

PILOT**RULES**

General Operations Manual

PilotRules Flight Academy · Southeast Aerial Systems

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PREFACE Purpose, distribution & revision control

P.1 Purpose and scope

This General Operations Manual (GOM) is the governing operations document of PilotRules Flight Academy, a pilot school operated by Southeast Aerial Systems. It establishes the policies, duties, and procedures under which the academy conducts pilot training certificated under 14 CFR Part 141, company flying conducted under 14 CFR Part 91, and turbine operations in the Pilatus PC-12. It applies to every person who acts on behalf of the academy: management personnel, instructor pilots, ground instructors, maintenance and inspection personnel, dispatch and scheduling staff, support staff, contractors, and enrolled cadets.

The GOM answers three questions. First, who is responsible for a given decision and what authority that person holds. Second, what the academy requires beyond the regulatory minimum. Third, what a person is to do when the situation is not routine. Where the manual is silent, personnel are expected to act conservatively, in the interest of safety, and to report the gap to the Director of Safety so that the manual can be corrected.

This manual does not replace aircraft-specific guidance. Normal, abnormal, and emergency procedures for each aircraft type are contained in the applicable Pilot's Operating Handbook or Airplane Flight Manual and in the Flight Standards Manual. Training sequencing, lesson content, stage checks, and completion standards are contained in the approved Training Course Outlines and the Training Procedures Manual. Maintenance program detail and Minimum Equipment List procedures are contained in the Maintenance & MEL Manual.

P.2 Precedence and conflict resolution

The Federal Aviation Regulations, the Aeronautical Information Manual, the applicable POH or AFM including all supplements, and the Minimum Equipment List take precedence over this manual in all cases. Nothing written here authorizes a deviation from a regulation, an AFM limitation, or a certificate condition.

LIMITATION

Where this manual, a checklist, a training syllabus, an Operations Bulletin, or a verbal instruction conflict with one another,

THE MOST RESTRICTIVE PROVISION APPLIES

. If a crewmember cannot determine which provision is more restrictive, the flight is not dispatched until the Chief Instructor or the Director of Operations resolves the conflict.

Nothing in this manual limits the authority of the pilot in command under 14 CFR §91.3 to deviate from any rule of Part 91 to the extent required to meet an in-flight emergency. A pilot in command who exercises that authority reports the deviation to the Director of Safety on the same duty day.

P.3 Distribution and required holders

The GOM is published electronically on the company site and is the controlled copy. The following persons must hold current access and must be able to produce the manual on request during an inspection, a check, or a base visit:

- All management personnel listed in Section A.
- All instructor pilots, ground instructors, and PT instructors.
- All dispatch, scheduling, records, and quartermaster staff.
- All maintenance and inspection personnel employed by or under contract to the academy.
- All enrolled cadets, from the date of enrollment through graduation or withdrawal.
- The principal operations inspector and any other assigned FAA personnel, on request.

A reference copy is maintained at the operations desk and at each satellite base. Any printed copy is uncontrolled. Before relying on a printed page, the holder verifies the revision number and effective date against the electronic copy.

P.4 Revision control

The Wing Commander approves every revision to this manual. The Director of Safety maintains the revision record and coordinates review by the Chief Instructor, the Director of Operations, the Director of Training, and the Director of Maintenance before publication. The manual is reviewed in full at least annually whether or not a change is proposed.

Each revision carries a whole revision number and an effective date shown on the cover. Changed text is identified in the revision transmittal by section and paragraph number. A revision does not take effect before its stated effective date; personnel continue to operate under the prior revision until that date.

Every person required to hold the manual acknowledges each revision through the training records system within fourteen calendar days of the effective date. The Registrar tracks acknowledgements and reports outstanding items to the Chief Instructor weekly. An instructor pilot with an outstanding acknowledgement more than thirty days past the effective date is removed from the flying schedule until the acknowledgement is recorded.

P.5 Operations Bulletins

An Operations Bulletin is used when a change must take effect before the next revision can be published — for example a newly identified hazard, a fleet-wide restriction, a change in a local procedure, or an airworthiness directive with an operational component. An Operations Bulletin is issued by the Wing Commander, the Chief Instructor, or the Director of Safety and carries the same force as this manual.

Bulletins are numbered sequentially by year, are posted at the operations desk and in the records system, and are briefed at the next mass brief. Each bulletin states an expiration date. A bulletin that remains in

force at expiration is either reissued or incorporated into the next revision of the manual. A bulletin that has been incorporated is withdrawn so that only one statement of a rule is ever in circulation.

P.6 Numbering scheme

Sections are lettered. Paragraphs within a section are numbered with the section letter followed by a decimal sequence, for example A.6 for management duties and A.6.3 for a specific position within that paragraph. Cross-references in this manual cite the section letter and paragraph number rather than a page number, because pagination changes with the print device. The preface is numbered with the prefix P.

P.7 Electronic records and digital signatures

The academy maintains its training records, dispatch records, discrepancy logs, and flight locating records electronically. An electronic record is the record of authority. Where a signature is required, a unique authenticated login combined with a time-stamped entry constitutes the signature of that individual. Personnel may not share credentials, and an entry made under another person's credentials is a falsification of records and grounds for immediate removal from duty.

Records are backed up daily to off-site storage. The Registrar verifies restorability quarterly. Where a regulation requires a record to be retained for a stated period, the electronic record is retained for at least that period. Retention detail is in Section U.

NOTE

Instructor endorsements required by 14 CFR Part 61 that must appear in a logbook are made in the cadet's logbook in the form prescribed by the regulation. The electronic record is a duplicate of that endorsement, not a substitute for it.

P.8 Rules of construction and definitions

The following words carry a fixed meaning throughout this manual and its subordinate documents.

TABLE P-1. RULES OF CONSTRUCTION

TERM	MEANING
Shall / must / will	A mandatory requirement. Deviation is a violation of company policy and, where the requirement restates a regulation, of the regulation itself.
Should	A strong recommendation representing the academy's preferred practice. A deviation is permitted when circumstances warrant and is documented in the flight or discrepancy record.
May	A discretionary action that is permitted but not required.
Will not / may not	A prohibition. No discretion exists.

TERM	MEANING
PIC	Pilot in command as defined in 14 CFR §1.1: the person who has final authority and responsibility for the operation and safety of the flight, has been designated as PIC before or during the flight, and holds the appropriate category, class, and type rating for the aircraft.
IP	Instructor pilot. A flight instructor authorized by the Chief Instructor to give flight training on behalf of the academy in a specified make and model and in specified courses.
Cadet	A person enrolled in an academy training course. The term is used in place of "student" throughout academy documents and carries the same regulatory meaning as "student" in Part 141 and, where the person holds a student pilot certificate, as "student pilot" in Part 61.
Duty period	The elapsed time from the moment a person reports for any assigned task until released from all assigned tasks. Duty includes briefings, ground instruction, simulator periods, flight, debrief, standby at the field, ground duties, and required physical training. Commuting to and from the base is not duty.
Crew rest	A continuous period free of all duty and all obligation to report for duty, during which the individual is able to obtain uninterrupted sleep. Study, briefing preparation, and telephone availability are not permitted during crew rest.
Sortie	One scheduled flight training event, from engine start to shutdown, including its brief and debrief.
Operations base	The primary airport and facility from which the academy conducts flight training and at which its records are kept.
Wing Commander	The Owner and Responsible Manager of Southeast Aerial Systems, also titled Commandant. Final authority for the academy.

Times are expressed in local time at the operations base unless followed by "Z", in which case Coordinated Universal Time is meant. Distances are nautical miles, altitudes are feet, weights are pounds, and temperatures are degrees Celsius unless otherwise stated. The masculine and feminine are used interchangeably and neither implies a restriction on any position.

SECTION A Management & operational control

A.1 Operational control

Operational control means the exercise of authority over initiating, conducting, and terminating a flight. For every flight conducted by the academy — training, maintenance repositioning, or company Part 91 flying — operational control rests with the Wing Commander, who has delegated the day-to-day exercise of that authority as described in this section. Operational control is never held by a cadet, and it is never held by a person outside the academy.

Three parties must concur before a flight departs. The Director of Operations, acting through dispatch, must release the aircraft and the crew: the aircraft is airworthy and legal, the crew is qualified and within duty limits, the weather and the flight's purpose are compatible, and the sortie is on the approved schedule. The Chief Instructor, or an authorized delegate, must confirm that the training event is appropriate to the cadet's progress and that any required endorsement is in place. The pilot in command must accept the aircraft and the mission. Any of the three may refuse. No one of the three may override the pilot in command's refusal to fly.

Once the aircraft moves under its own power, the pilot in command holds authority for the conduct of the flight. Dispatch may pass information, may recommend a course of action, and may direct a return to base for a company reason, but dispatch may not direct the pilot in command to continue a flight the pilot judges unsafe.

NOTE

On a dual training sortie the instructor pilot is the pilot in command unless the flight is specifically authorized as a check or evaluation in which another qualified pilot has been designated PIC in writing before the flight. A cadet is never PIC on a dual sortie. On an authorized solo sortie the cadet acts as pilot in command within the limits of 14 CFR §61.89 and the endorsements held.

A.2 Delegation of authority

The Wing Commander may delegate any authority in this manual except final approval of the manual itself, appointment of management personnel, and the decision to voluntarily suspend flight operations fleet-wide. Delegation is in writing, states its scope and duration, and is filed with the Registrar. A delegation does not transfer accountability: the Wing Commander remains accountable for the operation.

Where a position is vacant or its holder is absent, the succession in paragraph A.3 applies automatically without further action. A person acting in a position holds the full authority of that position and is identified as "acting" in all correspondence. A vacancy in the Chief Instructor position is reported to the FAA and filled in accordance with 14 CFR §141.87, which allows a limited period of continued operation while a qualified replacement is designated.

A.3 Succession

TABLE A-1. ORDER OF SUCCESSION

IF ABSENT OR VACANT	SUCCEDED BY, IN ORDER
Wing Commander / Commandant	Chief Instructor, then Director of Operations
Chief Instructor	Assistant Chief Instructor, then a Check Instructor designated in writing
Director of Operations	Senior dispatcher on duty, then Chief Instructor
Director of Training	Assistant Chief Instructor
Director of Safety	Wing Commander (retained personally; not further delegated)
Director of Maintenance	Chief Inspector, then the contract maintenance provider's accountable manager
Chief Inspector	Director of Maintenance
Designated School Official	Registrar, if separately designated in SEVIS; otherwise the position is not delegable and foreign-student training pauses

A.4 Organizational structure

The academy is organized on the pattern of a United States Air Force undergraduate pilot training wing. The structure exists to make lines of authority unambiguous under time pressure, not for ceremony. Each cadet belongs to a flight; each flight is led by an instructor pilot; the flights are grouped under the Director of Training; and support functions are grouped under the Director of Operations and the Operations Support Squadron.

TABLE A-2. ORGANIZATIONAL CHART — POSITION, REPORTING, AND PRIMARY AUTHORITY

POSITION	REPORTS TO	PRIMARY AUTHORITY
Wing Commander / Commandant FINAL AUTHORITY	Owner — none	Operational control of all flights; approval of manuals, budgets, and management appointments; authority to suspend operations
Chief Instructor (\$141.35)	Wing Commander	Approves and supervises all flight and ground training; authorizes instructors; signs graduation certificates
Assistant Chief Instructor (\$141.36)	Chief Instructor	Exercises delegated Chief Instructor authority; supervises assigned courses and satellite bases
Check Instructor (\$141.37)	Chief Instructor	Conducts stage checks and end-of-course tests; recommends pass, fail, or additional training
Director of Operations / OSS	Wing Commander	Daily schedule, dispatch release, crew assignment, duty-time enforcement, flight following
Director of Training	Chief Instructor	Syllabus execution, cadet progress, remediation, standardization of instruction

POSITION	REPORTS TO	PRIMARY AUTHORITY
Director of Safety (SMS)	Wing Commander	Safety management system, hazard reports, investigations, safety stand-downs; direct access to the Wing Commander
Director of Maintenance / Maintenance Controller	Wing Commander	Airworthiness of the fleet, maintenance program, deferrals, contract maintenance
Chief Inspector	Director of Maintenance	Inspection program integrity, required inspection items, audit of maintenance records
Finance Officer / Comptroller	Wing Commander	Budget, tuition accounts, purchasing authority, insurance
Accountant	Finance Officer	Ledgers, payroll, tax filings, cadet account reconciliation
Quartermaster (QM)	Director of Operations	Supply, uniforms, headsets, publications, gear issue and recovery
Registrar / Records	Chief Instructor	Training records, enrollment and graduation certificates, retention, revision acknowledgements
Designated School Official (DSO)	Wing Commander	TSA Flight Training Security Program and SEVIS compliance; authority to hold a foreign cadet out of training
Instructor Pilot (IP)	Director of Training	Conduct of assigned sorties; PIC authority; authority to terminate any sortie
Ground Instructor	Director of Training	Academic instruction and progress checks in assigned subjects
PT Instructor	Director of Training	Physical training program; recommendation to place a cadet on medical hold

A.5 Management personnel — general requirements

Every management position is filled by a named individual, not by a committee. Each holder must be reachable during the published duty day and must designate an alternate before becoming unreachable. Each holder is responsible for knowing the regulations applicable to the function, for keeping the portion of this manual describing that function accurate, and for reporting to the Wing Commander any condition that prevents the function from being performed.

No management position may be used to pressure an instructor pilot or a cadet into flying. Any person who believes an operational decision was influenced by schedule pressure, cost, or customer expectation reports it to the Director of Safety, who may report it directly to the Wing Commander without passing through any intermediate position.

A.6 Duties, responsibilities, and authority by position

A.6.1 Wing Commander / Commandant

The Wing Commander is the Owner and Responsible Manager of Southeast Aerial Systems and holds final authority for the academy. Duties include holding operational control of all flights; appointing and removing management personnel; approving this manual and every subordinate manual and revision; approving the annual budget and the insurance program; representing the academy to the Administrator; and signing the safety policy statement that establishes the safety management system. The Wing Commander has authority to suspend any flight, any instructor, any cadet, any aircraft, or the entire operation without consulting any other position. The Wing Commander reviews the Director of Safety's report at least monthly and personally reviews every accident, incident, and reportable occurrence.

A.6.2 Chief Instructor

The Chief Instructor meets the qualification and experience requirements of 14 CFR §141.35 and is designated for each course the academy is approved to conduct. Duties include supervising all flight and ground instructors; certifying that each instructor is competent in the course and aircraft assigned; approving lesson deviations and additional-training plans; conducting or delegating instructor standardization; monitoring the quality of training and the first-attempt pass rate expected of a certificated pilot school under 14 CFR §141.83; and signing enrollment and graduation certificates required by 14 CFR §141.93 and §141.95. The Chief Instructor has authority to withdraw an instructor's authorization to instruct, to place a cadet in remediation or withdraw a cadet from a course, and to refuse a training flight for any reason. The Chief Instructor must be available at the operations base during the duty day or must designate the Assistant Chief Instructor in writing.

A.6.3 Assistant Chief Instructor

The Assistant Chief Instructor meets 14 CFR §141.36 and exercises the authority of the Chief Instructor when delegated or when acting. Duties include direct supervision of assigned courses and of any satellite base; first-level review of cadet progress and of instructor gradesheets; management of the additional-training and remediation process; and maintenance of the instructor standardization file. The Assistant Chief Instructor approves routine syllabus sequencing changes within a course and forwards anything affecting a course's approved structure to the Chief Instructor.

A.6.4 Check Instructor

A Check Instructor meets 14 CFR §141.37 and is designated in writing by the Chief Instructor for named courses and aircraft. Duties include conducting stage checks and end-of-course tests, grading to the published completion standards, and documenting the result in the cadet's record on the day of the check. A Check Instructor has authority to fail a check, to require specified additional training before a recheck, and to recommend that a cadet be withdrawn. A Check Instructor may not conduct a stage check on a cadet whose immediately preceding training in that stage the Check Instructor personally provided, except when the Chief Instructor documents that no other qualified Check Instructor is available.

A.6.5 Director of Operations / Operations Support Squadron

The Director of Operations leads the Operations Support Squadron, which comprises scheduling, dispatch, and flight following. Duties include publishing the daily flying schedule and the mass brief time; assigning aircraft and instructor pilots to sorties; issuing the dispatch release; verifying crew qualification, currency, and duty status before release; maintaining the flight locating system described in Section L; initiating overdue aircraft action; and enforcing the duty and rest limits in Section U. The Director of Operations has authority to cancel or delay any sortie, to remove an aircraft from the schedule, and to close the field to academy operations for weather, ramp condition, or staffing. The Director of Operations does not have authority to direct a pilot in command to fly.

A.6.6 Director of Training

The Director of Training owns the execution of the 52-week undergraduate pilot training program and every other approved course. Duties include tracking each cadet's position in the syllabus against the published timeline; identifying cadets falling behind and initiating remediation with the Assistant Chief Instructor; assigning cadets to flights and to instructor pilots for continuity; managing the academic schedule with the ground instructors; and maintaining the daily syllabus and gradebook. The Director of Training has authority to reschedule training events, to reassign a cadet to a different instructor pilot, and to recommend a training hold to the Chief Instructor.

A.6.7 Director of Safety

The Director of Safety administers the safety management system and reports directly to the Wing Commander, with unrestricted access at any hour. Duties include maintaining the hazard reporting system and the non-punitive reporting policy; conducting risk assessments and tracking mitigations to closure; investigating accidents, incidents, and occurrences and publishing findings; running the safety committee and the periodic safety stand-down; administering the emergency response plan and exercising it at least annually; and trending flight data, discrepancy data, and training failures for common cause. The Director of Safety has authority to ground an aircraft, to stop a training activity, and to require a stand-down pending review. That authority may not be overruled by any position other than the Wing Commander, and any such reversal is documented in the safety record.

A.6.8 Director of Maintenance / Maintenance Controller

The Director of Maintenance is accountable for the airworthiness of every academy aircraft. Duties include administering the approved inspection program in Section O; controlling the discrepancy log; making deferral decisions under the Minimum Equipment List; scheduling inspections, airworthiness directive compliance, and component life limits; selecting and overseeing contract maintenance providers; and maintaining the maintenance records required by 14 CFR §91.417. Acting as Maintenance Controller, the position is the single point of contact for a crew away from base with a mechanical problem. The Director of Maintenance has authority to ground any aircraft and is the only position, other than the Wing Commander, that may authorize maintenance away from base or a ferry flight under a special flight permit.

A.6.9 Chief Inspector

The Chief Inspector is responsible for the integrity of the inspection program independent of the pressure to return aircraft to the line. Duties include verifying that required inspections are performed by qualified persons and correctly recorded; auditing maintenance entries and airworthiness directive records; verifying tool and parts traceability; and confirming that no aircraft is returned to service with an open required inspection item. The Chief Inspector has authority to reject any inspection, to require rework, and to hold an aircraft. Disagreement between the Chief Inspector and the Director of Maintenance is resolved by the Wing Commander in favor of the more conservative position.

A.6.10 Finance Officer / Comptroller

The Finance Officer manages the financial health of the academy, including the annual budget, cadet tuition accounts and escrow of prepaid training funds, purchasing authority and approval limits, vendor contracts, and the hull and liability insurance program. Duties include verifying that insurance coverage is in force and adequate for each aircraft and each type of operation, and notifying the Wing Commander immediately if coverage lapses or is reduced. The Finance Officer has no authority over operational decisions and may not condition the release of an aircraft, a part, or a maintenance action on a budget consideration; cost concerns are raised to the Wing Commander, not to dispatch or maintenance.

A.6.11 Accountant

The Accountant maintains the general ledger, accounts payable and receivable, payroll and associated tax filings, and the reconciliation of cadet accounts against training delivered. Duties include producing a monthly statement for each cadet showing hours flown, ground instruction delivered, fees applied, and remaining balance, and flagging any account whose balance will not cover the next training block so that the Registrar and Director of Training can address it before it disrupts training.

A.6.12 Quartermaster

The Quartermaster manages supply and issue. Duties include issuing and recovering headsets, kneeboards, publications, charts, flight computers, cold-weather gear, and uniforms; maintaining the serial-numbered accountability register for issued equipment; controlling the consumables inventory including oil, tie-downs, chocks, and first-aid supplies; and verifying that survival and emergency equipment carried aboard aircraft is within its inspection interval. The Quartermaster has authority to withhold issue pending payment or completion of a required form and to recover any item from a person leaving the program. Uniform and appearance standards are administered by the Quartermaster and detailed in the Quartermaster Manual.

A.6.13 Registrar / Records

The Registrar maintains the cadet record system required of a certificated pilot school: enrollment, the chronological record of each ground and flight lesson, stage checks, end-of-course tests, graduation certificates, and the retention of those records for the required period. Duties also include tracking instructor certificate and medical expiry dates, revision acknowledgements, and required recurrent

training, and producing records for an FAA inspection on demand. The Registrar has authority to remove a cadet or an instructor from the schedule when a required record, certificate, medical, or endorsement is missing or expired.

A.6.14 Designated School Official

The Designated School Official is responsible for compliance with the Transportation Security Administration's Flight Training Security Program under 49 CFR Part 1552 and, for cadets attending on a student visa, with the Student and Exchange Visitor Information System and the Form I-20 process. Duties include submitting and tracking candidate applications, collecting and verifying identity and immigration documents, capturing and submitting the required candidate photograph, maintaining the security awareness training program for employees, and reporting SEVIS events such as arrival, program start, address change, and termination within the required periods. The DSO has authority — which no other position may override — to prevent a foreign cadet from beginning or continuing flight training until the required authorization is in hand. Detail is in Section S and on the international compliance page.

A.6.15 Instructor Pilot

The instructor pilot is the academy's representative on every training sortie. Duties include preparing and delivering the brief; verifying the cadet's readiness, currency, endorsements, and fitness for duty; determining that the aircraft is airworthy and legal for the intended flight; conducting the sortie to the published standards; delivering an objective debrief; and recording the grade and any discrepancy the same duty day. The instructor pilot acts as pilot in command on dual sorties and holds the authority of §91.3. An instructor pilot has authority to terminate any sortie at any point, to decline an assigned sortie, to refuse to endorse a cadet for solo, and to ground an aircraft by writing a discrepancy. An instructor pilot may not sign an endorsement or a lesson as complete unless personally satisfied that the standard was met.

A.6.16 Ground Instructor

The ground instructor delivers the academic curriculum, administers progress and end-of-course knowledge tests, records results, and identifies cadets requiring academic remediation. The ground instructor has authority to hold a cadet out of a knowledge test until prerequisites are met and to recommend academic remediation to the Director of Training.

A.6.17 PT Instructor

The physical training instructor administers the academy's fitness program, which supports the sustained tempo of a twelve-hour duty day. Duties include conducting scheduled physical training, tracking participation, and monitoring for signs of fatigue, dehydration, or overtraining that would affect flight safety. The PT instructor has authority to excuse a cadet from a physical training session and to recommend to the Chief Instructor that a cadet be placed on a medical hold pending evaluation. Physical training is duty time and counts toward the duty period defined in Section U.

A.7 Contract personnel and vendors

Contract maintenance providers, contract instructors, and contract dispatch personnel perform work on behalf of the academy and are subject to this manual for the work performed. Contracts require the provider to hold the appropriate certificates, to accept audit by the Chief Inspector or the Director of Safety, and to report occurrences. The use of a contractor never transfers the academy's responsibility for the airworthiness of its aircraft or the quality of its training.

A.8 Records of management action

Appointments, delegations, withdrawals of authorization, groundings, and stand-downs are documented in writing and retained by the Registrar. A verbal grounding or stand-down is effective immediately and is reduced to writing before the end of the duty day.

SECTION B Weight & balance

B.1 Purpose and definitions

No academy aircraft is operated unless the pilot in command has determined that its weight is within the certificated limits and that its center of gravity will remain within the approved envelope for the entire flight. This section states how that determination is made, documented, and checked. The controlling limits are those in the aircraft's POH or AFM as amended by supplements; nothing in this section may be read to permit operation outside them.

TABLE B-1. WEIGHT AND BALANCE TERMS

TERM	DEFINITION
Datum	The reference plane from which all arms are measured, defined by the manufacturer for each type.
Arm / station	The horizontal distance in inches from the datum to the center of gravity of an item.
Moment	Weight multiplied by arm. Moments are summed to locate the center of gravity.
Basic empty weight	Airframe, engine, unusable fuel, full operating fluids, and installed equipment, from the current weighing record.
Useful load	Maximum ramp weight less basic empty weight.
Zero fuel weight	Weight of the loaded aircraft with no usable fuel. Limited on the PC-12; not a published limit on the C172.
Ramp / takeoff / landing weight	Maximum weights for taxi, for takeoff, and for landing, each separately limited by the AFM.

B.2 Control of the weight and balance program

The Director of Maintenance owns the weight and balance program. A current weighing record and equipment list are maintained for each tail number and are carried aboard the aircraft as part of the required documents. Basic empty weight and moment are revised whenever equipment is added, removed, or relocated, and the revision is entered in the permanent records by the person performing the work. Each aircraft is reweighed at intervals set by the Director of Maintenance, and always after a major repair or alteration, after a paint refinish, or when the cumulative effect of recorded equipment changes cannot be verified.

Cadets and instructor pilots use the company weight and balance tool at pilotrules.com/weight-balance, which is loaded with the current empty weight and arms for each tail number. Use of the tool does not relieve the pilot in command of responsibility for the result. A cadet in the primary phase computes weight and balance by hand on the paper form and the instructor pilot verifies the arithmetic before the tool is used for cross-check.

B.3 Actual weights, standard weights, and baggage

The academy computes weight and balance using **actual weights** for all occupants, baggage, and cargo. Standard average passenger weights of the kind used by air carriers under an approved program are **not authorized** for any academy operation, in any aircraft, at any time.

Each cadet's weight is recorded at in-processing, dressed for flight, and is re-verified at least every twelve weeks and whenever the cadet reports a change of more than ten pounds. Instructor pilot weights are recorded and re-verified annually. Recorded weights are used for planning; when the actual load differs materially from the plan, the load is recomputed before flight.

Baggage and gear are weighed on the operations scale unless the total is a single flight bag of known weight from the Quartermaster's published gear list. Baggage compartment structural limits and the separate limits for individual compartments are respected independently of the overall gross weight — an aircraft may be under gross and still be illegally loaded.

CAUTION

Winter gear, water, headsets, tie-down kits, and survival equipment routinely add fifteen to thirty pounds that crews forget to account for. On a warm-day, high-density-altitude sortie in a fully fueled C172, that margin is the difference between a legal load and an over-gross takeoff.

B.4 Worked example — Cessna 172

TABLE B-2. C172 SAMPLE LOAD — DUAL SORTIE, FULL MAIN TANKS

ITEM	WEIGHT (LB)	ARM (IN)	MOMENT (IN-LB)
Basic empty weight	1,680.0	39.8	66,864
Front seats — IP and cadet	340.0	37.0	12,580
Rear seats	0.0	73.0	0
Usable fuel — 53 gal at 6.0 lb/gal	318.0	48.0	15,264
Baggage area 1 — flight gear	30.0	95.0	2,850
Ramp total	2,368.0	41.2	97,558

Center of gravity is 97,558 divided by 2,368, or 41.2 inches aft of datum. The load is 182 pounds below the 2,550-pound maximum takeoff weight and the computed center of gravity falls inside the envelope for that weight. Because fuel burn moves the center of gravity only slightly in this type, the landing condition is checked but is not limiting here. Had the rear seats been occupied, the aft limit would have become the governing constraint and the fuel load would have been reduced.

B.5 Worked example — Pilatus PC-12

TABLE B-3. PC-12/47 SAMPLE LOAD — COMPANY MISSION, FOUR PASSENGERS

ITEM	WEIGHT (LB)	ARM (IN)	MOMENT (IN-LB)
Basic empty weight	6,630	283.0	1,876,290
Flight crew — two	380	208.0	79,040
Cabin occupants — four, actual weights	720	290.0	208,800
Aft baggage	150	400.0	60,000
Usable fuel	2,400	285.0	684,000
Ramp total	10,280	282.9	2,908,130
Zero fuel weight (ramp less usable fuel)	7,880	—	—

The load is below the 10,450-pound maximum takeoff weight of the PC-12/47 and the zero fuel weight is well below its limit, so the aircraft remains legal at any fuel state down to reserves. The PC-12/45 is limited to a lower maximum takeoff weight, and the same load in that variant would require a fuel reduction; crews verify which variant they are assigned before planning. Landing weight is checked against the AFM limit for the planned arrival fuel.

NOTE

The empty weights and arms in Tables B-2 and B-3 are illustrative and are shown to demonstrate the method. The current weighing record and equipment list for the specific tail number are the only authoritative source of basic empty weight, moment, and station arms.

B.6 The load manifest and its disposition

A load manifest is completed before every flight. It records the date, tail number, flight or sortie identifier, crew and occupant names with actual weights, fuel load, baggage, the resulting takeoff and landing weights, and the computed center of gravity, and it carries the signature of the pilot in command. For a training sortie in the local area with only the instructor pilot and cadet aboard, the dispatch record entry containing these items serves as the manifest.

A copy of the manifest is left at the point of departure or is retained in the electronic dispatch record accessible to the Director of Operations, so that the persons aboard are known if the aircraft becomes overdue. Manifests are retained for the period stated in Section U.

B.7 Discrepancy reporting

Any person who finds an error in a weighing record, an equipment list, a loading chart, or the company tool reports it immediately to the Director of Maintenance and enters a discrepancy under Section F. An aircraft whose weight and balance data are known to be in error is grounded until the data are corrected and verified, because every subsequent computation inherits the error. If an aircraft is discovered after flight to have been operated over gross weight or outside the envelope, the pilot in command files a safety

report the same day and the Director of Maintenance determines whether an inspection for overweight or over-limit operation is required before the next flight.

SECTION C **Certificates, ratings & authorizations**

C.1 The pilot school certificate

Southeast Aerial Systems holds a pilot school certificate issued under 14 CFR Part 141 and operates PilotRules Flight Academy under that certificate. The certificate carries ratings for the courses the academy is approved to conduct, and each course is conducted under a Training Course Outline approved by the Administrator. The academy may not conduct a Part 141 course for which it does not hold the corresponding rating and an approved outline, and may not deviate from an approved outline except through the change process administered by the Chief Instructor.

Approved courses are drawn from the certification courses described in the appendices to Part 141, including private pilot, instrument rating, commercial pilot, flight instructor, and airline transport pilot certification training. Training that falls outside an approved course — familiarization flying, discovery flights, and proficiency work for rated pilots — is conducted under Part 91 and is documented as such so that no ambiguity exists about which rule set applies to a given flight. The published course structure is summarized on the **Part 141 program** page.

The academy's business office and operations base meet the facility requirements of Part 141, and any satellite base is separately approved and is supervised by the Assistant Chief Instructor. A change of Chief Instructor is reported and handled under 14 CFR §141.87.

C.2 Display and availability of certificates

The pilot school certificate and its ratings are displayed at the operations base in a place normally accessible to the public and not obscured. The approved Training Course Outlines, the current revision of this manual, and the training records are kept at the operations base and are made available to the Administrator on request. The Registrar is responsible for producing them.

C.3 Documents required aboard the aircraft

Before every flight the pilot in command verifies that the following are aboard, using the ARROW memory aid. The absence of any required item grounds the aircraft.

TABLE C-1. ARROW — REQUIRED AIRCRAFT DOCUMENTS

LETTER	ITEM	BASIS AND NOTES
A	Airworthiness certificate	14 CFR §91.203(a)(1). Displayed at the cabin or cockpit entrance so it is legible to occupants.
R	Registration certificate	14 CFR §91.203(a)(2). Current and not expired.
R	Radio station license	FCC license required only for international operations; carried when the flight will leave the United States.
O	Operating limitations	14 CFR §91.9. The AFM or POH with all applicable supplements, plus placards and markings.

LETTER	ITEM	BASIS AND NOTES
W	Weight and balance data	Current weighing record and equipment list for the tail number, per Section B.

In addition, the aircraft status sheet and discrepancy log described in Sections E and F, and the MEL where one is in use, are carried aboard. For international flights the additional documents listed in the international compliance guidance are carried.

C.4 Instructor certificates and currency

An instructor pilot may not conduct training on behalf of the academy unless the Registrar holds a current copy of the instructor certificate with the appropriate ratings, the medical certificate appropriate to the operation, a government photo identification, and the record of the academy authorization issued by the Chief Instructor. The Registrar tracks flight instructor certificate expiry and renewal under 14 CFR §61.197, medical expiry, and any type-specific authorization.

An instructor pilot whose certificate, medical, or authorization lapses is removed from the schedule by the Registrar without further approval and is not restored until the document is verified. An instructor pilot is responsible for notifying the Chief Instructor immediately of any action affecting a certificate or medical, including a change in medical status under 14 CFR §61.53 and any event reportable under §61.15.

NOTE

Currency to exercise a privilege and authorization to instruct in an academy aircraft are separate. The Chief Instructor's authorization is specific to make, model, and course; holding a certificate and rating does not by itself permit an instructor to teach a given academy course.

SECTION D Accident, incident & overdue aircraft notification

D.1 Definitions

The definitions in 49 CFR Part 830 govern. An **aircraft accident** is an occurrence associated with the operation of an aircraft, taking place between the time any person boards with the intention of flight and the time all persons have disembarked, in which any person suffers death or serious injury or the aircraft receives substantial damage. **Serious injury** and **substantial damage** carry the specific meanings given in 49 CFR §830.2; engine failure limited to the engine, bent fairings or cowlings, dents, ground damage to rotor or propeller blades, and damage limited to landing gear, wheels, tires, flaps, or brakes are expressly not substantial damage. An **incident** is an occurrence other than an accident that affects or could affect the safety of operations.

An aircraft is treated as **overdue** when it has not arrived, has not been located, and cannot be contacted within thirty minutes of its latest expected arrival time, or immediately at any point at which the Director of Operations has reason to believe the aircraft is in distress.

D.2 Immediate notification criteria

The academy notifies the NTSB immediately and by the most expeditious means available when an accident occurs, when an aircraft is overdue and believed to have been involved in an accident, or when any of the serious incidents listed in 49 CFR §830.5 occurs. Those listed incidents include flight control system malfunction or failure; inability of any required flight crewmember to perform normal flight duties as a result of injury or illness; in-flight fire; aircraft collision in flight; and the release of all or a portion of a propeller blade from an aircraft, excluding release caused solely by ground contact. The full list in §830.5 governs and is posted at the operations desk.

WARNING

Do not delay notification to determine whether an event technically meets a definition. If there is any reasonable possibility that the event is reportable, the Director of Safety makes the notification. Late notification is a violation; an unnecessary notification is not.

D.3 Notification order

TABLE D-1. CALL ORDER FOLLOWING AN ACCIDENT OR SERIOUS INCIDENT

ORDER	CALLED BY	CALLED
1	Anyone aware of the event	Emergency services — 911 or the airport's crash phone, if there is any possibility of injury or fire
2	Anyone aware of the event	Director of Operations / dispatch — who activates the Emergency Response Plan
3	Director of Operations	Director of Safety and Wing Commander
4	Director of Safety	NTSB, by the means and to the office prescribed in 49 CFR §830.5

ORDER	CALLED BY	CALLED
5	Director of Safety	FAA — the Flight Standards District Office and the principal operations inspector
6	Wing Commander	Insurance carrier and legal counsel
7	Wing Commander	Next of kin, in coordination with authorities — never before authorities have made notification
8	Director of Maintenance	Airframe and engine manufacturers, where a mechanical factor is suspected

Only the Wing Commander, or a person the Wing Commander names, speaks to the media. All other personnel decline comment and refer inquiries to that person. Personnel do not post about an event on social media, do not distribute photographs, and do not speculate about cause in writing or on a recorded line.

D.4 Information to provide

The notification includes, to the extent known: type, nationality, and registration marks of the aircraft; name of the operator; name of the pilot in command; date and time of the occurrence; last point of departure and intended point of landing; position of the aircraft by reference to an easily defined geographic point; number of persons aboard, number killed, and number seriously injured; nature of the occurrence, the weather, and the extent of damage so far as is known; and a description of any explosives, radioactive materials, or other dangerous articles carried. Unknown items are reported as unknown rather than estimated.

A written report is submitted on the prescribed NTSB form within ten days of an accident. A report on a listed incident is submitted only when requested. The Director of Safety prepares the report and the Wing Commander reviews it before submission.

D.5 Preservation of wreckage, mail, cargo, and records

Following an accident or a reportable incident, the operator must preserve the aircraft, all components and contents, and all records, until the NTSB takes custody or releases them. Disturbance is permitted only to remove persons or injured persons, to protect the wreckage from further damage, or to protect the public from injury; where the wreckage must be moved, notes, sketches, and photographs are made first to document the original position of the wreckage and of any control settings and instrument readings.

The Director of Maintenance immediately impounds the maintenance records, the discrepancy log, and the status sheet for the aircraft. The Registrar impounds the training records of the crew and cadet, the dispatch and flight locating records, and the schedule. The Director of Safety impounds recorded data, including any engine trend data, avionics data, and photographic or video media from company devices. Nothing is altered, corrected, or added after the event; a necessary clarification is added as a separately dated and signed entry that does not obscure the original.

D.6 Overdue aircraft

The overdue aircraft procedure and its escalation timeline are in Section L. Where an aircraft is overdue and believed to have been involved in an accident, this section applies in full and notification is not delayed pending the outcome of the search.

D.7 Emergency Response Plan activation

Any accident, any serious incident, any overdue aircraft, and any event drawing emergency services to an academy aircraft activates the Emergency Response Plan described in Section M. The person who first learns of the event activates the plan; there is no requirement to obtain permission first, and no penalty for activating the plan on an event that proves minor.

SECTION E Airworthiness checks

E.1 Determination of airworthiness before dispatch

Under 14 CFR §91.7 the pilot in command is responsible for determining that the aircraft is in condition for safe flight, and must discontinue the flight when unairworthy mechanical, electrical, or structural conditions occur. The academy supports that determination but does not replace it. Before accepting an aircraft the pilot in command reviews the aircraft status sheet, reviews open discrepancies and any active deferrals, verifies that no inspection or life-limited item is due before the planned completion of the flight, verifies the required documents under Section C, and completes the POH or AFM preflight inspection.

E.2 The aircraft status sheet

Each aircraft carries a status sheet maintained by the Director of Maintenance and updated on every maintenance action. It is the crew's single reference for the legal status of the airframe. It records, at minimum:

TABLE E-1. AIRCRAFT STATUS SHEET — REQUIRED CONTENT

ITEM	RECORDED AS
Airframe total time and current tach or Hobbs	Hours, updated at each shutdown
Next scheduled inspection	Type and hours or date remaining
100-hour or progressive inspection due	Hours remaining, per Section O
Annual inspection due	Calendar month, per 14 CFR §91.409
Transponder and static system / altimeter checks	Month due, per 14 CFR §91.411 and §91.413
ELT battery and inspection	Date due, per 14 CFR §91.207
VOR check	Date, place, error, and signature of last check, per 14 CFR §91.171
Open discrepancies and active deferrals	Item, category, and repair-interval expiry
Fire extinguisher and survival equipment	Next inspection date
Oxygen system state, where installed	Pressure and next service

A status sheet that is missing, illegible, or known to be out of date grounds the aircraft until the Director of Maintenance reissues it. Crews do not correct the status sheet themselves except to enter the times at shutdown.

E.3 VOR equipment checks

No person may operate an academy aircraft under IFR using the VOR system for navigation unless the VOR equipment has been operationally checked within the preceding thirty days and found to be within the

limits of 14 CFR §91.171. Acceptable checks and their tolerances are a VOT within four degrees, a designated ground checkpoint within four degrees, a designated airborne checkpoint within six degrees, a dual VOR cross-check with the two indications within four degrees of each other, and, where no other means is available, a check over a prominent ground point along the centerline of an established airway within six degrees.

The person making the check enters the date, place, bearing error, and signature in the aircraft's VOR check record. The record is part of the status sheet. Instructor pilots are expected to use VOR checks as a teaching point rather than a formality, and cadets perform and log the check under supervision during the instrument phase.

E.4 Fire extinguisher and survival equipment

A hand-held fire extinguisher of a type approved for the aircraft is installed in each aircraft in its designated bracket. Crews confirm during preflight that the extinguisher is present, secured, has an intact seal and pin, and shows a gauge indication in the serviceable range. The Quartermaster performs a documented visual inspection monthly and arranges annual maintenance by a qualified servicing agency in accordance with the applicable fire protection standard and the manufacturer's instructions.

Survival and emergency equipment carried aboard — first-aid kit, signaling equipment, flotation equipment when carried, and cold-weather survival kit during the winter period — is inventoried and inspected by the Quartermaster quarterly and after any use. Expiry-dated items are replaced before expiry. An aircraft dispatched on a route requiring specific survival equipment does not depart until the Quartermaster confirms the equipment is aboard and serviceable.

E.5 Emergency locator transmitter

The ELT is inspected within twelve calendar months of the last inspection as required by 14 CFR §91.207, and the inspection is recorded in the maintenance records. The battery is replaced or recharged when the transmitter has been in use for more than one cumulative hour, or when fifty percent of its useful life has expired, and the new expiry date is legibly marked on the outside of the transmitter.

Crews verify during preflight that the ELT is present, secured, armed, and undamaged, and that the remote switch and annunciator, where installed, are in the armed position. After any hard landing or suspected activation, the crew monitors 121.5 MHz before leaving the aircraft and reports any transmission to the Director of Maintenance and to air traffic control. A 406 MHz ELT must be registered to the operator with the national registration authority, and the Director of Maintenance updates the registration on any change of ownership or contact information.

CAUTION

An inadvertent ELT activation that goes unnoticed consumes search and rescue resources and may cause an academy aircraft to be presumed down. Monitoring 121.5 MHz after shutdown following any abrupt maneuver or firm arrival is a required item, not a courtesy.

SECTION F **Maintenance discrepancies**

F.1 Duty to report

Every person who observes a condition that may affect the airworthiness, function, or appearance of an academy aircraft reports it. This duty falls on instructor pilots, cadets, maintenance personnel, line service, and the Quartermaster alike. A cadet is never penalized for writing a squawk, and an instructor pilot who discourages a cadet from writing one is subject to removal from instructional duty. A defect that goes unwritten becomes the next crew's surprise.

Discrepancies are reported through the online squawk form at pilotrules.com/maintenance, which creates the entry in the discrepancy log and notifies the Director of Maintenance. Where the form is unavailable, the report is made verbally to the Director of Operations and to the Director of Maintenance and is entered in the paper log carried aboard the aircraft; the electronic entry is created at the first opportunity.

F.2 Content of a discrepancy entry

A useful squawk describes what was observed, not what the writer believes the cause to be. Each entry states the tail number; the date and the tach or Hobbs time; the name of the person reporting; the phase of flight or ground operation in which the condition appeared; a factual description including any annunciation, indication, sound, smell, or handling change; whether the condition was continuous or intermittent; and what the crew did in response.

TABLE F-1. DISCREPANCY WORDING

POOR ENTRY	BETTER ENTRY
Radio bad.	COM1 transmits with heavy static reported by ATC on 121.9 and 118.3; COM2 normal on same frequencies. Condition continuous for the full 1.4 hours.
Brakes weak.	Left brake pedal travels to the floor with reduced braking after third landing; right brake normal. No fluid visible at the wheel on postflight.
Engine rough.	Roughness at 2,300 RPM in cruise, cleared with mixture enrichment; magneto check on the ground shows 220 RPM drop on the right magneto against 90 on the left.

F.3 The discrepancy log

The Director of Maintenance maintains the discrepancy log for each aircraft. Every entry receives a unique number, a category, a status, and a corrective action with the name and certificate number of the person who cleared it. Nothing is erased. An entry made in error is annotated as such and remains visible. The log is available to the crew before every flight and is the companion to the status sheet described in Section E.

F.4 Grounding items and deferrable items

On receipt of a discrepancy the Director of Maintenance classifies it. A **grounding item** is any condition affecting an item required by the aircraft's type certificate, by an airworthiness directive, by 14 CFR §91.205 for the intended operation, by the operating rule for the intended flight, or by the AFM; and any condition the Director of Maintenance judges to affect safe operation. The aircraft is removed from the schedule immediately and a placard or tag is placed on the control yoke.

A **deferrable item** is one that may be carried in accordance with the Minimum Equipment List, or, for an aircraft operated without an MEL, one permitted to be inoperative under 14 CFR §91.213(d). In either case the inoperative item is deactivated or removed as required and is placarded "INOPERATIVE", and the deferral is recorded with its expiry. Only the Director of Maintenance decides that an item may be deferred. A pilot in command may not defer an item, and may not conclude that an item is not required merely because the flight can be completed without it.

WARNING

A pilot in command who believes an aircraft is unsafe grounds it, regardless of any deferral already granted. A valid deferral establishes that an aircraft may legally fly; it does not establish that the aircraft must be flown. The pilot in command's refusal is final and requires no justification beyond the judgment itself.

F.5 Status after the flight

Discrepancies are written before the crew leaves the aircraft, not at the end of the day. Where a condition is discovered in flight, the crew informs dispatch by radio or telephone as soon as workload permits so that the aircraft can be removed from the next crew's schedule. Where a condition is discovered on the ramp before start, the crew informs dispatch immediately so the sortie can be reassigned rather than lost.

F.6 Cross-references

Deferral procedures, MEL categories, maintenance and operations procedures, and the detailed maintenance program are in the **Maintenance & MEL Manual**. Section I of this manual summarizes the MEL program for flight crews, and Section G covers return to service.

SECTION G Aircraft return to service

G.1 Authority to return an aircraft to service

Only a person authorized under 14 CFR Part 43 may approve an aircraft for return to service after maintenance, preventive maintenance, rebuilding, or alteration. Depending on the work, that is the holder of a mechanic certificate with the appropriate ratings, a repair station, the holder of an inspection authorization for an annual inspection or a major repair or alteration, or, for preventive maintenance on an aircraft not used in air carrier service, a certificated pilot who holds at least a private pilot certificate and is the owner or operator of the aircraft.

No instructor pilot, cadet, or dispatcher returns an academy aircraft to service. The Director of Maintenance restores an aircraft to the schedule only after the required entry exists in the maintenance records and the status sheet has been updated. Restoring an aircraft to the schedule is an administrative act; it does not itself approve the aircraft for return to service.

G.2 Preventive maintenance by pilots

The academy does not authorize instructor pilots or cadets to perform preventive maintenance on academy aircraft, with the single exception of adding engine oil from a sealed container of the correct approved grade, performed under the direction of the Director of Maintenance and logged on the aircraft's oil record. Any other work — including tire servicing, filter changes, and lamp replacement — is performed by maintenance personnel.

G.3 Corrected discrepancies

Each corrected discrepancy is closed in the log by an entry stating the corrective action taken, the parts installed with their traceability, the date, the aircraft total time, and the signature and certificate number of the person approving return to service. The corresponding maintenance record entry is made in accordance with 14 CFR §43.9, or §43.11 for an inspection. A discrepancy closed as "could not duplicate" or "operational check normal" remains visible in the log, and the next crew is briefed on it; a condition reported twice and closed twice without a repair is escalated to the Chief Inspector.

Under 14 CFR §91.407 no person may operate an aircraft that has undergone maintenance, preventive maintenance, rebuilding, or alteration unless it has been approved for return to service. Where the work may have appreciably changed the flight characteristics or substantially affected the operation in flight, an appropriately rated pilot must make an operational check and log the flight before carrying any person other than required crewmembers. Such a check flight is flown by an instructor pilot designated by the Chief Instructor, with no cadet aboard.

G.4 Third-party maintenance

When work is performed by an outside mechanic or repair station, the Director of Maintenance verifies before the aircraft returns to the line that the provider held the appropriate certificate and ratings for the work; that the return-to-service entry is complete, legible, and signed with a certificate number; that parts

used are traceable and approved for the installation; that any airworthiness directive affected by the work is addressed; and that the work matches the scope authorized. A copy of the invoice and the log entry is filed in the aircraft record.

G.5 Required log entries

TABLE G-1. RETURN-TO-SERVICE ENTRY — REQUIRED ELEMENTS

ELEMENT	CONTENT
Description of work	A description of the work performed, or reference to acceptable data covering it
Date	Date of completion of the work
Aircraft time	Total time in service at completion
Identity	Name, signature, and certificate number and kind of the person approving return to service
Inspection statement	For an inspection, the statement prescribed by 14 CFR §43.11, including whether the aircraft is airworthy or a list of discrepancies
Parts	Part numbers, serial numbers, and airworthiness approval documentation for installed parts

Maintenance records are retained by the Director of Maintenance in accordance with 14 CFR §91.417, and the records that must be transferred with the aircraft accompany it on sale or transfer.

SECTION H Maintenance away from base

H.1 Authority

Only the Director of Maintenance may authorize maintenance on an academy aircraft away from the operations base. A crew that discovers a problem away from base contacts the Maintenance Controller before any work is arranged, promised, or begun, and before discussing repair with a local provider. Where the Director of Maintenance is unreachable, the crew contacts the Chief Inspector, and failing that the Wing Commander. Crews do not authorize work on their own initiative, do not accept a verbal assurance from a local shop that an item is acceptable, and do not sign for work on the academy's behalf.

H.2 Crew actions away from base

The crew secures the aircraft, records the condition factually while it is fresh, photographs anything visible, and reports to the Maintenance Controller: tail number, location, condition observed, phase of flight, indications, weather, fuel state, persons aboard, and any action already taken. The crew then awaits direction. If the aircraft is grounded, the crew arranges secure parking, removes required documents and any valuables, installs covers and control locks, and arranges transport for the occupants in coordination with the Director of Operations. Cadet welfare — food, lodging, and duty time — is the responsibility of the Director of Operations, not of the cadet.

NOTE

A cadet who is away from base with a grounded aircraft remains on duty until released by the Director of Operations. Duty and rest limits in Section U continue to apply, including on the return leg by surface transport.

H.3 Deferral away from base

The Director of Maintenance may defer an item away from base under the same rules that apply at base: the item must be eligible under the MEL or, absent an MEL, under 14 CFR §91.213(d); the required maintenance and operations procedures must be accomplished; the item must be deactivated, removed, or secured as required; and the placard and log entry must be made. Where the required (M) procedure cannot be accomplished at the remote field by a qualified person, the item may not be deferred.

H.4 Unscheduled maintenance

Where repair is required at the remote field, the Director of Maintenance selects the provider, defines the scope in writing, and obtains the return-to-service entry directly. The Finance Officer arranges payment; the crew does not become the purchasing agent. On the aircraft's return to base, the Chief Inspector reviews the work performed away from base and determines whether any further inspection is warranted before the aircraft resumes training use.

H.5 Ferry flights and special flight permits

An aircraft that does not currently meet applicable airworthiness requirements but is capable of safe flight may be flown to a place where maintenance can be performed under a special flight permit issued in accordance with 14 CFR §21.197 and §21.199. The Director of Maintenance applies for the permit, and the Wing Commander approves the flight. The permit states the purpose, the route, and any conditions and limitations, which are carried aboard and briefed.

LIMITATION

A ferry flight under a special flight permit is flown by an instructor pilot specifically designated by the Chief Instructor and qualified in type.

NO CADET AND NO PASSENGER MAY BE CARRIED.

The flight is conducted in day visual meteorological conditions unless the Wing Commander approves otherwise in writing, and is not used to reposition an aircraft merely for schedule convenience.

SECTION I Minimum Equipment List

I.1 Purpose of the MEL program

A Minimum Equipment List permits an aircraft to be operated with specified items of equipment inoperative, for a limited period, under stated conditions. It exists to prevent two opposite failures: dispatching an aircraft that should not fly, and grounding an aircraft over an item that has no bearing on the safety of the intended flight. An MEL is always more restrictive than the aircraft's type certificate; it never adds capability.

Where an academy aircraft is operated under an approved MEL, that MEL and the associated authorization are carried aboard and constitute a limitation on the aircraft's operation. Where an aircraft is operated without an MEL, inoperative instruments and equipment are handled under 14 CFR §91.213(d), which permits certain items to be inoperative provided they are not required by the type certificate, by an airworthiness directive, by §91.205 for the kind of operation, or by the AFM, and provided the item is removed or deactivated and placarded and a determination is made that it does not constitute a hazard.

I.2 Who may defer

Only the Director of Maintenance authorizes a deferral, records it, and sets its expiry. The pilot in command verifies before flight that each open deferral is properly recorded and placarded, that any (O) procedure is understood and can be complied with, and that the accumulation of deferrals does not create an unacceptable condition for the intended flight. A pilot in command may decline an aircraft on the basis of accumulated deferrals.

CAUTION

Deferrals interact. Two individually acceptable items — for example one inoperative alternator-related annunciator and one inoperative navigation source — may be unacceptable together on a night IFR training sortie. The MEL evaluates items singly; the pilot in command evaluates the aircraft as a whole.

I.3 (M) and (O) procedures

An (M) symbol indicates that a specific maintenance procedure must be accomplished before operation with the item inoperative. It is performed by qualified maintenance personnel and is documented. An (O) symbol indicates that a specific operations procedure must be accomplished or considered by the flight crew. The (O) procedure is briefed before flight and is included in the crew brief where it affects the conduct of the sortie. The presence of an (M) or (O) symbol is not advisory; the procedure is a condition of the deferral, and the deferral is invalid without it.

I.4 Repair intervals

TABLE I-1. MEL REPAIR CATEGORIES

CATEGORY	REPAIR INTERVAL	APPLICATION
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CATEGORY	REPAIR INTERVAL	APPLICATION
A	As specified in the remarks or exceptions column of the MEL item	Items whose interval is set individually — sometimes in flights or flight hours rather than days
B	Three consecutive calendar days	Items with a significant operational effect
C	Ten consecutive calendar days	Items with a limited operational effect
D	One hundred twenty consecutive calendar days	Items with a minimal operational effect, typically cosmetic or convenience items

The repair interval begins on the calendar day following the day the discrepancy was recorded. The day of discovery is excluded. An item not repaired by the end of its interval grounds the aircraft; the aircraft may not depart on the day of expiry on the assumption that repair will occur on arrival.

I.5 Extensions

Where the MEL and its authorization permit an extension, an extension of a Category B, C, or D item may be granted once, for a period no longer than the original interval, and only by the Director of Maintenance. The extension is recorded with the reason, the new expiry, and the name of the person granting it, and is reported to the Wing Commander. Category A items are not extended. An extension is not granted to accommodate the flying schedule; the only acceptable reasons are parts availability and the availability of qualified maintenance.

I.6 Cadet training on the MEL

Cadets are taught to read the MEL and to interpret §91.213 during the primary phase and are examined on it before the first solo cross-country. Instructor pilots use real deferrals on the line as teaching material. A cadet is expected to be able to state, for the aircraft assigned that day, every open deferral and the operational consequence of each. Full detail is in the Maintenance & MEL Manual.

SECTION J Aircraft refueling

J.1 Approved fuel grades

TABLE J-1. FUEL BY AIRCRAFT TYPE

AIRCRAFT	FUEL	NOTES
Cessna 172	100LL — blue	Grade 100 (green) is acceptable only where authorized by the POH and no 100LL is available; record the substitution.
Piper Seminole	100LL — blue	Both tanks sampled at each sump point; verify fuel selector positions after fueling.
Pilatus PC-12/45 and /47	Jet-A or Jet-A1 — clear to straw	Approved alternate fuels and any associated limitations are specified in the AFM.

WARNING

MISFUELLING PREVENTION.

The academy operates piston and turbine aircraft from the same ramp. Before fueling begins, the person supervising the fueling states aloud to the fueler the aircraft registration and the fuel required, and physically confirms the grade on the truck placard and the color of the nozzle and, where fitted, the restrictor. A Jet-A nozzle is oversized and will not enter a properly fitted 100LL restrictor port; if a nozzle appears to fit an aircraft it should not, fueling stops immediately. After fueling, the crew samples every drain and verifies fuel color and smell before the first flight. Jet fuel in a piston engine will cause detonation and power loss shortly after takeoff, and this failure has killed crews who accepted a fuel load without checking.

J.2 Supervision and grounding

An academy crewmember or line service technician supervises every fueling of an academy aircraft. Before fuel flows the aircraft is bonded to the fueling equipment, and where a static ground point is available the equipment is grounded to it, to equalize static potential before the cap is removed. Bonding is established before the fuel cap is opened and is removed only after the cap is secured. The engine is shut down, the master switch is off, and no electrical equipment is switched during fueling. Mobile telephones are not operated at the fueling point. Fire extinguishing equipment is accessible.

After fueling, caps are secured and visually verified, the fueling area is checked for spillage, and the quantity uplifted is recorded against the tail number. An unsecured fuel cap in flight causes rapid siphoning and a fuel state that does not match the plan.

J.3 Fueling with occupants aboard

The academy's standard is that fueling is conducted with no occupants aboard the aircraft. Where an occupant must remain aboard, fueling may proceed only if a qualified crewmember is at a designated exit, the exit and its path are unobstructed, the occupant is briefed to remain seated with belts unfastened and to evacuate on command, no smoking or open flame is present, and no auxiliary power unit or engine is

running. Fueling with occupants aboard is not conducted during a fuel spill, during electrical storm activity within five nautical miles, or when any part of the fueling equipment is unserviceable.

J.4 Fuel sampling and contamination

Fuel is sampled at every sump point before the first flight of the day and after every fueling. The sample is taken into a clear tester, held against a light background, and checked for correct color, for water, and for sediment or particulate. Water appears as a clear bead or a distinct line at the bottom of the sample. Sampling continues until two consecutive samples are clean.

Where contamination is found that does not clear, the aircraft is grounded and a discrepancy is written under Section F, and the Director of Operations notifies the fuel supplier so that other aircraft fueled from the same source can be checked. Samples are disposed of in the designated container and are never returned to the tank. Aircraft parked outside are refueled at the end of the flying day where practicable, to limit condensation in partially filled tanks overnight.

J.5 Turbine fuel additives and cold operations

Jet fuel holds dissolved and entrained water that can freeze and restrict fuel flow at low temperature. For the PC-12, when the fuel temperature is at or below 0 °C, or when the flight will operate in conditions where the fuel temperature is expected to reach that range, an approved fuel system icing inhibitor is used in the concentration specified by the AFM unless the aircraft's fuel heating provisions make it unnecessary under that AFM.

CAUTION

Additive concentration matters in both directions. Too little offers no protection; too much can attack seals and coatings. The additive is blended into the fuel stream during fueling, never poured into the tank, and the concentration is that specified in the AFM and the additive manufacturer's instructions. The uplift and the additive used are recorded.

Fuel quantity is verified by two independent means before flight: the gauge indication and either a visual check of the tanks or the recorded uplift added to the known quantity before fueling. A discrepancy between the two is resolved on the ground.

SECTION K Cadet & passenger briefing

K.1 Responsibility

The pilot in command ensures that every person aboard is briefed before taxi. On a training sortie the instructor pilot briefs the cadet on the first flight in a type and whenever the cadet occupies a seat or a role not previously briefed. A cadet who has been briefed in the type is not re-briefed on every flight, but the required items are covered whenever a non-crewmember is carried.

K.2 Required briefing items

Under 14 CFR §91.107 the pilot in command must brief each person on how to fasten and unfasten the safety belt and, where installed, the shoulder harness, and must notify each person to fasten them before taxi, takeoff, and landing. The academy briefs the following items as a standard set, modeled on the content required of larger operators:

1. Smoking is prohibited aboard all academy aircraft and on the ramp.
2. Use of safety belts and shoulder harnesses, including how to release under load and the requirement to remain fastened when seated.
3. Location and operation of normal and emergency exits, including the operation of the door handle and any window exit.
4. Location of the fire extinguisher, first-aid kit, ELT, and survival equipment.
5. Brace position and evacuation plan, including where to assemble clear of the aircraft and the propeller arc.
6. Sterile cockpit expectation: no conversation during taxi, takeoff, approach, and landing, and none below 1,000 feet above field elevation.
7. Prohibition on touching controls, switches, or handles, and the requirement to keep feet clear of the rudder pedals in a dual-control aircraft where the occupant is not a crewmember.
8. Seat position, seat locking verification, and the requirement not to adjust the seat in flight.
9. Location and use of oxygen equipment where installed, and the PC-12 cabin altitude and mask deployment procedure.
10. Stowage of loose items, and the requirement that nothing be placed where it can foul the controls.
11. Use of portable electronic devices and the requirement to comply with crew instructions on their use.

NOTE

In the Cessna 172, a seat that is not positively locked on its rails can slide fully aft during rotation. The briefing includes the requirement to confirm the seat is locked by attempting to move it fore and aft after adjustment, and this item appears on the before-start checklist.

K.3 Briefing cards

A briefing card specific to the type is carried in each seat pocket in the PC-12 and in the map pocket of each training aircraft. The card shows exits, the location of emergency equipment, the brace position, and the seat belt operation. The Quartermaster verifies the presence and condition of cards during the quarterly equipment inventory. A card that is missing or illegible is replaced but does not ground the aircraft; a verbal briefing covering the same content is given.

K.4 Child restraints and persons requiring assistance

A child may be carried in an approved child restraint system in accordance with 14 CFR §91.107(a)(3), which permits the use of a child restraint system furnished by the operator or the person and approved for use in aircraft, and permits a child who has not reached the second birthday to be held by an adult occupying an approved seat, provided the adult is not occupying an exit seat where that would obstruct egress. The restraint is installed in a forward-facing seat other than an emergency exit row, is secured for the entire flight, and is checked by the pilot in command before taxi.

A person who would need assistance to move quickly to an exit is briefed individually by the pilot in command, is assigned a seat that does not obstruct an exit, and is assigned an able-bodied occupant to assist in an evacuation. The pilot in command determines whether the person can be carried safely given the aircraft and the mission and may decline to carry the person. Any mobility aid is stowed so it cannot foul the controls or block an exit.

K.5 Briefing before an abnormal or emergency departure

Where a known abnormality exists — a deferral affecting the cabin, a known rough field, or an expected turbulent departure — the briefing is expanded to cover it. The emergency briefing given in flight when an emergency landing is anticipated is covered in Section M.

SECTION L Flight plans & flight locating

L.1 Policy

Every academy flight is subject to a flight locating procedure. No aircraft departs without someone on the ground knowing who is aboard, where the aircraft is going, and when it is expected back. Flight locating is a company function independent of any ATC service; a VFR flight plan filed with a flight service station does not satisfy the company requirement, and the company requirement does not satisfy the pilot in command's responsibility to plan the flight.

L.2 Flight plans

An IFR flight plan is filed for every flight conducted under instrument flight rules, in accordance with 14 CFR §91.173, and no person operates in controlled airspace under IFR without an ATC clearance. A VFR flight plan is filed for every cross-country flight beyond the local training area, for every flight over sparsely settled terrain or water, and for every solo cross-country flown by a cadet. Filing a VFR flight plan on a local training sortie is not required because the sortie is covered by the company flight locating system.

Cadets file through the company planning tool at pilotrules.com/flight-plan, which produces the flight plan and the navigation log and records the plan in the flight locating system in one action. The instructor pilot reviews and approves the plan before the cadet files it.

L.3 The flight locating procedure

Dispatch records the following before departure and retains it until the aircraft is confirmed on the ground and secured:

TABLE L-1. FLIGHT LOCATING DATA

ITEM	DETAIL
Aircraft	Registration, type, and fuel aboard at departure expressed in hours of endurance
Crew and occupants	Names of all persons aboard and a contact number for each
Sortie	Syllabus event or purpose; solo or dual
Route	Departure point, route or training area, intermediate stops, destination, and alternates
Times	Proposed departure, estimated time en route, and latest expected arrival time
Contacts	Emergency contact for each person aboard, from the personnel record
Special	Survival equipment carried, hazardous conditions expected, any deferral affecting the flight

The crew reports arrival at each intermediate stop and on final arrival. On a local sortie, arrival is confirmed by the aircraft's return to the ramp and the completion of the dispatch record. Where the crew's plan changes in flight — a diversion, a change of training area, or an extension — the crew advises dispatch by radio or telephone as soon as practicable, and the record is updated.

L.4 Overdue aircraft timeline

TABLE L-2. OVERDUE AIRCRAFT ESCALATION

ELAPSED	ACTION BY	ACTION
At the latest expected arrival time	Dispatch	Attempt contact by radio, telephone, and text. Check the ramp and adjacent parking. Check with the destination and any likely alternate.
+15 minutes	Dispatch	Notify the Director of Operations. Contact air traffic facilities along the route and flight service. Confirm whether a flight plan remains open.
+30 minutes	Director of Operations	Declare the aircraft overdue. Notify the Wing Commander and the Director of Safety. Contact the Air Route Traffic Control Center and request a communications search.
+45 minutes	Director of Operations	Request that search and rescue be alerted through the appropriate rescue coordination center. Assemble the last known position, route, fuel endurance, and persons aboard.
+60 minutes or fuel exhaustion, whichever is earlier	Wing Commander	Activate the Emergency Response Plan in full. Apply Section D if the aircraft is believed to have been involved in an accident.

WARNING

The timeline is a maximum, not a schedule to be worked through. Where there is affirmative reason to believe the aircraft is in distress — a distress call, a witness report, an ELT signal, or a sudden loss of radar contact — the Director of Operations proceeds directly to the final step without waiting.

L.5 Closing flight plans

A VFR flight plan is not closed automatically. The pilot in command closes it with flight service by radio or telephone on arrival, and the closure is entered in the dispatch record. Failure to close a flight plan initiates a search that consumes public resources and diverts the academy's attention from real events; a cadet who fails to close a flight plan is debriefed on it and the event is recorded. An IFR flight plan is closed automatically on landing at a towered field; at a non-towered field, the pilot in command closes it with ATC or flight service.

L.6 Weather sources

Flight planning uses information from an approved source: the National Weather Service and its aviation products, a flight service station, and commercial vendors that source their data from the National Weather Service. Under 14 CFR §91.103 the pilot in command must become familiar with all available information concerning the flight, which for any flight not in the vicinity of an airport includes weather reports and forecasts, fuel requirements, alternatives available if the flight cannot be completed as planned, and any known traffic delays.

The company weather page at pilotrules.com/weather aggregates approved sources for convenience. Cadets are taught to read the raw report and forecast, not only the decoded or graphical presentation, and are examined on it. Uncertified sources such as consumer weather applications are not used as the basis for a go or no-go decision.

SECTION M Emergency procedures & ERP

M.1 Emergency authority of the pilot in command

In an in-flight emergency requiring immediate action the pilot in command may deviate from any rule of 14 CFR Part 91 to the extent required to meet that emergency, under §91.3(b). On request of the Administrator, a written report is sent. The academy requires the pilot in command to advise dispatch and the Director of Safety on the same duty day and to submit a written account within twenty-four hours, whether or not the FAA requests one.

Crews are expected to declare an emergency when one exists. The academy places no administrative consequence on declaring, and instructors will not characterize a declaration as an overreaction in a debrief. Delaying a declaration to avoid paperwork removes the priority handling, the equipment, and the airspace that would otherwise be made available.

M.2 Immediate actions

ANY IN-FLIGHT EMERGENCY — UNIVERSAL ACTIONS

1. Maintain aircraft control.
2. Analyze the situation and take the appropriate memory items for the type.
3. Land as soon as conditions permit.

Type-specific memory items and abnormal procedures are contained in the POH or AFM and are reproduced in the Flight Standards Manual. Nothing in this section modifies them. Memory items are executed from memory and are then verified against the checklist when time and altitude permit.

M.3 Emergency briefing to occupants

Where time permits before an emergency landing or ditching, the pilot in command briefs the occupants on the nature of the emergency, the brace position and the command to brace, the exit to be used and who will open it, the assembly point clear of the aircraft, and whether to take or leave personal items. The briefing is short, specific, and delivered in a calm voice. Where time does not permit, the command "BRACE, BRACE, BRACE" is given.

M.4 Evacuation

The decision to evacuate rests with the pilot in command. Before ordering an evacuation the crew stops the engine or engines, shuts off the fuel, and turns off the electrical system where the procedure permits. Occupants leave through the nearest usable exit, move at least one hundred feet upwind and clear of the propeller arc and any fuel spill, and remain together so that a headcount can be taken. The pilot in command performs the headcount against the manifest and reports to emergency services whether all persons are accounted for. No person re-enters the aircraft to recover belongings.

M.5 Bomb threat and security incidents

A person receiving a threat keeps the caller talking, records the exact wording, notes the time and any background sound and the caller's characteristics, and signals a colleague to notify the Director of Operations, who notifies law enforcement and the Wing Commander. The facility is evacuated on the direction of law enforcement or the Wing Commander. If a threat concerns an aircraft in flight, dispatch relays the information to the crew, who advise ATC and land as soon as practicable at a suitable airport, avoiding movement of suspect items and configuration changes not required for flight.

Unauthorized persons on the ramp, attempted access to aircraft keys or records, and suspicious inquiries about aircraft performance, fuel capacity, or flight without instruction are reported to the Director of Safety and, where warranted, to law enforcement and the Transportation Security Administration. The security awareness training required of flight school employees under 49 CFR Part 1552 covers recognition and reporting, and is administered by the Designated School Official.

M.6 Emergency Response Plan — roles and call tree

TABLE M-1. ERP ROLES

ROLE	RESPONSIBILITY ON ACTIVATION
Incident Commander — Wing Commander	Overall direction; sole external spokesperson; decides on suspension of operations
Operations Coordinator — Director of Operations	Accounts for all aircraft and crews; recalls airborne aircraft as required; maintains the event log
Safety Lead — Director of Safety	Regulatory notifications under Section D; evidence and record preservation; investigation liaison
Technical Lead — Director of Maintenance	Technical information to responders and investigators; fleet inspection if a common cause is suspected
Family Liaison — Registrar	Retrieves emergency contact information; supports authorities with next-of-kin notification; single point of contact for families
Training Lead — Chief Instructor	Suspends affected training; arranges support for cadets and instructors; manages the return-to-flying process
Administrative Lead — Finance Officer	Insurance notification, immediate expenditure authority, travel and lodging

The call tree is posted at the operations desk and in the dispatch system, with primary and alternate numbers for every role. Each role holder confirms receipt and calls the next name; a role holder who cannot be reached within five minutes is skipped and the alternate is called. The Director of Safety exercises the plan at least annually, including at least one no-notice callout, and documents the results and corrective actions.

M.7 Post-event testing and fitness

Following an accident or a serious incident, any crewmember involved is removed from flight duty pending review by the Chief Instructor and the Director of Safety, without prejudice. Where the academy or a customer contract requires post-accident drug and alcohol testing, the Wing Commander directs that testing be accomplished within the applicable time limits and personnel remain available for it.

Independently, under 14 CFR §91.17 a crewmember must submit to a test to indicate the percentage by weight of alcohol in the blood when requested by a law enforcement officer under the conditions stated in that section, and refusal is itself a violation. A crewmember involved in an event does not consume alcohol until testing is complete or until released by the Wing Commander.

Personnel involved in or witnessing a serious event are offered critical incident support. Return to flying duty follows an assessment by the Chief Instructor, and where appropriate a proficiency flight with a Check Instructor before resuming instruction.

SECTION N Instructor & cadet qualifications

N.1 Instructor pilot qualification

An instructor pilot must hold a flight instructor certificate with ratings appropriate to the instruction given, must hold a current medical certificate appropriate to the operation, and must be authorized in writing by the Chief Instructor for each make and model and each course. Initial authorization requires a records review by the Registrar, indoctrination in this manual and the Flight Standards Manual, ground evaluation on the applicable Training Course Outline, and an initial standardization flight with the Chief Instructor, the Assistant Chief Instructor, or a Check Instructor in the make and model.

Instruction in a Part 141 course is conducted under the supervision of the Chief Instructor in accordance with 14 CFR §141.79 for flight training and §141.81 for ground training, and instructors are counted among the personnel requirements of §141.33. Flight instructor privileges, limitations, records, and renewal are governed by 14 CFR §61.193, §61.195, §61.189, and §61.197 respectively.

N.2 Instructor currency and continuation training

TABLE N-1. INSTRUCTOR RECURRING REQUIREMENTS

REQUIREMENT	INTERVAL
Standardization flight with a Check Instructor in each authorized make and model	12 calendar months
Instructor ground standardization and syllabus update	12 calendar months
Recurrent training in this manual, the SMS, and emergency response	12 calendar months
Instrument proficiency to give instrument instruction	Per 14 CFR §61.57(c) or an instrument proficiency check under §61.57(d)
Security awareness training under 49 CFR Part 1552	Initial, then annually
Flight instructor certificate renewal	Per 14 CFR §61.197

An instructor pilot who has not flown in an academy aircraft of a given make and model within the preceding sixty days flies a proficiency flight with a Check Instructor before instructing in that type. An instructor pilot returning from an absence of more than ninety days completes the initial authorization sequence again, less the records review.

N.3 Check Instructor authority

A Check Instructor is designated by the Chief Instructor under 14 CFR §141.37 and conducts stage checks and end-of-course tests within the scope of that designation. The Check Instructor determines whether the cadet met the published completion standards, records the result the same day, and where the result is unsatisfactory specifies in writing the items to be retrained and the minimum training required before a

recheck. A second unsatisfactory result on the same stage check is referred to the Chief Instructor, who determines whether the cadet continues in the course.

N.4 Cadet solo prerequisites

Before a cadet is authorized to fly solo, the instructor pilot must have satisfied every element of 14 CFR §61.87 and the academy's additional requirements:

1. The cadet holds a student pilot certificate and a medical certificate appropriate to the operation, verified by the Registrar.
2. The cadet has passed a presolo aeronautical knowledge test administered and graded by the instructor pilot, covering the applicable portions of Parts 61 and 91, the airspace and procedures at the airport of operation, and the flight characteristics and operating limitations of the make and model, with all incorrect answers reviewed with the cadet before the endorsement.
3. The cadet has received and logged flight training in the maneuvers and procedures listed in §61.87 for the category and class, and has demonstrated proficiency in them to the instructor pilot in the same make and model.
4. The instructor pilot has made the endorsements required by §61.87(n) for solo flight and §61.87(p) for the specific make and model, each valid for ninety days.
5. The academy additionally requires a presolo progress check with a Check Instructor or the Assistant Chief Instructor, and a briefing on the local solo area, the weather limits in the Flight Standards Manual, and the lost-communications and diversion plan.

Solo flight is conducted within the limitations of 14 CFR §61.89, which among other things prohibits carrying passengers, prohibits flight in furtherance of a business, and sets visibility and visual-reference conditions for student pilot solo flight. Solo cross-country flight additionally requires the endorsements and instructor review of the planned flight prescribed by §61.93.

LIMITATION

A cadet's first solo is flown only in the aircraft in which the cadet was trained, in day visual meteorological conditions, at the home field, with the endorsing instructor pilot physically present on the field and monitoring the frequency, and with surface wind and crosswind within the limits published in the Flight Standards Manual for a first solo.

N.5 Cadet currency and grace provisions

A cadet who has not flown in the preceding fourteen days flies a review sortie with an instructor pilot before resuming solo activity. A cadet whose solo endorsements have passed their ninety-day validity may not fly solo until the endorsements are renewed following a proficiency demonstration. Recency of experience to carry passengers after certification is governed by 14 CFR §61.57, and cadets are taught to track it in the logbook maintained in accordance with §61.51.

The Chief Instructor may grant a written grace of up to seven days on an academy-imposed currency requirement where weather or maintenance caused the lapse and the cadet's recent performance supports it. No grace may be granted against a regulatory requirement or against an expired endorsement.

SECTION 0 Approved inspection program

0.1 Basis of the program

Each academy aircraft is maintained under an inspection program appropriate to its type and use, selected and administered by the Director of Maintenance in accordance with 14 CFR §91.409. Because academy aircraft are used to give flight instruction for hire, aircraft used in that role require a 100-hour inspection in addition to the annual inspection, unless the aircraft is maintained under an approved progressive inspection program under §91.409(d) or another program authorized for the type.

TABLE 0-1. INSPECTION BASIS BY TYPE

TYPE	PROGRAM	NOTES
Cessna 172	Annual plus 100-hour, or progressive where approved	Manufacturer's inspection program and service documents applied; 100-hour interval may be exceeded by not more than ten hours only when necessary to reach a place where the inspection can be done, and the excess is deducted from the next interval
Piper Seminole	Annual plus 100-hour, or progressive where approved	Both engines and propellers tracked separately for life-limited and time-controlled items
Pilatus PC-12/45 and /47	Manufacturer's inspection program per the maintenance manual, administered as an approved program	Phase inspections by hours and calendar; engine maintained on the manufacturer's program with trend monitoring per Section V

0.2 Administration

The Director of Maintenance maintains the program document for each aircraft, schedules inspections so that no aircraft reaches a due point while on the flying schedule, and tracks airworthiness directives, service bulletins the academy has elected to adopt, life-limited parts, and time-controlled components. The Chief Inspector independently verifies the tracking data at least quarterly and before any aircraft returns from a major inspection.

A change of inspection program is approved by the Wing Commander, is coordinated with the FAA where required, and is recorded in the aircraft records. Where an aircraft is placed on a progressive program, the required program document, the manufacturer's recommendations, and the instructions for continued airworthiness are available at the operations base.

0.3 Signatures and records

Inspections are recorded in accordance with 14 CFR §43.11, including the type and extent of the inspection, the date, the aircraft total time in service, and the signature and certificate number and kind of the person approving or disapproving return to service. Where the inspection is disapproved, the person provides the

owner or operator with a signed list of discrepancies, which the Director of Maintenance enters into the discrepancy log under Section F.

No aircraft is dispatched with an inspection overdue. Dispatch verifies remaining hours against the status sheet at release, and an aircraft with fewer hours remaining than the planned sortie duration plus one hour is not released for that sortie.

SECTION P

Hazardous materials

P.1 Policy — will-not-carry

PilotRules Flight Academy is **not** a hazardous materials carrier. The academy does not accept, offer, or knowingly transport hazardous materials as cargo in any aircraft, and holds no authorization to do so. Company materials that are hazardous in transport — including aircraft batteries, oxygen bottles, oils, solvents, and paints — move by surface transport arranged by the Quartermaster in accordance with the applicable surface regulations.

WARNING

Undeclared hazardous material is the risk that actually reaches the academy's aircraft. It arrives in a cadet's flight bag or a passenger's luggage, not on a shipper's paperwork. Every crewmember is responsible for recognizing it and refusing it.

P.2 Recognition training

All instructor pilots, dispatchers, line personnel, and the Quartermaster receive hazardous materials recognition training on hire and annually thereafter. The training covers the hazard classes, the labels and markings used to identify them, common items that are hazardous in air transport, the exceptions that apply to items carried by passengers and crew under the hazardous materials regulations in 49 CFR Part 175, and the requirement to refuse and report. Cadets receive the same recognition briefing during in-processing and again before the cross-country phase.

P.3 Items of particular concern

TABLE P-1. COMMON ITEMS AND ACADEMY HANDLING

ITEM	STATUS	HANDLING
Lithium-ion batteries in personal devices	PERMITTED	Carried on the person or in the cabin, never in an inaccessible compartment. Devices are kept where they can be reached if they overheat.
Spare lithium batteries and power banks	RESTRICTED	Carried in the cabin only, terminals protected against short circuit, in original packaging or a separate pouch. Watt-hour ratings above the common consumer limits are not carried.
Damaged, swollen, or recalled batteries	PROHIBITED	Not carried in any aircraft. Surrendered to the Quartermaster for disposal.
Compressed oxygen cylinders	PROHIBITED	Personal or portable oxygen cylinders are not carried. Installed aircraft oxygen systems are unaffected. A medical requirement is referred to the Wing Commander.
Aerosols	RESTRICTED	Only small quantities of personal-care aerosols in a cadet's kit, with the cap fitted. Aerosol lubricants, cleaners, deicers, and paints are not carried.

ITEM	STATUS	HANDLING
Flammable liquids and fuels	PROHIBITED	Includes camping fuel, lighter refills, and containers that previously held fuel.
Matches and lighters	PROHIBITED	Not carried aboard academy aircraft; smoking is prohibited in any case.
Corrosives, including spillable batteries	PROHIBITED	Refused at the aircraft; reported to the Director of Safety.
Pyrotechnic signaling devices	RESTRICTED	Carried only when included in an approved survival kit issued by the Quartermaster and briefed to the crew.

P.4 Refusal and reporting

Any crewmember who suspects that an item offered for carriage is hazardous refuses it. There is no requirement to be certain and no authority to accept an item on the strength of the owner's assurance. The refusal is reported to the Director of Operations and entered as a safety report. Where a hazardous item is discovered aboard in flight, the crew isolates it as far as practicable, keeps it accessible and under observation, and lands as soon as practicable if the item presents a fire or fume hazard.

SECTION 5 Foreign students & international operations

S.1 Responsibility

The Designated School Official is responsible for compliance with the Transportation Security Administration's Flight Training Security Program under 49 CFR Part 1552 and for the academy's obligations in the Student and Exchange Visitor Information System. No other position may authorize a foreign cadet to begin flight training, and no scheduling, financial, or customer consideration overrides a DSO hold.

S.2 Flight Training Security Program

A candidate who is not a United States citizen or national must be authorized by TSA before receiving flight training that leads to a recreational, sport, private, instrument, multi-engine, or type rating. Candidates are classified by category according to the maximum takeoff weight of the aircraft in which training will be conducted, with a separate category for recurrent training, and the processing requirements differ by category. The DSO submits the candidate's application, collects the required identity and immigration documentation, and does not schedule any flight training event until the authorization for the specific training event is in hand and recorded.

The academy photographs the candidate at the operations base at the start of training and submits the photograph through the TSA system within the required period. The DSO verifies citizenship documentation for every person receiving flight training, including United States citizens, and retains the verification record. Instructor pilots verify before each initial training event that the Registrar has posted a valid authorization.

Employees of the academy complete initial and annual recurrent security awareness training as required for flight school personnel by 49 CFR Part 1552. The DSO administers the program, maintains the roster, and records completion.

WARNING

Providing flight training to a person who has not been authorized is a violation by the academy and by the individual instructor pilot who conducts the lesson. An instructor pilot who cannot confirm the authorization does not fly, regardless of what the schedule shows or who has approved it.

S.3 SEVIS and the Form I-20

Cadets attending on a student visa are admitted in the vocational student classification and receive a Form I-20 issued by the DSO through SEVIS. The DSO is responsible for issuing the I-20 only after evidence of financial ability and acceptance are on file; for reporting the cadet's arrival and program start; for maintaining the cadet's registration each session; and for reporting address changes, program extensions, transfers, terminations, and any failure to enroll within the periods required by the immigration regulations governing that classification.

Cadets in this classification pursue a full course of study, may not accept employment except as specifically authorized, and must maintain a passport valid for the required period beyond the program. The academy's program end date on the I-20 is set from the approved 52-week course length, and a cadet who requires additional time applies for an extension through the DSO before the end date passes rather than after.

S.4 Documentation held before training begins

TABLE S-1. CLEARANCE GATE — ITEMS REQUIRED BEFORE THE FIRST FLIGHT LESSON

ITEM	HELD BY
Valid passport and visa, copied and verified against the original	DSO
Form I-94 arrival record and Form I-20 with the DSO endorsement	DSO
TSA authorization for the specific training event, with the tracking number	DSO and Registrar
Candidate photograph captured and submitted	DSO
FAA student pilot certificate and medical certificate	Registrar
English language proficiency assessment result	Chief Instructor
Enrollment certificate for the Part 141 course	Registrar

The Registrar will not release a foreign cadet to the flying schedule until every item is present. Ground instruction that does not constitute flight training may proceed where permitted, and the DSO determines what may proceed.

S.5 International operations

Flights leaving the United States require additional preparation: the aircraft's FCC radio station license, a customs decal and advance electronic manifest filing, passports for all aboard, proof of insurance acceptable in the destination country, and compliance with any overflight or landing permit requirement. Survival equipment appropriate to the route, including flotation equipment for extended overwater flight, is drawn from the Quartermaster. Cadet training flights do not leave the United States except as specifically approved by the Wing Commander. Planning detail and current requirements are on the [international compliance page](#).

SECTION U Company policies

U.1 Records retention

The Registrar and the Director of Maintenance maintain the academy's records. Where a regulation prescribes a retention period, that period is a minimum and the academy's own period is at least as long.

TABLE U-1. RETENTION PERIODS

RECORD	RETAINED	BASIS
Cadet training record — lessons, stage checks, end-of-course tests	5 years	Exceeds the minimum retention required of a certificated pilot school after graduation or termination
Enrollment and graduation certificates	5 years	14 CFR §141.93 and §141.95
Instructor records of endorsements and recommendations	3 years	14 CFR §61.189
Dispatch, flight locating, and load manifest records	12 months	Company policy
Discrepancy log entries and corrective actions	Life of the aircraft in the fleet	Company policy
Maintenance records — routine work	1 year, or until the work is repeated or superseded	14 CFR §91.417
Maintenance records — total time, life-limited parts, AD compliance, major repairs and alterations	Retained and transferred with the aircraft	14 CFR §91.417
Safety reports and investigations	5 years	Company SMS policy
Duty and rest records	12 months	Company policy
TSA and SEVIS records	5 years or as required by the governing program	49 CFR Part 1552 and SEVP requirements
Personnel and training files	Duration of employment plus 3 years	Company policy

U.2 Pre-employment verification

Before an instructor pilot, dispatcher, or maintenance employee begins work, the Registrar verifies identity and right to work; verifies FAA certificates and medical certificates directly against the airman registry; obtains and reviews the pilot records available from the FAA and from previous employers where the position involves flight duties; verifies the certificates and any inspection authorization for maintenance personnel; and completes the background checks required for the role and for unescorted

access to the airport operations area. Falsification of any element of an application is grounds for immediate termination whenever discovered.

U.3 Duty and rest

Fatigue is treated as an airworthiness item for the crew. The academy's standard duty day is twelve hours, normally 0600 to 1800, followed by a minimum of twelve hours of crew rest. These limits apply to cadets and to instructor pilots alike.

TABLE U-2. DUTY AND REST LIMITS

LIMIT	VALUE
Standard duty period	12 hours, normally 0600–1800 local
Maximum duty period, extendable by the Director of Operations for irregular operations	14 hours; an extension is documented with the reason
Minimum crew rest before a duty period	12 consecutive hours, free of all duty
Minimum rest after a duty period extended beyond 12 hours	14 consecutive hours
Maximum flight training given by one instructor in 24 consecutive hours	8 hours — 14 CFR §61.195(a)
Maximum flight time for a cadet in one duty period	4.0 hours dual or 3.0 hours solo
Maximum sortie count for a cadet in one duty period	3, of which no more than 1 may be solo
Maximum consecutive duty days	6, followed by at least 1 full calendar day free of duty
Days free of duty in any 7 consecutive days	At least 1, defined as 24 consecutive hours plus the preceding rest
Minimum break between sorties for a cadet	60 minutes, including debrief and brief
Night operations — maximum duty period	10 hours where the duty period includes flying after 2200 local

Duty includes physical training, mass brief, academics, simulator, flight, debrief, and assigned ground duties. Time spent commuting is not duty but is considered by the individual in judging fitness. The Director of Operations maintains duty records and is responsible for enforcement; an individual who is scheduled beyond a limit reports it and is removed from the schedule.

U.4 Fitness for duty

No person acts as a crewmember or performs a safety-related duty when not fit. The IMSAFE checklist — illness, medication, stress, alcohol, fatigue, and emotion or eating — is applied by every crewmember before every duty period. A declaration of unfitness is accepted without argument and without inquiry into

the reason, and carries no adverse consequence. Repeated declarations trigger a supportive conversation with the Chief Instructor, not discipline.

Under 14 CFR §61.53 a person may not act as pilot in command or in any other capacity as a required flight crewmember while having a known medical condition or an increase in a known medical condition that would make the person unable to meet the requirements of the medical certificate held. Any change in medical status is reported to the Chief Instructor and the Registrar before the next flight.

U.5 Illness, medication, and physiological lookback periods

TABLE U-3. GROUNDING AND LOOKBACK PERIODS

CONDITION	MINIMUM PERIOD BEFORE FLIGHT DUTY
Any medication with sedating potential, including over-the-counter antihistamines and sleep aids	5 maximal dosing intervals after the last dose, consistent with FAA aerospace medicine guidance, and only after the underlying condition has resolved
Any new prescription medication	Not flown until cleared by an aviation medical examiner
Blood or plasma donation	72 hours — company standard, more conservative than common guidance
Scuba diving, no controlled ascent required, flight planned below 8,000 ft cabin altitude	12 hours, per the guidance in the AIM
Scuba diving requiring a controlled ascent, or any flight above 8,000 ft cabin altitude	24 hours, per the guidance in the AIM
General anesthesia or conscious sedation	48 hours and a medical clearance
Immunization with systemic reaction	24 hours after symptoms resolve
Fever, vomiting, or diarrhea	24 hours symptom-free without medication
Head cold or sinus congestion affecting pressure equalization	Grounded until able to clear ears and sinuses normally without medication
Dental procedure with local anesthetic	Same duty day off; barodontalgia risk briefed

U.6 Drugs and alcohol

Under 14 CFR §91.17 no person may act as a crewmember within eight hours of consuming alcohol, while under the influence of alcohol, with a blood alcohol concentration of 0.04 percent or greater, or while using any drug that affects the person's faculties contrary to safety. The academy imposes a more restrictive standard: **twelve hours from the last consumption of alcohol to any duty**, and zero tolerance for any measurable alcohol during a duty period. The use of cannabis in any form is prohibited regardless of state law, as it remains a federally prohibited substance for airmen.

A crewmember must report to the Chief Instructor any motor vehicle action involving alcohol or drugs, and separately must make the report to the FAA required by 14 CFR §61.15 within the period stated in that

section. Post-event testing obligations are in Section M. Any person may report a colleague's suspected impairment directly to the Wing Commander or the Director of Safety; the report is treated confidentially and the person reported is removed from duty pending review.

U.7 Prohibited items and firearms

Firearms, ammunition, explosives, and weapons of any kind are prohibited in academy aircraft, in the operations facility, in classrooms, and in academy vehicles, regardless of any permit held. Knives with a blade longer than that of a standard multi-tool are prohibited aboard aircraft. Alcohol is prohibited on academy premises and aboard aircraft. Hazardous materials are covered in Section P.

U.8 Appearance and uniform

Cadets wear the issued flight suit or the duty uniform for the day as published on the schedule, with the name tag and the unit patch correctly positioned. Uniforms are clean and serviceable. Footwear is leather, closed-toe, and non-synthetic for flight duty; synthetic fabrics next to the skin are avoided in flight because of their behavior in a fire. Hair is worn so that it does not interfere with a headset or an oxygen mask, and jewelry that could snag on controls is removed. Instructor pilots and staff wear the company shirt with epaulettes appropriate to the position. Issue, exchange, and standards detail are administered by the Quartermaster and published in the Quartermaster Manual.

U.9 Aircraft and facility security

Aircraft are locked when unattended, with control locks installed, keys returned to the dispatch key board, and no documents or personal property left visible. Aircraft parked outside overnight are chocked, tied down at three points, and fitted with covers when issued. The last person leaving the operations facility secures the doors, the key board, and the records area, and confirms that the ramp gate has latched.

Personnel challenge any unidentified person in the operations area politely and directly, and escort visitors at all times. Keys and access codes are not shared, and a lost key or credential is reported the same day so that the affected lock or code can be changed. Any attempt by an unauthorized person to obtain an aircraft, a key, or a record is reported under Section M.

U.10 Personal electronic devices

Personal telephones are silenced and stowed during briefings, in the classroom, and in the aircraft. A crewmember may carry a telephone in flight for emergency use, in airplane mode where it is not required for a company purpose. Photography and video recording in flight are permitted only when they do not interfere with any duty, never below 1,000 feet above field elevation, never during a critical phase of flight, and never by the pilot flying. Recordings of any occurrence are preserved and provided to the Director of Safety and are not published. Devices used as an electronic flight bag are governed by Section Y.

SECTION V Flight operations

V.1 Checklist discipline

Checklists are used on every flight, by every crewmember, in every phase for which one is published. The academy uses the challenge-and-response method: the pilot monitoring reads the item, the pilot flying verifies the configuration by touching or pointing to the control, and responds with the required answer. On a single-pilot flight the checklist is read aloud and the response spoken aloud. A silent checklist is not a checklist.

Flows are taught and used to configure the aircraft quickly, and the checklist is then used to verify the flow. The checklist is never used as the primary means of configuring the aircraft in a time-critical phase, and a flow is never accepted as a substitute for the verification.

LIMITATION

THE INTERRUPTION RULE.

If a checklist is interrupted for any reason — a radio call, a traffic advisory, a distraction on the ramp — the crew returns to the beginning of that checklist and starts over, unless both crewmembers are positively certain of the last item completed. Uncertainty is resolved by starting over, every time. The cost is thirty seconds; the cost of the alternative is a takeoff with the flaps mis-set or the fuel selector on an empty tank.

V.2 Altimeter setting and crosschecks

Altimeter settings are used in accordance with 14 CFR §91.121: below 18,000 feet MSL, the setting of a station along the route within 100 nautical miles, or an appropriate available setting; at and above 18,000 feet MSL, 29.92 inches of mercury. Before every departure both altimeters are set to the reported setting and checked against field elevation; an error greater than 75 feet grounds the altimeter. In cruise the crew crosschecks the altimeters against each other whenever a new setting is received and at each level change, and announces any disagreement.

V.3 Sterile cockpit and critical phases of flight

The academy applies a sterile cockpit rule modeled on the rules that govern air carrier operations in 14 CFR §121.542 and §135.100. A **critical phase of flight** means all ground operations involving taxi, takeoff, and landing, and all other flight operations conducted below 10,000 feet MSL except cruise flight. For academy training the practical floor is 1,000 feet above field elevation in the traffic pattern environment.

During a critical phase no crewmember performs any duty not required for the safe operation of the aircraft, and no conversation occurs that is not related to that operation. Instruction is the exception that must be managed carefully: teaching during taxi, during the takeoff roll, or on short final is prohibited. An instructional point that arises in a critical phase is held for the debrief unless it concerns the immediate safety of the flight, in which case it is a direction, not a lesson.

V.4 Taxi discipline

An airport diagram is displayed and briefed before taxi at every airport, including the home field. The taxi brief states the expected route, the runways to be crossed, and any hot spot. The crew writes down the taxi clearance and reads it back in full. Progressive taxi instructions are requested without hesitation whenever the crew is uncertain of position or route.

The aircraft is stopped before crossing any hold short line while the clearance is verified. Landing lights are on when crossing a runway. Taxi speed is limited to a fast walk in the ramp area and to a speed from which the aircraft can be stopped within half the visible distance elsewhere. Head-down activity — programming a navigator, folding a chart, or completing paperwork — is done with the aircraft stopped, not while taxiing.

V.5 Non-towered airport procedures

At a non-towered field the crew monitors and transmits on the common traffic advisory frequency beginning at least ten nautical miles out, and reports position on entering the pattern, on downwind, base, and final, and when clear of the runway. Radio calls state the airport name at the beginning and the end of the transmission. The standard pattern is left traffic unless a right pattern is published, and the pattern is entered as recommended in the AIM. A straight-in approach is permitted only when the crew has positively determined that no aircraft is established in the pattern and is not used in training except when specifically briefed to teach the associated hazards.

CAUTION

The absence of radio calls does not mean the absence of traffic. Aircraft without radios operate legally at non-towered fields. The crew maintains a visual scan at all times and does not accept the frequency as a substitute for looking.

V.6 VFR operations

Basic VFR weather minimums are those of 14 CFR §91.155 for the airspace concerned. Minimum safe altitudes are those of §91.119: except for takeoff and landing, an altitude allowing an emergency landing without undue hazard to persons or property on the surface; over congested areas, 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet; and elsewhere, 500 feet above the surface, and no closer than 500 feet to any person, vessel, vehicle, or structure over other than congested areas. VFR cruising altitudes are flown in accordance with §91.159 above 3,000 feet AGL.

Fuel reserves under VFR are those of 14 CFR §91.151 — enough to fly to the first point of intended landing and thereafter for 30 minutes by day or 45 minutes at night at normal cruising speed. The academy requires a planned reserve of **60 minutes** at normal cruise for all cross-country flights, day or night, and a cadet solo cross-country is planned with fuel to reach the destination with not less than 1 hour remaining. Special VFR is not used on any training flight.

TABLE V-1. COMPANY VFR LIMITS, WHERE MORE RESTRICTIVE THAN THE REGULATION

ITEM	DUAL	CADET SOLO
Minimum ceiling, local pattern work	1,500 ft	2,000 ft
Minimum visibility, local	4 SM	6 SM
Minimum ceiling, cross-country	2,500 ft	3,500 ft
Minimum visibility, cross-country	5 SM	8 SM
Planned fuel reserve at destination	60 min	60 min

Surface and crosswind limits by aircraft and by phase of training are published in the Flight Standards Manual and are not repeated here so that a single source governs.

V.7 IFR operations

Instrument flight requires the equipment of 14 CFR §91.205(d), a current VOR check under §91.171 where VOR is used for navigation, and current altimeter, static system, and transponder inspections under §91.411 and §91.413. Part 91 prescribes no takeoff minimums for this operation, but the academy imposes them: an instrument approach must be available at the departure airport with visibility at or above the lowest published landing minimum for that approach, and a takeoff alternate within 50 nautical miles is designated when the departure field is below that value.

An alternate is filed in accordance with 14 CFR §91.169. The alternate requirement applies unless, for at least one hour before and one hour after the estimated time of arrival, the forecast at the destination is a ceiling of at least 2,000 feet above airport elevation and visibility of at least 3 statute miles. Alternate minimums are those published for the approach, or where none are published, the standard values in §91.169. The academy additionally requires that an alternate be filed on every cadet instrument training flight regardless of forecast.

IFR fuel under 14 CFR §91.167 is enough to fly to the destination, then to the alternate where one is required, and thereafter for 45 minutes at normal cruising speed. The academy plans a 60-minute final reserve above the alternate requirement and treats arrival at that reserve as a fuel emergency requiring a declaration.

No approach is commenced below the published minimums where the reported visibility is below the minimum for the approach. A missed approach is flown at the missed approach point if the required visual references are not in sight, and there is no discretion to descend below the decision altitude or minimum descent altitude in the hope of acquiring them.

V.8 Stabilized approach

LIMITATION

MANDATORY STABILIZED APPROACH GATE.

Every approach must be stabilized by

1,000 FEET HAT IN INSTRUMENT METEOROLOGICAL CONDITIONS

and by

500 FEET HAT IN VISUAL METEOROLOGICAL CONDITIONS

. An approach is stabilized when the aircraft is on the correct lateral and vertical path, in the landing configuration, at the target airspeed within +10 / -5 knots, with a descent rate not exceeding 1,000 feet per minute, with power stabilized for the configuration, and with all briefings and checklists complete.

IF THE AIRCRAFT IS NOT STABILIZED AT THE GATE, OR BECOMES UNSTABILIZED BELOW IT, AN IMMEDIATE GO-AROUND IS MANDATORY.

There is no discretion, no "continue and see", and no instructor override. A go-around flown at the gate is never a discrepancy and is never graded down.

The pilot monitoring calls "STABLE" or "NOT STABLE" at the gate. On a solo flight the cadet makes the call aloud. Deviations approaching the gate are called as they develop — "sink rate", "airspeed", "glidepath" — so that the correction happens before the gate rather than at it.

V.9 Go-around

Either pilot may call "GO AROUND". The call is a command, not a suggestion, and the pilot flying executes the go-around immediately without discussion. The reason is discussed afterward. An instructor pilot who countermands a cadet's go-around call except to prevent an immediate hazard is subject to review by the Chief Instructor, because the alternative teaches a cadet to hesitate.

GO-AROUND — IMMEDIATE ACTIONS

1. Power — maximum available for the configuration.
2. Pitch — to the go-around attitude, arrest the descent.
3. Configuration — flaps and gear as prescribed by the POH or AFM for the type.
4. Climb — establish a positive rate, then clean up and climb at the published speed.
5. Communicate — advise ATC or the traffic advisory frequency, and state intentions.

V.10 Oxygen

Supplemental oxygen is used in accordance with 14 CFR §91.211. At cabin pressure altitudes above 12,500 feet MSL up to and including 14,000 feet, the required minimum flight crew uses supplemental oxygen for that part of the flight at those altitudes of more than 30 minutes duration. Above 14,000 feet the required minimum flight crew uses oxygen during the entire time at those altitudes. Above 15,000 feet each occupant is provided with supplemental oxygen. In the pressurized PC-12 the additional requirements of

that section applicable to pressurized aircraft apply, and quick-donning masks and their stowage are checked before every flight above 10,000 feet.

The academy applies a more conservative standard for training: oxygen is used by all occupants above 12,500 feet cabin altitude regardless of duration, and at night above 10,000 feet, because night vision degrades measurably well below the regulatory threshold.

V.11 Autopilot use

The autopilot is a workload management tool, not a substitute for hand-flying skill. Minimum engagement and minimum use heights are those published in the AFM or the autopilot supplement for the specific installation, and those values are limitations. Where the AFM value is lower, the academy imposes a floor of 400 feet AGL after takeoff for engagement and 200 feet AGL on an instrument approach for disengagement, whichever is more restrictive.

The pilot flying announces every mode change and every autopilot engagement and disengagement aloud, and both pilots verify the annunciated mode against the intended mode. When the aircraft does not do what the crew expects, the response is to disconnect and hand-fly, then diagnose — never to attempt to reprogram the automation while the aircraft is departing from the intended path. Cadets fly the majority of training approaches by hand, and automation-managed approaches are flown as a specific syllabus item.

V.12 Manipulation of controls and duty stations

A cadet may manipulate the controls of an academy aircraft only during authorized instruction with an authorized instructor pilot aboard occupying a control seat, or during authorized solo flight within the endorsements held. No passenger may manipulate the controls at any time. Positive transfer of control uses the three-way exchange: "You have the aircraft", "I have the aircraft", "You have the aircraft", with the transferring pilot keeping hands near the controls until the exchange is confirmed.

Each crewmember remains at the assigned duty station with the seat belt fastened during taxi, takeoff, landing, and whenever the pilot in command directs. Seats are locked and verified before start. Nothing is placed on the glareshield or the floor where it can slide into the control path.

V.13 Adverse weather avoidance

Thunderstorms are avoided by at least 20 nautical miles laterally, and no flight is conducted beneath a thunderstorm or through a gap between cells of less than 40 nautical miles. Onboard weather depiction from a datalink source is used strategically for avoidance planning only; its age makes it unsuitable for tactical penetration decisions, and it is never used to thread between cells. Training flights are not conducted in the vicinity of an area of forecast severe weather, and the Director of Operations cancels the flying period when convective activity is forecast to affect the training area.

Flight into known or forecast icing is prohibited in the C172 and the Seminole, neither of which is approved for flight in icing conditions. The PC-12 may be operated in icing conditions only within the limitations of its AFM, with all ice protection systems serviceable and tested, and never in freezing rain,

freezing drizzle, or conditions producing ice accretion beyond the certification envelope. Ground icing is covered in Section Z.

Mountainous terrain operations require a briefing on density altitude, terrain-induced turbulence and downdrafts, and the escape route for each leg. Ridges are crossed at an angle permitting a turn away, and never with less than 2,000 feet of terrain clearance in a training aircraft. Turbulence penetration speed and the associated limitations are those published in the POH or AFM.

V.14 In-flight diversion

The pilot in command diverts whenever continuing is not clearly the safer choice. Mechanical diversion follows the abnormal procedure for the type, and the crew notifies dispatch and the Maintenance Controller as workload permits so that Section H can be initiated. Medical diversion is made to the nearest suitable airport with the required medical support, and the crew requests ATC assistance in arranging it. Weather diversion is planned before it becomes urgent: the crew identifies the decision point on the ground during planning and turns at that point rather than continuing to look for an improvement.

A diversion is never delayed for cost, schedule, or the inconvenience of retrieving the aircraft. The Director of Operations arranges recovery of crew, cadets, and aircraft afterward.

V.15 Engine trend monitoring — PC-12

The PC-12's PT6A engine is monitored by recording engine condition trend data on every flight. In stabilized cruise, with the aircraft in a steady state for at least two minutes, the crew records pressure altitude, indicated airspeed, outside air temperature, torque, propeller speed, gas generator speed, inter-turbine temperature, and fuel flow, together with the bleed and inertial separator configuration. Data are entered into the trend monitoring system, which is reviewed by the Director of Maintenance and submitted to the engine manufacturer's program.

NOTE

Trend monitoring detects gradual deterioration — compressor fouling, a drifting temperature indication, an incipient hot section problem — long before it becomes a cockpit indication. Its value depends entirely on the data being recorded in a genuinely stable condition. A rushed or estimated entry is worse than no entry, because it corrupts the trend.

Any engine parameter exceedance, whether momentary or sustained, is recorded with its value and duration and reported as a discrepancy under Section F before the next flight. Exceedances are not judged by the crew; the Director of Maintenance determines the required inspection action.

SECTION Y Electronic Flight Bag

Y.1 Approved devices and applications

The academy authorizes the use of portable electronic flight bag devices for chart display, flight planning, performance calculation, and document access. Authorized devices are tablets of a model listed by the Chief Instructor, running an approved aeronautical charting and planning application. Personal devices may be used provided they meet the requirements of this section, are registered with the Registrar, and carry no application likely to interrupt operation in flight.

Under 14 CFR §91.21, portable electronic devices may not be operated aboard an aircraft operated under IFR unless the operator has determined that the device will not cause interference with the navigation or communication systems of the aircraft. The Chief Instructor makes and records that determination for each authorized device model, and crews verify navigation and communication performance with the device operating during the first flights after a device model is introduced.

Guidance in the FAA advisory circulars addressing electronic flight bag use in general aviation informs this policy. The EFB does not replace any required instrument or installed equipment, and its use does not relieve the crew of the requirement to carry the documents listed in Section C.

Y.2 Chart and database currency

Charts, approach procedures, and airport data used for navigation must be current for the date of the flight. The crew verifies the effective date of the chart cycle before every flight, and verifies that the data have actually downloaded to the device rather than merely being available in the cloud. An expired cycle may not be used for IFR navigation. Where an out-of-cycle change is published, the crew is responsible for knowing it; currency of the cycle does not substitute for checking NOTAMs under §91.103.

Y.3 Battery, power, and mounting

An EFB is fully charged before flight and the aircraft carries a means of charging it in flight, either an installed outlet or an independent battery pack sufficient for the planned flight plus reserves. Devices are not left in an aircraft parked in the sun; thermal shutdown of a tablet in the climb is a common and entirely preventable failure.

The device is mounted in a bracket that is secure, that does not obstruct any instrument, control, or exit, and that does not interfere with the magnetic compass. Yoke mounts are used only where the device does not restrict control travel and where its mass does not affect control feel; the crew checks full and free control movement with the device mounted as part of the before-start checks. A device carried loose in the cockpit becomes a projectile in turbulence and is not permitted.

CAUTION

A tablet placed on the glareshield can shift into the control column path or block the view of an approaching aircraft. Devices are mounted or stowed, never rested.

Y.4 Backup requirement

The academy requires a backup for every flight. For local training sorties, the backup is a second charged device carried by the other crewmember, or the installed navigation equipment where it displays the required information. For all cross-country flights and all IFR flights, the crew carries **paper backup**: a current sectional or en route chart covering the route, printed approach and airport diagrams for the destination and each alternate, and the completed navigation log. Cadets carry paper backup on every solo cross-country without exception.

Two devices from the same manufacturer running the same application do not constitute independent backup against an application fault or a corrupted database update. Where two tablets are carried, the crew verifies before flight that both hold the current cycle and that at least one holds the route data offline.

Y.5 Failure of an EFB in flight

An EFB failure is an abnormal condition to be managed, not an emergency. The crew maintains aircraft control, transfers to the backup source, and advises ATC if the failure affects the ability to comply with a clearance or to fly a procedure. Where no usable chart source remains, the crew requests vectors and, for an approach, requests the procedure to be read by ATC or diverts to an airport where a visual approach can be made. The failure is reported to the Director of Operations after landing, and a device that has failed is removed from service until the cause is identified.

SECTION Z Cold weather & ground icing

Z.1 The clean aircraft concept

WARNING

THE CLEAN AIRCRAFT CONCEPT.

No academy aircraft will take off with frost, ice, snow, or slush adhering to any critical surface — wings, control surfaces, horizontal and vertical stabilizers, propeller blades, engine inlets, rotor of any kind, windshield, or any lift-producing or control surface. This applies without regard to the amount of contamination, the outside air temperature, the length of the runway, the aircraft's excess performance, or the crew's assessment that it will blow off during the takeoff roll. It will not blow off. Contamination no rougher than medium-grit sandpaper and no thicker than a coat of paint has been shown to reduce lift by more than a quarter and increase drag substantially. There is no acceptable contamination and no exception to this rule.

Z.2 Types of ground and structural icing

TABLE Z-1. ICING TYPES AND CHARACTERISTICS

TYPE	FORMS IN	CHARACTERISTICS
Rime	Small supercooled droplets, colder temperatures	Opaque, rough, milky; forms on leading edges; accretes forward into the airstream and disrupts flow early
Clear (glaze)	Large supercooled droplets, temperatures near freezing	Hard, transparent, heavy; runs back before freezing, forming ridges aft of any boot and adding significant weight
Mixed	A range of droplet sizes	Combines the shape distortion of rime with the mass and runback of clear ice
Frost	Clear night, surface temperature at or below the dew point and below freezing	Crystalline deposit; disrupts boundary layer flow out of proportion to its thickness
Freezing rain or drizzle	Supercooled large droplets	Extreme hazard, exceeds every certification envelope; exit the condition immediately, usually by climbing into the warmer layer aloft or descending if terrain permits

Accumulation rate is a function of liquid water content, droplet size, airspeed, and airfoil geometry. A thin, high-speed airfoil collects ice more efficiently than a thick one, which is why the tailplane can be more heavily contaminated than the wing while the crew sees a clean wing leading edge. Trace accumulation can become severe within a few minutes in a convective or orographic cloud, and a rate that is manageable in level flight becomes critical when the aircraft is configured for approach.

Z.3 Frost

Frost is the contamination crews most often rationalize, because it looks harmless. It is not. Frost on the upper wing surface roughens the boundary layer, causes premature separation, and raises the stall speed while lowering the stall angle of attack, with no warning change in handling until the aircraft fails to fly at

the expected rotation speed. All frost is removed from every critical surface before flight. The academy does not recognize any "polished frost" allowance.

Frost on the fuselage that is not on a lifting or control surface may remain where the POH or AFM permits, but the windshield and any surface whose contamination could shed into an inlet or a propeller arc is cleared. Cold-soaked fuel frost, where frost forms on the lower wing surface over the fuel tanks, is evaluated against the AFM for the type; the academy's default is to remove it.

Z.4 Preflight contamination check

In the winter period, or whenever the temperature is at or below 5 °C with visible moisture or a recent precipitation event, the preflight includes a tactile check. The crew physically touches the upper wing surface, the leading edge, the control surfaces, the horizontal stabilizer, and the propeller, using a ladder or step where necessary, because a visual check from the ground will not reveal clear ice. Covers are removed and the surfaces beneath them are inspected. Static ports, the pitot tube, the fuel vents, the stall warning vane, and the drain valves are individually checked for ice.

Control surfaces are moved through full travel and checked for freedom of movement and for water that has pooled and frozen in a hinge or a balance bay. Fuel drains are checked for water and for ice crystals; a drain that will not flow may be frozen and the aircraft is moved to a heated space rather than forced.

Z.5 Pre-takeoff check and holdover concepts

Where deicing or anti-icing fluid has been applied, a pre-takeoff contamination check is performed within the time before takeoff prescribed for the operation, and the crew determines that the critical surfaces remain free of contamination. The check is performed from a position where the surfaces can actually be seen, which in a training aircraft usually means shutting down and inspecting rather than looking over a shoulder.

Holdover time is the estimated time that anti-icing fluid will prevent the formation of frost or ice and the accumulation of snow on the treated surfaces. It begins at the start of the final fluid application and depends on the fluid type and concentration, the outside air temperature, and the type and intensity of precipitation. Holdover times are taken from the current published FAA holdover time guidelines for the season; a value is never estimated or carried over from a previous year's tables.

TABLE Z-2. FLUID TYPES

TYPE	PURPOSE	CHARACTERISTICS
Type I	Deicing	Low viscosity, applied heated, typically dyed orange; removes contamination; very short holdover
Type II	Anti-icing	Thickened, longer holdover; requires a minimum rotation speed to shear off; not used on the academy's training aircraft
Type III	Anti-icing	Intermediate thickness, developed for slower aircraft; used where available and approved for the type

TYPE	PURPOSE	CHARACTERISTICS
Type IV	Anti-icing	Longest holdover, typically dyed green; requires a minimum rotation speed; not used on the academy's training aircraft

CAUTION

Thickened fluids are designed to shear off at rotation speeds that light training aircraft never reach. Applying Type II or Type IV fluid to a Cessna 172 leaves a residue on the wing during the takeoff roll and is prohibited. The C172 and the Seminole are deiced with Type I fluid or by removal in a heated hangar, and the PC-12 is treated only with fluids approved in its AFM.

7.6 Deicing procedures and authorization

Deicing is authorized by the Director of Operations and is performed by a qualified provider or, for hangar deicing, by academy personnel trained in the procedure. Crews do not deice with hot water, do not scrape a surface with a tool that can damage it, and do not use fluid that is not approved for the type. Where a heated hangar is available it is the preferred method: the aircraft is moved inside, allowed to fully drain, and inspected before being moved out, and it departs promptly so that residual water does not refreeze on the surfaces.

When fluid is applied, the crew configures the aircraft as specified — cabin heat and vents closed or as directed, engines shut down or at idle per the procedure — to prevent fumes entering the cabin. After the application the crew records the fluid type, concentration, and the time the final application began, and briefs the resulting holdover window. If the holdover window expires before takeoff, the aircraft returns for a new application; it does not depart on an expired holdover with a favorable visual assessment.

7.7 Contaminated surface operations

Takeoff and landing performance on a contaminated surface is taken from the AFM where data exist. Where no data exist for the contaminant and depth present — which is the case for most light training aircraft — the operation is not conducted. The academy does not permit takeoff from a runway contaminated with wet snow or slush in the C172 or the Seminole, because the accelerate-stop and climb performance cannot be determined and the contaminant can pack in the wheel wells and freeze.

Taxi on a slippery surface is conducted at a walking pace, with turns made wide and slow, with braking anticipated well in advance, and with the nosewheel kept straight during braking. Differential braking is avoided. Distance from other aircraft, from snowbanks, and from taxiway edges is increased. Propeller blast over a contaminated ramp can blow loose snow onto a freshly deiced aircraft, so run-ups are positioned accordingly.

Runway condition is reported using runway condition codes derived from the runway condition assessment matrix and distributed by field condition NOTAM, and pilot braking action reports use the terms good, good to medium, medium, medium to poor, poor, and nil. A report of **nil** braking action closes

the runway to academy operations; the academy does not operate on a surface reported as nil in any aircraft.

7.8 PC-12 ice protection checks

Before any flight in which icing conditions may be encountered, the PC-12 ice protection systems are tested in accordance with the AFM and the checklist. The pneumatic deicing boots are cycled and visually confirmed to inflate and deflate, with the crew or a second person observing the wing and stabilizer boots directly. Propeller and windshield electric heat are checked by load indication. Pitot and static heat are checked by ammeter or by careful tactile confirmation. The inertial separator is operated through its full travel and its indication verified.

Boots are inspected for cuts, patches, lifting, and contamination during preflight; a damaged boot may prevent proper inflation and is a grounding item for flight into icing conditions. Boots are operated in accordance with the AFM for the type — the modern guidance is to activate at the first indication of accretion rather than to wait for a specified thickness, and the AFM procedure governs. Ice accumulation is checked visually using the ice detection light and the reference surfaces provided.

NOTE

Tailplane ice is not visible from the cockpit. Symptoms of tailplane stall — buffet in the control column, a pitch-down tendency on flap extension, and lightening of elevator forces — call for retracting the flaps to the previous setting, reducing the descent rate, and increasing speed, which is the opposite of the recovery for a wing stall. Crews brief this distinction before any flight in the PC-12 into forecast icing.

7.9 Cold soak, preheat, and starting

An engine that has been cold soaked below the temperature specified in the POH or AFM is preheated before start. Preheat is applied to the engine and the oil sump, and where prescribed to the battery, for long enough to raise the whole mass rather than only the surface; a short blast of hot air on the cowling does nothing for the oil. Starting a cold-soaked engine without preheat causes dry starts, congealed oil that will not circulate, and cumulative damage that appears later as a premature overhaul.

After preheat the crew checks for oil leaks, verifies the oil quantity, and confirms that the engine turns freely by hand before start where the procedure permits. Aircraft parked outside overnight in the winter period have covers and plugs installed by the crew that last flew them, and the Quartermaster verifies the state of the fleet at the end of the flying day. Control locks are removed and controls are checked for free movement after any period of cold soak, because moisture in a control run can freeze the surface solid.