Standard Operating Procedures

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SUMMARY OF REVISIONS

This page shall be used to track changes made to this training course outline. Changes within the body of the text shall also be readily identified by a solid, vertical bar in the left margin. All changes made to this TCO shall be coordinated through the Chief Flight Instructor and approved by the General Manager before being submitted to the local FAA Flight Standards District Office for FAA Approval.

Rev. #	Revision Date	By	Page(s) affected	Comments
0	12/1/2018	Allen Davis	All	Original

LIST OF EFFECTIVE PAGES

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FAA APPROVED

1. INTRODUCTION

1.1. In this document you will find the practices and procedures MACH 5 Aviation has determined our Primary Students, Advanced Students, Non-Student Rental Pilots, Certified Flight Instructors, and staff must follow. We have developed these with the mindset of operating at the highest level of safety.

1.2. There are instances in these procedures where our standards are more restrictive than FAA standards (e.g., fuel requirements). This manual will be the final authority in such cases. If anything in this manual is in direct conflict with the Federal Aviation Regulations (FARs) or not consistent with safety, the FARs will be the final authority, and such examples will be brought to the immediate attention of the General Manager, Chief Flight Instructor, or Assistant Chief Flight Instructor at MACH 5 Aviation.

1.3. All pilots flying at MACH 5 Aviation agree to adhere to this SOP in its present revision and as amended in future revisions. A copy of the most current version shall be maintained at the front desk. When the SOP is revised, front desk personnel shall inform all pilots and ensure receipt prior to flight. It is the responsibility of each pilot to ensure he or she has read updated versions before the next flight.

1.4. Failure of pilots to adhere to the Mach 5 Aviation SOP may result in loss of flight privileges, assessed fees for aircraft cleaning / repair and forfeiture of any funds held on account with MACH 5.

2. GENERAL

2.1. Applicability. The procedures, rules, and practices outlined herein apply to all pilots training under FAR Part 61, Part 141, and Non-Student Rental Pilots. Other non-FAR related exceptions may be granted to the Non-Student Rental Pilot by the MACH 5 Aviation General Manager, Chief Flight Instructor, or Assistant Chief Flight Instructor.

2.2. Definitions.

2.2.1. Local Flight. Local flights are those flights that originate from Auburn Municipal Airport (KAUN) and are within a 25 NM radius of the airport.

2.2.2. Primary Student (PS). A primary student refers to a student pilot without a private pilot certificate.

2.2.3. Advanced Student (AS). An advance student is a pilot with at least a Private Pilot Certificate who is training for an additional certificate or rating.

2.2.4. Non-Student Rental Pilots (NSRP). Certificated pilots who are approved to rent MACH 5 Aviation aircraft for personal use.

2.2.5. Dual Flight. Training flight with a CFI onboard the aircraft.

2.2.6. Aircraft Binder. The binder for each airplane containing keys, aircraft TAC sheet, and other items of use for the flight.

2.3. Required Procedures. All pilots, students, and CFIs will comply with the following:

2.3.1. Preflight the aircraft per the aircraft Pilot Operating Handbook (POH);

2.3.2. Remove ice, frost, and snow from windshield and airplane surface prior to flight;

2.3.3. Ensure windshield and windows are clean;

2.3.4. Always use the appropriate checklist in the approved POH. Read the POH and be familiar with the emergency procedures and aircraft systems for the aircraft that you are flying.

2.3.5. After each flight, clean windscreen, cover airplane, install pitot tube covers, and refuel aircraft as appropriate. Install window and inlet covers if the aircraft is so equipped.

2.3.6. All aircraft operators are responsible for, as a minimum, the satisfactory knowledge of:

2.3.6.1. Aircraft fuel system;

2.3.6.2. Fuel & oil capacity, grade(s), and consumption rates;

2.3.6.3. Weight & balance limitations;

2.3.6.4. Airspeed & performance and aircraft limitations;

2.3.6.5. Emergency and abnormal procedures;

2.3.6.6. Aircraft radio navigation equipment & systems (e.g., autopilot).

2.3.7. Ensure the following, as a minimum, are on board the aircraft prior to flight:

2.3.7.1. Airworthiness certificate;

2.3.7.2. Aircraft registration;

2.3.7.3. POH;

2.3.7.4. Weight & balance information;

2.3.7.5. Approved checklist;

2.3.7.6. Safety equipment (e.g., fire extinguished, if supplied).

2.4. Student Solos (Primary).

2.4.1. No student pilot may be authorized to start a solo practice flight from an airport until the flight has been approved by a CFI, who is present at that airport (not including out-airports on solo cross-country flights).

2.4.1.1. The solo flight begins when the solo student performs his or her first takeoff from KAUN.

2.4.1.2. On multi-leg, solo cross-country flights, all other arrivals or departures are considered a segment of the initial flight authorization, and the CFI is not required to be at those out-base locations.

2.4.1.3. Local area solo flights are approved when a CFI present at the airport fills out and signs the "Local Solo Flight Approval form".

2.4.1.4. Cross-country solo flight approval is the CFI's cross-country solo endorsement.

2.4.1.5. Once the solo flight has begun, the approving CFI may perform other duties either at or off of the airport.

2.4.2. Students will not depart on solo flights with less than 50% full fuel tanks. Exceptions may be granted by the General Manager, Chief Flight Instructor, or Assistant Chief Flight Instructor.

2.4.3. Solo PS landings at KAUN, any airport with a runway length of less than 5,000 ft or a runway width of less than 100ft, or at airports with a density altitude of more than 3,500 ft must be full-stop landings—**no** touch and go landings. There will be **no exceptions** to this policy.

2.5. Safety Equipment for Airplanes. The following includes those items that will be in the aircraft at all times, as well as highly recommended items to be carried by the pilot:

2.5.1. First-aid kit;

2.5.2. Airsickness bags;

2.5.3. Fuel strainer;

2.5.4. Tow bar;

2.5.5. Current charts for route of flight (paper or digital, provided by pilot);

2.5.6. For night flights: At least one serviceable flashlight with spare batteries (provided by pilot)

2.5.7. Survival kit for flying over uninhabited mountains or desert terrain (provided by pilot). The contents are at the discretions of the pilot, but should include:

2.5.7.1. Food & water;

2.5.7.2. Signal & light devices;

2.5.7.3. Knife;

2.5.7.4. Light weight shelter equipment (e.g., space blanket, large trash bags, etc.);

2.5.7.5. Fire starting equipment;

2.5.7.6. For over water operations beyond power-off glide range from the shore, a life vest for each passenger with an attached signaling device.

2.5.8. For flight over terrain higher than 4,500 feet MSL, the pilot shall check out and carry a MACH 5 "Mountain Flying Kit".

2.6. Aircraft Accident/Incident

2.6.1. Pilots shall report any accident or incident to MACH 5 Aviation officials, as soon as possible. If possible, the pilot will also gather and report the names and address of witnesses and involved parties. A form is provided to the pilot that is kept in the aircraft binder.

2.6.2. In the event of an accident or incident, do not permit the aircraft to be moved unless expressly authorized to do so by an officer of MACH 5 Aviation. Take necessary steps to secure and protect the aircraft and its equipment from loss. Report incidents and accidents to the proper authorities according to NTSB 830, if applicable.

2.6.3. If damage is a result of the pilot's (e.g., PS, AS, CFI, NSRP) negligence, he or she is responsible for aircraft damages. For this reason, we highly recommend a rental pilot insurance policy be held by the pilot/student pilot.

2.6.4. Although MACH 5 Aviation carries insurance on its aircraft, all pilots flying MACH 5 aircraft are ultimately responsible for any damages they may cause, or deductibles that might be imposed, in the event of a mishap. Therefore, it is highly recommended pilots (including student pilots) obtain aircraft renter's insurance.

3. SCHEDULING & RENTAL: POLICY AND PROCEDURES.

3.1. Solo Aircraft Rental Requirements.

3.1.1. Checkout Requirements. Before renting or flying a MACH 5 Aviation aircraft, the individual must:

3.1.1.1. Possess the experience and qualifications required by insurance for the type of aircraft rental.

3.1.1.2. Show record of licenses and certificates applicable for the type of aircraft being rented, a current Flight Review, current Flight Medical, and valid Photo Identification. Copies of the applicable documents will be kept on file with the MACH 5 Aviation office and will be updated as needed.

3.1.1.3. Provide MACH 5 Aviation with proof of citizenship in the form of an original birth certificate or valid passport, if training as a student for sport, recreational, private, commercial, instrument, instructor, or multiengine certificates/ratings.

3.1.1.4. Complete an open book questionnaire on the make and model of aircraft to be flown. This form must be signed and dated by the CFI who performs the checkout.

3.1.1.5. Demonstrate to a MACH 5 Aviation CFI the skill required to safely operate the aircraft in question, regardless of the experience a pilot may have.

3.1.1.6. If renting as a solo student (PS only), each flight must be properly authorized/endorsed; the student will fill out a grade sheet for record-keeping, upon completion of the flight.

3.2. Flight Scheduling.

3.2.1. All flights in MACH 5 Aviation aircraft will be scheduled online. A valid email address is required for registration. For a local flight, “local” should be placed in the remarks section. For a cross-country flight, the route, destination, and estimated time of return to KAUN shall be entered in the remarks section. Names of all passengers will also be noted in remarks section.

3.3. Procedures for Charging Flight and Ground Instruction.

3.3.1. Aircraft rental fees are based on HOBBS meter reading. In the event the HOBBS meter is inoperative, the rental fee will be based on the tachometer reading multiplied by 1.3.

3.3.2. The renter is responsible for payment of aircraft rental costs, CFI costs, and any fees associated with flights to destination airports such as landing fees, FBO fees, etc.

3.3.3. Cancellation Policy:

3.3.3.1. If the Renter must cancel a scheduled flight or training session, he or she may do so up to 24 hours prior to the scheduled reservation without penalty.

3.3.3.2. If cancelation is within 24 hours, MACH 5 Aviation reserves the right to bill the renter up to 50% of the time reserved for the aircraft and 100% of the time reserved for the CFI.

3.3.3.3. MACH 5 Aviation may waive the fees for extenuating circumstances or situations not in the renter’s control (e.g., weather), at the discretion of the General Manager.

3.3.4. There is a $40.00 minimum charge on each returned check.

3.3.5. Should it become necessary for MACH 5 Aviation to enforce any of the terms of this agreement through court action, the renter/student shall pay attorney’s fees incurred by MACH 5 Aviation for the prosecution of said action.

3.4. Payment Policies.

3.4.1. Renters are required to pay at the time services are rendered. Payments for flights scheduled after regular business hours are due by the end of the next business day unless arrangements have been made in advance. MACH 5 Aviation policy is that accounts that accumulate over $500 of debt can be grounds for revocation of flying privileges. Accounts more than 30 days overdue are subject to a 10% late fee for every 30 days past due. If collections are required, renters are responsible for all collection costs and fees.

3.4.2 Funds paid to MACH 5 Aviation in advance of training or in excess of incurred expenses will be held "on account". These funds will not accumulate interest. Requests for refunds for positive account balances will be made in writing. Refund checks shall be issued within 30 business days.

4. FLYING OPERATIONS: POLICIES AND PROCEDURES.

4.1. Safety of Flight.

4.1.1. Pilots shall exercise good judgment and avoid situations that compromise the safety of flight crew, passengers, personnel, and property on the ground. Safety will never be intentionally compromised. If MACH 5 Aviation becomes aware of a student or renter's failure to abide by these rules, it reserves the right to revoke flying privileges.

4.1.2. The use of any tobacco, "vapor" products, marijuana, or any illegal drugs is strictly forbidden in MACH 5 aircraft.

4.1.3. Bringing small animals on board must be approved by the GM or Chief Instructor. If allowed, they must be secured either in a kennel or by other means approved by the GM or Chief Instructor.

4.1.4. If using aviation allowed medication (such as aspirin), it is the pilot's responsibility to use good judgment, as to the physical and mental preparedness for flight.

4.2. Preflight Preparation. All MACH 5 Aviation pilots are expected to:

4.2.1. Check Flight Schedule Pro (FSP) for outstanding maintenance discrepancies (Squawks) prior to each flight and ensure the aircraft is not past a required inspection.

4.2.2. Ensure the aircraft book contains the following:

4.2.2.1. Aircraft keys (NOTE: when operating before regular business hours, binders are kept in the airplane and the keys in the lockbox);

4.2.2.2. Aircraft Weight & Balance report;

4.2.2.3. VOR / GPS (if equipped) check form / GPS update form; and

4.2.2.4. Accident Reporting Form for insurance purposes.

4.2.3. Inspect and make a preflight ground check of the aircraft, its equipment and accessories before takeoff, following the appropriate checklist in the approved POH, and will not accept the aircraft unless it is airworthy. All maintenance discrepancies not previously reported that are discovered during the preflight must be reported to MACH 5 Aviation. Failure to do so may result in MACH 5 charging the renter for aircraft repairs. En route, and post-flight phases shall be reported to MACH 5 Aviation management and written up on the Aircraft Flight Log. Instruments or accessories not required by 14 CFR shall be placarded as "INOP" by MACH 5 Aviation management or the PIC, if the aircraft is off-station.

4.2.4. Conduct a thorough preflight before each and every flight in accordance with (IAW) the aircraft POH and standard pilot procedures. This includes, but is not limited to:

4.2.4.1. Obtain current and forecast weather at point of origin, en route, destination, and alternate;

4.2.4.2. Obtain Notices to Airman (NOTAMS), including TFRs;

4.2.4.3. Determine length of runways and aircraft performance based on conditions;

4.2.4.4. Complete a weight and balance to ensure aircraft is properly loaded and can perform within its performance envelope and limitations;

4.2.4.5. Determine fuel requirement and fuel burn to ensure there is adequate fuel with reserves to safely complete the flight;

4.2.4.6. Compute density altitude and crosswind component to ensure operation within the performance range of the aircraft for the given weather, temperature, and altitude conditions;

4.2.4.7. Determine and use aids to navigation, including possessing current navigation charts.

4.2.5. Complete the Preflight Risk Assessment (PRA) worksheet in Appendix 1 and the Index of Thermal Stress Work/Rest Requirements (ITS) in Appendix 2. CFIs, students, and renters shall complete the PRA and ITS and leave the completed copy with front desk personnel.

4.3. Pilot Position in Airplane.

4.3.1. The PIC shall fly from the left seat only. Exceptions to this are:

4.3.1.1. Training towards any instructor rating.

4.3.1.2. Has received a right seat check-out with a MACH 5 Aviation CFI and has documentation stating such in his or her student/renter file.

4.4. Starting procedures.

4.4.1. Do not start an aircraft if adjacent to a fuel truck;

4.4.2. Hand-propping an airplane is **not** authorized for students or renters;

4.4.3. All starts will be on the ramp or suitable taxi area; startups will not be accomplished in a hangar;

4.4.4. Prior to entering an aircraft for startup, conduct a final walk-around check to ensure baggage doors and fuel caps are secure and tie-downs, tow bars, pitot covers, and tire chocks have been removed and properly secured;

4.4.5. Ensure aircraft prop blast is pointed away from open doors, people, and other aircraft to the maximum extent possible. If necessary, push or tow the aircraft to a safe place for starting;

4.4.6. As a minimum, the PIC will brief passengers on the operation of seatbelts, appropriate emergency procedures, and the location of safety and survival equipment onboard the aircraft.

4.5. Student Practice Areas.

4.5.1. Students on training flights shall confine flights to the designated practice areas (Appendix 3) or as assigned by the CFI. Pilots shall ingress and egress the practice areas at appropriate VFR or IFR altitudes, depending upon the type of training. While in the practice area, if not on flight following, pilots shall monitor the appropriate NorCal frequency or CTAF/UNICOM.

4.5.1.1. Altitudes within the training areas shall be no lower than 500 feet AGL.

4.5.2. A map illustrating the practice areas shall be posted in the flight training rooms. See Appendix 3.

4.6. Conditions of Flight. Flights will be conducted IAW the basic VFR weather minimums prescribed in FAR part 91, or the following, whichever is more restrictive:

4.6.1. Dual Instruction. All dual instruction conducted under VFR will meet the appropriate FAR weather minimum requirements.

4.6.2. Solo Local. Unless further restricted by the recommending CFI, no local solo (PS) flying will be authorized unless the following weather conditions exist:

4.6.2.1. Ceiling ≥ 3000 feet above ground level (AGL);

4.6.2.2. Visibility ≥ 5 statute miles (SM); and

4.6.2.3. Headwinds ≤ 15 knots; crosswinds ≤ 10 knots (including any gust factor).

4.6.3. Night flying at KAUN. Unless winds are prohibitive, local night flights will be conducted to RWY 07.

4.6.4. Solo (PS) cross-country conducted under VFR conditions.

4.6.4.1. Winds at the departure airport and destination airports will be restricted to the limits of "Winds" paragraph above or as dictated by the CFI endorsement, whichever is more restrictive;

4.6.4.2. Current and forecast weather at the departure airport, en route, and at the destination airport must be at least: Ceiling ≥ 5000 feet AGL; Visibility ≥ 5 SM;

4.6.4.3. No Solo cross-country flights will be conducted at night without General Manager, Chief Flight Instructor, or Assistant Chief Flight Instructor approval;

4.6.4.4. Students shall utilize flight following on each leg of their solo cross-country flights.

4.7. Airports. Except in case of emergency, the following rules apply for MACH 5 Aviation pilots landing at airports other than KAUN:

4.7.1. Hard Surface.

4.7.1.1. Pilots shall exercise good judgment with respect to their personal minimums when selecting suitable airports for landing;

4.7.1.2. Runway length minimum is 2500' for single engine airplanes on hard surface runways;

4.7.1.3. Runway length minimum is the accelerate-stop distance plus 20% for multi-engine aircraft on hard surface runways;

4.7.1.4. Runway width shall not be less than 50 feet;

4.7.1.5. For hard surface runways that do not meet the above requirements, permission may be granted by the General Manager, Chief Flight Instructor, or Assistant Chief Flight Instructor.

4.7.2. Other than Hard Surface.

4.7.2.1. No pilot shall land on a runway other than hard surface without General Manager approval.

4.8. Fuel Reserves.

4.8.1. Weight and balance limitations will not be exceeded under any circumstances.

4.8.2. Unless weight & balance limitations apply, all flights will begin with sufficient fuel to complete the planned flight and land with 45 minutes of usable reserve (60 minutes night). This will be verified through a visual inspection using a calibrated fuel stick or other approved methods.

4.8.3. While en route, if the pilot determines that they will not be able to arrive at the destination with sufficient reserves, the pilot will divert to the nearest suitable airport with fuel available, land, and refuel. If the pilot is a student pilot, they will contact MACH 5 Aviation, inform them of the diversion, and obtain permission and appropriate endorsement(s) to continue the flight or receive new instructions.

4.9. Minimum Altitudes. In addition to the minimum safe altitudes prescribed in FAR part 91, the following procedures shall be followed:

4.9.1. Solo flight in airplanes shall be conducted at or above 1500 feet AGL except for takeoff, approach, landing, and ground reference maneuvers.

4.9.2. Dual forced landing training shall not be conducted over congested areas.

4.9.3. Simulated forced landing training in airplanes may be practiced only under the supervision of a CFI. During a simulated forced landing, the airplane may not be flown below 500 feet AGL unless the aircraft is over a suitable landing site and will not be in a position closer than 500 feet to any person, structure, vessel, or vehicle unless the selected site is a designated airstrip. Prior to and during a simulated forced landing, the CFI must ensure the engine is operating correctly, carburetor heat is in use, and the CFI or student periodically applies power to ensure engine power is available. The CFI shall ensure no unsafe operation of the aircraft with respect to airspeed, control, or altitude occurs.

4.9.4. For solo flight (PS), stalls shall be practiced at an altitude where completion of the maneuver is at least 2000 feet AGL. They shall not be performed over congested areas.

4.10. Wake Turbulence Avoidance.

4.10.1. All CFIs shall incorporate and discuss wake turbulence and aircraft avoidance procedures and techniques with MACH 5 Aviation students and all pilots during flight reviews or rental checkouts. Be sure the student or pilot fully understands the wake turbulence caused by heavy civilian and military aircraft and rotorcraft flying into and out of KAUN or other airports where large aircraft operate.

4.11. Collision Avoidance.

4.11.1. All pilots shall operate under the "see and avoid" principle, when weather conditions permit, regardless of the type of flight being conducted.

4.11.2. Most aircraft collisions occur in visual conditions, on or near airports, or at locations such as VORs where aircraft converge. Pilots must be vigilant in the proximity of airports and places where aircraft converge. A combination of proper scanning techniques, monitoring radio frequencies, use of Mode C transponders, correct communications procedures, listening to ATC advisories, and following proper techniques for entering airport traffic patterns will reduce the risk of a mid-air collision.

4.11.3. During ground operations, pilots shall ensure use of appropriate task management techniques to allow for clearing. Taxi speeds should be kept below 7 knots in congested (i.e., parking) areas and 15 knots on parallel taxi ways.

4.11.4. Before performing any maneuvers, pilots shall make clearing turns. When changing direction of flight or altitude, scan in the direction of the turn or pitch change. If in a high wing airplane, raise the wing in the direction of turn to ensure the area is clear of other aircraft. During climb-out and once clear of obstacles, use a cruise climb airspeed that gives better visibility over the nose. While in a climb, periodically lower the nose or use shallow S-turns to see and avoid other traffic.

4.12. Unplanned Diversions to Airports.

4.12.1. All students training under FAA Part 61 or Part 141 must have all landings at airports away from KAUN pre-approved by a CFI (unless an emergency condition exists). Landings must be at an airport that meets MACH 5 Aviation's airport requirements, unless the Chief Flight Instructor or Assistant Chief Flight Instructor for that course has approved an exception or another airport.

4.12.2. If a forced or precautionary off-airport landing occurs, or the pilot diverts to an alternate airport because of an emergency, maintenance problems, or the original airport is unsuitable because of weather, excessive winds etc., the pilot will notify MACH 5 Aviation, as soon as practical.

4.12.3. Failure to make contact with the appropriate CFI or MACH 5 Aviation company official may require the pilot remain overnight at the pilot's expense.

4.12.4. Any aircraft that remains overnight at an airport other than KAUN is expected to be properly secured with the control locks installed, all doors and windows locked, and secured to the ground with chains, ropes, or other tie-downs.

4.12.5. The pilot is expected to return the aircraft to its home base following each reserved flight. If the pilot is forced to leave it elsewhere for any reason except mechanical, unfavorable weather, an emergency, or an unsafe situation based on the judgment of the PIC, the pilot is responsible for all expenses involved in retrieving that aircraft. Advise MACH 5 Aviation in the event of undue delay, deviation, or other unexpected circumstance.

4.13. Fire Precautions and Procedures. Whenever entering the tie down, refueling, or hangar areas, fire precautions shall be followed.

4.13.1. There shall be no smoking in or within 50 feet of MACH 5 Aviation owned or operated aircraft.

4.13.2. Ensure aircraft is properly grounded during refuel operations.

4.13.3. Do not refuel aircraft in a hangar.

4.13.4. Know location of fire extinguishers and how to operate them.

4.13.5. When using pre-heat to heat an engine, ensure a serviceable fire extinguisher is readily available.

4.13.6. Know location of first aid kits.

4.13.7. Use caution not to over-prime aircraft in cold weather.

4.13.8. If a fire occurs in an aircraft, call 911 using the nearest telephone. Also, attempt contact with the FBO, on UNICOM, or ground control frequency (as appropriate).

4.14. Refueling Procedures.

4.14.1. Verify through a visual inspection the amount of fuel in the aircraft fuel tanks and ensure it is the proper grade of fuel per the POH.

4.14.2. Verify the fuel caps are serviceable and secured, and fuel vents are clear;

4.14.3. Ensure the aircraft is properly secured, chalked, and grounded prior to refueling;

4.14.4. Smoking is prohibited in and around aircraft while refueling;

4.14.5. Do not refuel during thunderstorm activity on or near the airport.

4.14.6. All persons must deplane prior to refueling the aircraft

4.14.7. When obtaining fuel at KAUN, inform the attendant / fuel truck driver to have it placed on the MACH 5 Aviation credit card prior to fuel being pumped.

4.14.8. When obtaining fuel away from the aircraft's home base, the pilot shall:

4.14.8.1. Pay for the fuel personally;

4.14.8.2. Produce a receipt to MACH 5 Aviation for fuel reimbursement.

4.15. Securing Aircraft Post-flight.

4.15.1. Avoid using higher than idle power for turn out of and in to parking. If there is lack of sufficient momentum to make a turn without adding power, stop the aircraft, shut down the engine, and use the tow bar to manually position the aircraft.

4.15.2. If parking at KAUN, aircraft must be parked in one of MACH 5 Aviation's designated parking spots. If all MACH 5 designated spots are full, utilize the nearest transient parking spot and inform MACH 5 personnel, as soon as possible of the situation.

4.15.2. Complete the squawk sheet, if necessary.

4.15.3. Use the aircraft tow bar to properly move the aircraft into its assigned tie down area.

4.15.4. Apply appropriate control locks, aircraft wheel chocks, tie downs, pitot covers, cowl plugs, and aircraft covers. Aircraft must be left clean, with garbage thrown away and gear stowed. Aircraft left uncovered or requiring removal of trash may incur a charge to the pilot / renter.

4.15.5. Ensure doors are locked.

4.15.6. Close your flight plan, if applicable.

4.16. Special Rules.

4.16.1. Multi-Engine Airplanes.

4.16.1.1. Actual feathering of an engine for training purposes will only be done over an airport where a safe landing on one engine can be made.

4.16.1.2. Except for the V_{MC} demonstration, simulated engine failure training will be done at airspeed no lower than V_{YSE} (blue line) or V_{SSE}, whichever is higher.

4.16.1.3. Stalls shall not be practiced with one engine inoperative or simulated inoperative.

4.16.2. Spins.

4.16.2.1. Spin training shall only be performed in an aircraft approved for spins and under dual instruction and supervision of a MACH 5 Aviation CFI, who is familiar with the spin characteristics of the aircraft.

4.16.2.2. Spin training instruction shall only be given by a MACH 5 Aviation CFI, who has demonstrated spin awareness and proficiency to the General Manager, Chief Flight Instructor, or Assistant Chief Flight Instructor.

4.16.2.3. During spin training, all aircraft operating limitations shall be followed.

4.17. Chief and Assistant Chief Flight Instructor Responsibilities.

4.17.1. The Chief Flight Instructor shall:

4.17.1.1. Certify each student's training record, stage checks, end-of-course test reports, course completion recommendation, and graduation certification.

4.17.1.2. Ensure each CFI passes an initial proficiency check in each make and model of aircraft prior to the CFI being assigned instructional duties in any approved training course. In addition, the Chief Flight Instructor shall ensure each CFI passes an annual proficiency check, every 12 calendar months after the month in which the initial check was accomplished.

4.17.1.3. Pass a proficiency check for each make and model of aircraft, prior to instructing in any approved training course.

4.17.2. The Assistant Chief Flight Instructor shall:

4.17.2.1. Report to the Chief Flight Instructor and perform instructional duties, as required. The same requirements to pass a proficiency check apply, as stated above.

4.17.3. Either the Chief or Assistant must be at the school or available by phone, text, or radio any time instruction in an approved Part 141 training course is conducted.

5. MAINTENANCE PROCEDURES.

5.1. Pilot Maintenance Actions.

5.1.1. Conduct a thorough preflight of the aircraft IAW the aircraft POH or with a checklist approved for the aircraft. Report any discrepancies to a CFI or a MACH 5 Aviation company official prior to flight.

5.1.2. Record discrepancies noted during the preflight inspection, while en route, and after flight on the aircraft dispatch squawk sheet.

5.1.3. Review the aircraft status in FSP to determine maintenance status as part of the preflight. If the aircraft is within 3 hours of a 50-hour or 100-hour inspection, check with a MACH 5 Aviation company official to determine the availability of the aircraft before the flight.

5.1.4. Inoperable equipment not required for flight will be placarded as "INOP" until the item is repaired.

5.1.5. Report any condition that makes the aircraft unsafe or affects the airworthiness immediately to a CFI and/or a MACH 5 Aviation company official.

5.1.6. Contact MACH 5 Aviation for instructions in the event of a malfunction of any part of the airplane or its accessories. **Do not attempt repairs**.

5.1.7. Should a breakdown occur away from home airport, the pilot will coordinate with MACH 5 Aviation prior to any repairs. If the pilot pays for any repairs or maintenance authorized by MACH 5 Aviation, full reimbursement will be made. Reimbursement for approved maintenance will be made as a credit against the rental fee upon presentation of a paid receipt. A refund can be requested instead of a credit on account should the repair cost exceed the rental fee.

5.1.8. Should it be necessary to leave the aircraft overnight, the pilot may choose to remain with the aircraft or return home via other means (both at pilot's expense). The pilot will only incur the additional aircraft HOBBS time required to fly the aircraft back to KAUN after repairs are made. Required post-maintenance test flight time will not be charged to the pilot.

APPENDIX 1: PREFLIGHT RISK ASSESSMENT

1. Before each flight, assess each of the following conditions and assign a numerical rating of 1 to 5 in the right-hand (Rating) column. Add up the entries in the Rating column to obtain an overall risk estimate and see where it falls in the Green/Yellow/Red Risk Chart.

2. If the rating is in the Yellow or Red Risk category, flight approval is required (see chart).

	1	2	3	4	5	Rating
Terrain	Flat, Urban		Flat, Remote		High, Rugged, Remote	
Crewmembers	Pilot & Instructor	Pilot & Co-pilot	Pilot - Solo (Advanced)	Pilot - Solo	Pilot - Solo/ XC (Primary)	
Day/Night	Day		Night - Full Moon		Night - No Moon	
Rating	CFI/CFII	Commercial	PPL with Instrument	PPL	Student	
Rest in last 24 hours	> 7 hours	6-7 hours		3-5 hours	< 3 hours	
Visibility	> 15 miles	10-15 miles	6-9 miles	3-5 miles	< 3 miles	
Ceiling	> 10,000	5,000 - 9,000	3,000 - 4,000	1,000 - 2,000	< 1,000	
Crosswind – Departure	0-5 knots	6-10 knots	11-15 knots	16-20 knots	> 20 knots	
Crosswind – Destination	0-5 knots	6-10 knots	11-15 knots	16-20 knots	> 20 knots	
Weather stability	Stable		Slow deterioration		Rapid deterioration	
Destination airport familiarity	Yes		No			
Hours in aircraft type	> 200	151-199	100-150	50-99	< 50	
Hours in last 90 days	> 20	15-20	10-14	5-9	< 5	
Total Hours	> 2,000	501-2,000	251-500	100-250	< 100	
					Total Risk Score>>>>>	
No unusual hazards. Use normal flight planning and established personal minimums and operating procedures.						14-30
Somewhat riskier than usual. Conduct flight planning with extra care. Review personal minimums and operating procedures to ensure that all standards are being met. Consider alternatives to reduce risk. ****Requires instructor or above approval.**						31-47 (or a 5 in any row)
Conditions present much higher than normal risk. Conduct flight planning with extra care and review all elements to identify those that could be modified to reduce risk. If available, consult with more experienced pilot or instructor for guidance before flight. Develop contingency plans before flight to deal with high risk items. Decide beforehand on alternates and brief passengers and other crewmembers on special precautions to be taken during the flight. Consider delaying flight until conditions improve and risk is reduced. ****Requires GM, CFI, or ACFI approval.**						48-63 (or a 5 in any 2 rows)

_____ _____

Instructor / GM / CFI / ACFI Signature (circle one) Date

APPENDIX 2: INDEX OF THERMAL STRESS WORK/REST CYCLES (HOT / COLD)

INDEX OF THERMAL STRESS WORK/REST REQUIREMENTS

Dry Bulb Temperature	Zone	Dew Point Temperature								
(F)		30	40	50	60	70	80	90	100	>110
70		70	73	76	81	86	X	X	X	X
75		74	77	80	84	89	X	X	X	X
80	NORMAL	77	80	83	87	92	98	X	X	X
85		81	83	86	90	95	101	X	X	X
90		84	87	90	93	98	104	110	X	X
95		88	90	93	96	101	108	112	X	X
100		91	93	96	99	104	109	115	122	X
105	CAUTION	94	96	99	102	107	112	118	124	X
110		97	99	102	105	109	114	120	126	133
115		100	102	105	109	112	117	123	129	136
120	DANGER	104	105	108	111	115	120	125	131	138

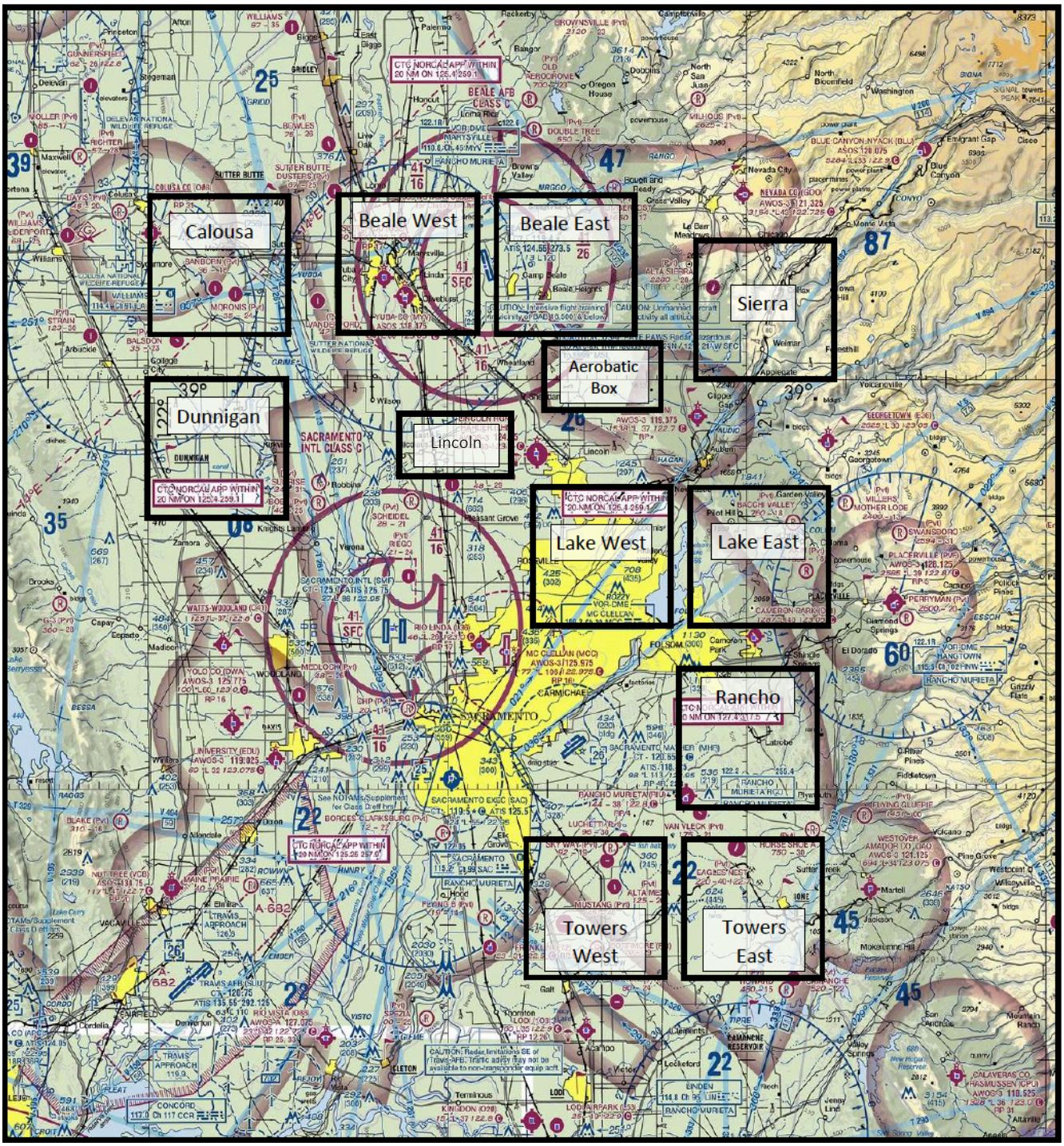
- When in the "**Normal**" zone, there is no time limit for work-rest cycles for easy or moderate work. When heavy work is performed, 15 minutes of rest are required for each 45 minutes of work. **Drink a minimum of ½ - ¾ liter of water/hour**.
- When in the "**Caution**" zone, there is no time limit for easy work. Moderate work requires 15 minutes of rest for each 45 minutes of work; heavy work requires 30 minutes of rest for each 30 minutes of work. **Drink a minimum of ¾ - 1 liter of water/hour**.
- When in the "**Danger**" zone, there is no limit for easy work. Moderate work requires 30 minutes of rest for each 30 minutes of work. Heavy work requires 40 minutes of rest for each 20 minutes of work. **Drink a minimum of 1 – 1.5 liters of water/hour**.
- **NOTE**: All rest should be indoors in a cool, ventilated area.

Wind Speed (mph/kph)	Air Temperature (°F/°C)											
	10/-12	5/-15	0/-21	-5/-21	-10/-23	-15/-26	-20/-29	-25/-32	-30/-34	-35/-37	-40/-40	-45/-43
5/8	>120	>120	>120	>120	31	22	17	14	12	11	9	8
10/16	>120	>120	>120	28	19	15	12	10	9	7	7	6
15/24	>120	>120	33	20	15	12	9	8	7	6	5	4
20/32	>120	>120	23	16	12	9	8	8	6	5	4	4
25/40	>120	42	19	13	10	8	7	6	5	4	4	3
30/48	>120	28	16	12	9	7	6	5	4	4	3	3
35/56	>120	23	14	10	8	6	5	4	4	3	3	2
40/64	>120	20	13	9	7	6	5	4	3	3	2	2
45/72	>120	18	12	8	7	5	4	4	3	3	2	2
50/81	>120	16	11	8	6	5	4	3	3	2	2	2

Note: Time in minutes until the occurrence of cheek frostbite in the most susceptible 5 percent of personnel; wet skin could significantly decrease the time for frostbite to occur

Severity	Color	Description
Low	Green	Freezing possible but unlikely
Moderate	Yellow	Freezing could occur in 10-30 minutes
Severe	Red	Freezing could occur in 5-10 minutes
Extreme	Black	Freezing could occur in <5 minutes

APPENDIX 3: STUDENT PRACTICE AREAS



APPENDIX 4: AIRPORT PERFORMANCE TABLE

The following tables assume worst-case conditions, such as: maximum aircraft gross weight, zero-wind, lowest power model, 50-foot obstacle (takeoff & landing), and maximum average seasonal high temperatures (T) / density altitudes (DA). There are times when these averages are exceeded, and pilots are expected to make the necessary adjustments using the performance charts in the POH.

CE-172 (160 HP):

Airfield	Avg. T (°C)	Avg. DA	Takeoff Dist	Landing Dist	Climb (fpm)
Auburn	33	4067	2400	1350	650
Lincoln	35	2310	2100	1315	700
Chico	34	2458	2200	1315	700
Vacaville	36	2305	2100	1315	700
Napa	28	2205	1900	1295	725
Redding	37	2786	2200	1330	675
Red Bluff	37	2596	2200	1330	675
Modesto	35	2283	2100	1315	700
Ukiah	32	2925	2150	1330	675
Monterey	21	2479	1900	1265	750
Half Moon Bay	20	2242	1800	1265	750
Hayward	23	2224	1950	1300	730
Stockton	34	2201	2000	1315	700
Yuba County	37	2239	2100	1330	680
Oroville	36	2401	2100	1315	700
Placerville	33	5365	2900	1380	440
Grass Valley	30	6076	2900	1400	420
Georgetown	32	5415	2800	1380	440
Watsonville	23	2362	1900	1300	730

PA-28 (PA-28-180):

Airfield	Avg. T (°C)	Avg. DA	Takeoff Dist	Landing Dist	Climb (fpm)
Auburn	33	4067	3600	1420	690
Lincoln	35	2310	3100	1400	750
Chico	34	2458	3100	1400	750
Vacaville	36	2305	3000	1400	750
Napa	28	2205	3000	1400	760
Redding	37	2786	3200	1410	720
Red Bluff	37	2596	3200	1410	730
Modesto	35	2283	3000	1400	760
Ukiah	32	2925	3300	1410	710
Monterey	21	2479	3200	1400	750
Half Moon Bay	20	2242	3000	1400	760
Hayward	23	2224	3000	1400	760
Stockton	34	2201	3000	1400	760
Yuba County	37	2239	3000	1400	760
Oroville	36	2401	3200	1400	750
Placerville	33	5365	4400	1480	590
Grass Valley	30	6076	4700	1500	575
Georgetown	32	5415	4400	1480	590
Watsonville	23	2362	3100	1400	750

SIGNATURES AND ACKNOWLEDGMENTS

IN WITNESS HEREOF, the parties have executed this Standard Operating Procedure and acknowledge receipt of copy, as of

this _____day of_____ , 20_____

PILOT/STUDENT (print full name): _____

Signature: _____

Address: _____ City: _____

State: _____ Zip: _____

E-mail: _____

MACH 5 Aviation Inc. Representative:

(Print full name): _____

Signature: _____