank when the EIS senses more than 5% difference, with a one-minute delay to avoid cycling in turbulence.
- Flow path: main tanks → transfer jet pump → collector (boost pump) → delivery jet pump → maintenance shutoff → filter → air separator → firewall shutoff → engine-driven low-pressure pump → oil-to-fuel heat exchanger → high-pressure pump → filter → FCU → transducer → flow divider → 14 nozzles.
- Oil-to-fuel heat exchanger prevents fuel icing: maximum oil flow below 21 °C fuel, none above 32 °C.
- There is no redundancy for the high-pressure engine-driven pump — its failure is an engine failure.
- Fuel filter bypass extends a red button that must be checked before every flight.
- L/R FUEL LOW illuminates below approximately 20 gal in the associated wing. Reset the totalizer after each refuel and start.

5.6 Electrical

- 28 VDC system. GEN 1 is a combined starter/generator, 300 A continuous and 450 A for up to 2 minutes per hour.
- GEN 2 is a 115 A belt-driven generator — do not switch on until GEN 1 amps fall below 100 (single battery) or 150 (dual battery).
- One or two 24 VDC 42 Ah lead-acid batteries: 20 minutes below 60 A load, 30 minutes below 50 A.
- External power requires 500 A to run systems and 1,000 A to start; it disconnects above 29.5 V or below 23 V.
- Hot battery (battery direct) bus powers the clock, 50% dome light, cargo door motor and light, and energizes the standby bus.
- Standby bus should be the first switch on: VHF NAV/COMM 1, audio panel, GPS 1, avionics blower.
- Non-essential bus auto-sheds on GEN 1 failure and can be recovered with NON ESS OVRD.
- Bus tie is normally closed; GEN 2 tie is normally open. On a single generator failure the tie closes — do not exceed 115 A on GEN 2.
- Two 26 VAC 400 Hz inverters synchronize AHRS and similar instruments; INVERTER illuminates below 20 VAC.
- Emergency Power System: 24 VDC 5 Ah battery feeding COMM/NAV 1, standby attitude indicator, and CDI lighting. Test 5 seconds for the green BAT TEST light before arming.
- Starter cutoff occurs at 50% Ng; the unit becomes a generator when the generator switch is selected on.

5.7 Environmental & pressurization

- ECS takes P2.5 bleed above roughly 80% Ng and P3 below, through the primary shutoff valve, flow-control venturi, and temperature control valve.

- TCV modulates air through or around the heat exchanger and cooling turbine; auto mode follows the cabin sensor in the headliner, targeting 20–24 °C.
- Manual mode disables maximum and minimum temperature limits and risks system damage — use only when auto is unserviceable.
- ECS shuts down automatically when the starter is activated, and on over-temperature or over-pressure.
- Pulling the firewall shutoff handle closes bleed air and opens the emergency ram air scoop to maintain pressurization and clear smoke.
- Cabin pressurization maintains 5.75 psi differential — a 10,000 ft cabin at FL300. CAB PRESS illuminates at 6.5 psi or a cabin above 10,500 ft ±200 ft.
- Set cabin altitude 500 ft above cruise altitude for departure and 500 ft above field elevation for arrival. Rate is adjustable roughly 100–2,000 fpm, with 500 fpm near the 12 o'clock position.
- ECS DUMP applies vacuum to the safety valve for rapid depressurization; closing the bleed firewall shutoff alone depressurizes slowly.
- Oxygen: single canister filled to 1,850 psi maximum, regulated to about 70 psi, with a 2,775 psi rupture disc. Crew masks are full-face diluter-demand quick-donning.
- Passenger masks are constant flow and must be connected and stowed above 10,000 ft MSL; AUTO delivers oxygen above a 13,500 ft ±500 ft cabin.

5.8 Ice protection

- Pitot tubes, static ports, and AOA probes are electrically heated on a single switch; OAT below 4 °C with probe heat off blinks the EIS caution.
- Each windshield has three heating elements with LIGHT and HEAVY selections and independent controls; both must be tested before flight.
- Engine inlet is heated with exhaust drawn from the left stack and vented out the right.
- Propeller boots are electrically heated in opposing pairs (blades 1 and 3, then 2 and 4) on a timer scheduled by OAT: none above 0 °C, 45 s on with 90 s off between 0 and -16 °C, 90 s at or below -16 °C.
- Propeller heat plus inertial separator puts the shaker/pusher computer into Pusher Ice Mode, lowering activation angles of attack by 8°.
- Wing and horizontal stabilizer pneumatic boots run on P3 air regulated to 14 psi with an 18 psi relief valve, sequenced 8 seconds per section through five ejector flow control valves.
- Cycle selection is 1 or 3 minutes; switching off mid-cycle will not stop the cycle. DEICE BOOTS illuminates if a section fails to reach 11 psi.
- All ice protection must be tested before flight into known or forecast icing.

6 Crew concept, confirmation protocol & checklist discipline

The PC-12 is certified for single-pilot operation. PilotRules operates it **two-crew** throughout training and on the line, with a clear Pilot Flying and Pilot Monitoring at all times. The PF controls the aircraft and makes configuration calls; the PM operates the controls called for, monitors instruments, and handles radios except during an emergency, when the PF takes the radio while the PM runs the checklist.

6.1 Checklist philosophy

A **flow** is accomplished first from memory by position, then the **checklist** is read to verify configuration. Checklists are read challenge–response unless marked silent. The PF initiates a checklist by name; the PM confirms the name before reading the challenges. The PM announces the checklist complete by name.

A response of “as required” is not an approved response — the actual switch position or state is the response. Both crewmembers are responsible for visually verifying that the action taken matches the response given.

> **CAUTION**
> If a checklist is interrupted, start it over from the beginning unless you are certain of the last item completed — meaning your finger is physically on it.

6.2 Confirmation protocol for critical controls

When a procedure moves a switch or control critical to flight safety — guarded switches, PCL, condition lever, fuel emergency shutoff, master power — the acting pilot must obtain confirmation before moving it.

CONFIRMATION SEQUENCE

1. **PF states "Condition lever, cutoff" and places a hand on the lever without moving it.**
2. **PM verifies the PF is touching the correct control and calls "Condition lever confirmed."**
3. **PF moves the lever and calls "Cutoff."**

6.3 Emergency checklist technique

Emergency checklists are run **challenge — response — response**: the PM reads the challenge, performs the action, then states the response again. The first crewmember to recognize an emergency states the problem clearly. If the condition has memory items, the PF calls and accomplishes them, then calls for the checklist. The PIC retains final authority for how the situation is handled and who flies.

7 Standard flows

Flows are accomplished from memory before the corresponding checklist. Items are assigned by seat and by role for convenience of reach. Standardization is not optional — every crew flies the same flow.

After Start flow

> **NOTE**
> Wait until both generators are online and stabilized before adding electrical load.

PILOT FLYING	PILOT MONITORING	CAPTAIN	FIRST OFFICER
GEN 1 — On	GPS — Initialized, flight plan loaded	Fuel totalizer — Reset	Pax signs — On
GEN 2 — On (GEN 1 amps below 100)	Transponder — Verify ALT	Engine instruments — Check	Cooling/heating (VCCS) — As needed
GPU — Disconnect	Cabin/flight deck outlets — On	—	ECS switch — Auto
Inverter — Switched	—	—	—
Avionics 1 and 2 — On	—	—	—
Standby bus — Off	—	—	—

Before Taxi flow

> **NOTE**
> Flaps 15° are required for the pusher test. Select flaps 30° after the pusher test for short-field departures.

PILOT FLYING	PILOT MONITORING	CAPTAIN	FIRST OFFICER
—	—	Pusher system — Test	Flaps — 15°
—	—	Autopilot — Test	Probes — Test
—	—	GA / heading / altitude — Set and armed	Windshield heat — Test
—	—	TAS — Test/On	—
—	—	Pressurization — Set (cruise +500 ft)	Flaps — 30° (short field only)

Taxi flow

> **NOTE**
> Boots and propeller deice are tested on each crew's first flight of the day, and before any flight into known or forecast icing.

PILOT FLYING	PILOT MONITORING	CAPTAIN	FIRST OFFICER
Brakes — Check	EGPWS — Test	Taxi light — On	Ice protection — Test
Takeoff brief — Conduct	—	—	—

Before Takeoff (below the line) flow

> **NOTE**
> PF calls "Before Takeoff Checklist below the line"; PM reports "Before Takeoff Checklist" when complete.

PILOT FLYING	PILOT MONITORING	CAPTAIN	FIRST OFFICER
Flight idle — Set	Heading bug — Synced once aligned	All lights — On	Ice protection — As required

After Landing (clear of runway) flow

> **NOTE**
> No configuration changes until clear of the active runway. Silent checklist — PM reports complete.

PILOT FLYING	PILOT MONITORING	CAPTAIN	FIRST OFFICER
Ground idle — Set	Flaps — 0° or 15° as directed	Exterior lights — As needed	Probes/windshield heat — Off
—	Trim — Centered	Radar — Standby	Oxygen — Off

Shutdown flow

> **NOTE**
> Turn off VCCS, ECS, avionics, and landing/taxi lights before the generators to avoid excessive battery draw. Never leave the aircraft with the battery or standby bus on.

PILOT FLYING	PILOT MONITORING	CAPTAIN	FIRST OFFICER
PCL — Idle	—	Parking brake — Set	VCCS — Off
Standby bus — On	—	Taxi light — Off	Pax signs — Off
Avionics 2 then 1 — Off	—	EPS — Off	ECS — Off

PILOT FLYING	PILOT MONITORING	CAPTAIN	FIRST OFFICER
GEN 2 then GEN 1 — Off	—	Cabin/flight deck outlets — Off	—
Condition lever — Cutoff	—	Time in and fuel burn — Record	—

8 Callouts & deviation limits

8.1 Deviation callouts

The PM calls the deviation and states it; the PF acknowledges and corrects. A deviation that is called twice without correction is a go-around or a transfer of control.

CONDITION	PILOT MONITORING	PILOT FLYING
Airspeed deviation greater than 10 kt	"Airspeed" — state deviation	"Correcting"
Altitude deviation greater than 100 ft	"Altitude" — state deviation	"Correcting"
Glideslope deviation greater than 1 dot	"Glideslope" — state deviation	"Correcting"
Localizer/course deviation greater than ½ dot	"Localizer" — state deviation	"Correcting"

8.2 Approach callouts

POINT	CALL	BY
1,000 ft above MDA/DA	"1,000 to minimums"	PM
500 ft above MDA/DA	"500 to minimums"	PM
500 ft above touchdown elevation	Stabilized at VREF — mandatory gate	PF
100 ft above MDA/DA	"100 to minimums"	PM
Approach lights acquired	"Approach lights in sight" / "Continuing"	PM / PF
Runway acquired	"Runway in sight" / "Landing"	PM / PF
At minimums	"Minimums, (mileage)"	PM
Missed approach point, no visual	"Missed approach point" / "Going missed"	PM / PF

LIMITATION

The approach must be stabilized at VREF for the set flap configuration no later than **500 FT ABOVE TOUCHDOWN ELEVATION**. If it is not stabilized at that gate, go around.

9 Normal profiles

9.1 Visual approach & traffic pattern

- Enter the pattern at 150 kt; higher speeds may be accepted in controlled airspace at ATC request.
- Approaching midfield slow to 120 kt. PF verifies below 163 kt and calls "Flaps 15"; PM verifies, calls "Speed checked, flaps 15," and selects.
- Abeam the touchdown point PF verifies below 177 kt and calls "Gear down, yaw damper off, lights on"; PM verifies and selects.
- Descend and slow to VREF+10 for the set flap position. Turn base 45° past the touchdown point.
- For flaps 30/40, PF verifies below 130 kt and calls the setting; PM verifies, calls "Speed checked," and selects.
- Once configured, PF calls for the Before Landing Checklist. PM reads and completes it with the PF.
- Established at VREF no later than 500 ft above touchdown elevation.

9.2 Non-precision approach

- Brief the approach, set guidance, and load the procedure before commencing.
- Set every step-down altitude in the altitude preselect and make standard altitude callouts.
- PM calls "1,000 to minimums," "500 to minimums," and "100 to minimums."
- PF is established at VREF for the set flap position no later than 500 ft above touchdown elevation.
- PM maintains an outside watch and calls visual cues as they appear; PF acknowledges "Continuing" or "Landing."
- At MDA, PM calls "Minimums, (mileage)" and PF adds power to hold VREF. Set the missed approach altitude in the preselect.
- At the missed approach point with no visual cues, PM calls "Missed approach point"; PF calls "Going missed" and executes.

9.3 Missed approach

- Execute for full-scale course deflection, loss of navigation, runway environment not in sight, a contaminated runway, or any time either pilot judges the approach unsafe.
- Either pilot may call "Missed approach." PF calls "Going missed" and begins immediately.
- Select GA mode, pitch approximately 10° to the flight director, and smoothly advance the PCL to takeoff power.
- PF calls "Takeoff power set"; PM verifies engine instruments normal and calls "Power set."
- PF calls "Flaps 15" (omitted if the approach was flown flaps 0).
- PM calls "Positive rate"; PF calls "Gear up, yaw damper on, lights off."
- Above 100 kt but no lower than 400 ft AGL, PM calls "400 feet, 100 knots"; PF calls "Flaps up."

- Above 1,000 ft AGL set climb power, accelerate to 140 kt, and call for the Climb Checklist.

9.4 Landing

- A stabilized approach at VREF for the set flap setting is mandatory prior to 500 ft above touchdown elevation.
- Smooth gradual flare; touch down on the mains on centerline.
- Lower the nosewheel gently — never allow it to slam down.
- After the nosewheel is down, move the PCL into beta/reverse while holding centerline.
- Come out of reverse smoothly near 50 kt to limit blade erosion; exercise care on surfaces with loose sand or gravel.
- Brakes are sensitive and tires flat-spot easily — where runway length allows, delay braking until below 50 kt and apply gently.
- Slow to a safe taxi speed before turning off, and make no configuration changes until clear of the runway.

10 Confidence maneuvers & tolerances

Flown during training and evaluations only. Maneuvers may be combined at instructor or check airman discretion — efficient energy and configuration management is part of the assessment, and there is no requirement to return to 150 kt between every maneuver.

MANEUVER	ENTRY & SETUP	TOLERANCE
Slow flight	5,000 ft AGL minimum, 150 kt, autopilot and yaw damper off, PCL 5 psi	Altitude ±50 ft, heading ±5°, bank ±5°, airspeed +5/-0 kt
Approach to stall — landing configuration	Gear down, flaps 40, PCL idle, recover at stick shaker	Heading ±10°, bank up to 20° ±10°
Approach to stall — departure configuration	Flaps 15, 100 kt, PCL 15 psi, 15° bank and 15° pitch up, recover at shaker	Heading ±10°, bank up to 20° ±10°
Approach to stall — clean configuration	PCL idle, recover at stick shaker or pusher for a pusher demonstration	Heading ±10°, bank up to 20° ±10°
Steep turns	5,000 ft AGL minimum, 150 kt, 50° bank, 360° each direction	Altitude ±100 ft, roll out on entry heading ±5°

11 Emergency memory items

WARNING

These are recall items. They are performed from memory, in order, before any checklist is opened. Any action moving the PCL, condition lever, fuel emergency shutoff, or master power requires the confirmation protocol in section 6.2 — even under time pressure.

ENGINE PARTIAL POWER LOSS

1. Scan the EIS for cause.
2. Fuel pumps — On ("Fuel pumps, on").
3. Igniters — On ("Igniters, on").
4. Sweep the PCL forward and aft for response; if none, PCL — Idle.
5. If fuel flow is constant but low, lift the MOR and advance slowly, allowing the engine to stabilize between movements.
6. If Ng falls below 50%, Starter — On.
7. Call for the associated checklist.

ENGINE FAILURE BELOW 1,000 FT AGL

1. Sweep the PCL for response; if none, PCL — Idle.
2. Condition lever — Cutoff (confirmed by the other pilot before movement).
3. Below 130 kt, Flaps — 40.
4. Maintain VREF for the current flap position.
5. Non-essential — Override.
6. Gear — Down.
7. Fuel emergency shutoff — Off (confirmed).
8. After touchdown, Master power — Off (confirmed).

ENGINE FAILURE ABOVE 1,000 FT AGL — RETURN TO RUNWAY

1. Pitch for best glide and bank toward the runway if required to remain within landing distance.
2. Flaps — 15. For a 180° turn back, set flaps 15 as the turn begins and stay no slower than on-speed AOA.
3. Scan the EIS; Fuel pumps — On; Igniters — On.
4. Sweep the PCL; if no response, PCL — Idle, then MOR forward slowly.
5. If Ng falls below 50%, Starter — On.
6. If no response to the MOR, Condition lever — Cutoff (confirmed).
7. When the runway is made: Non-essential — Override, Gear — Down.

ENGINE FIRE IN FLIGHT

1. PCL — Reduce to the minimum acceptable for the situation.
2. ECS emergency shutoff — Pull (confirmed).
3. Both pilots don oxygen masks.
4. PM instructs passengers to don masks.
5. Call for the associated checklist.

SMOKE OR FIRE IN THE CABIN

1. Both pilots don oxygen masks on 100% oxygen.
2. PM instructs passengers to don masks.
3. Initiate an emergency descent to below 10,000 ft MSL, or minimum safe altitude if higher.
4. Call for the associated checklist.

RAPID DEPRESSURIZATION ABOVE 10,000 FT

1. Both pilots don oxygen masks on 100% oxygen.
2. PM instructs passengers to don masks.
3. Initiate an emergency descent to below 10,000 ft MSL, or minimum safe altitude if higher.
4. Call for the associated checklist.

EMERGENCY DESCENT

1. Autopilot — Off.
2. PCL — Idle.
3. Below 177 kt, Gear — Down.
4. Pitch over to maintain MMO or VNE — this requires substantial pitch down.
5. If structural failure is suspected, reduce to 170 kt.
6. Call for the associated checklist.

ABNORMAL STARTS

1. Hot start (ITT rising rapidly past limits): Condition lever — Cutoff; motor at least 15 seconds, then press starter interrupt.
2. Hung start (Ng stabilizes below 50%): Condition lever — Cutoff; press starter interrupt.
3. No start (ITT not rising within 10 seconds of fuel): Condition lever — Cutoff; press starter interrupt.
4. Abort a start for Ng 104%, 1,700 RPM, or 1,000 °C ITT.

12 Oral evaluation question bank

The oral board draws from these areas. A satisfactory answer explains the system, not just the number.

AREA	REPRESENTATIVE QUESTIONS
Flight controls	How are the control surfaces operated? What causes a red FLAPS annunciation? Where is aileron trim and how is it driven?
Landing gear	How is the gear held up, and what happens if pressure is lost? What are the nose steering limits? Walk through emergency extension.
Powerplant	Describe the engine by type and rating. How many nozzles, and when does secondary flow begin? What is the inertial separator and when is it used? Trace the fuel path from tank to nozzle.
Propeller	Describe each governor and the RPM it limits. When is beta or reverse prohibited? What is the minimum in-flight blade angle?
Electrical	What are the electrical sources and their ratings? What sheds on a GEN 1 failure, and how do you recover it? How long will the batteries carry the load?
Pressurization & oxygen	What is the normal and maximum cabin differential? How do you set the controller for departure and arrival? How do you accomplish a rapid depressurization?
Ice protection	What is Pusher Ice Mode and what triggers it? Describe the boot cycle and its failure indication. What are the boot temperature limits?
Operations & policy	When must an approach be stabilized? What is the policy on checklist interruptions? What are the autopilot altitude limits? What action may a pilot take on an (M) MEL item?