



# RWR Pilot Training



*Providing Excellent Training & Consulting Services Worldwide  
to Pilots and Instructors of the Piper PA46 Aircraft*

**M350 - M500 - M600 - Matrix - Malibu - Mirage - Meridian**

## Standard Operating Procedures



### **Piper PA46 Aircraft**

M350 - M500 – M600

Matrix - Malibu - Mirage - Meridian

by

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## **RWR Pilot Training**

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## Introduction

Since its introduction, the PA46 has enjoyed a world-wide reputation as the pinnacle of owner-flown single-pilot aircraft. There were, however, a number of fatal accidents beginning late in 1989 which drew special attention from the Federal Aviation Administration (FAA) and the National Transportation Safety Board (NTSB). The aircraft design was completely exonerated by an exhaustive review by the NTSB, Piper Aircraft, and The FAA. Here is what the NTSB concluded in the 1994 special investigation of the Piper PA46; “As revealed by the investigation of the accidents, we believe that the area of most concern in operating the PA-46 and other similar airplanes is the adequacy of initial and recurrent training received by the pilots.”<sup>1</sup>

The NTSB and FAA recommendations were embraced by the manufacturer and the insurance industry; however, implementation was largely left to the training community. A program which uses the professional pilot model of classroom lecture and simulation was implemented. Training can be done at a lower cost using this model and it was reasoned that since the model works for professional pilots it would work equally well for owner pilots of the PA46.

In the twenty years following this exhaustive review, the accident rate has not been reduced; In fact, the rate of serious accidents in the PA46 fleet has increased.<sup>2</sup> The PA46 has been and continues to be about twice as likely as other general aviation aircraft to be involved in a fatal accident.<sup>3</sup> There are many theories as to why this is so, chief among them is the complexity of the aircraft, experience level of the pilot and the environment in which PA46 pilots routinely operate; primarily single pilot in the mid flight levels.

It is generally believed that glass cockpits would improve situational awareness and safety. This belief is apparently incorrect. The NTSB has reported that the number of serious accidents has remained the same or even increased slightly since the introduction of glass panels<sup>4</sup>. Once again, in March 2010 the NTSB has implicated inadequate training as a causal factor.<sup>5</sup> We have, in effect, lost sight of the original training mandate detailed in the

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<sup>1</sup> NTSB Piper PA-46 Special Investigation and FAA Certification Review. Retrieved January 11, 2009 from [http://www.nts.gov/Recs/letters/1992/A92\\_84\\_89.pdf](http://www.nts.gov/Recs/letters/1992/A92_84_89.pdf)

<sup>2</sup> 2009 Malibu Mirage Owners and Pilots Association 2009 Convention Safety Review presented by M. Casiano and Retrieved February 5, 2010 from [http://rwrpilottraining.com/2009\\_ConventionSafetyReview.pdf](http://rwrpilottraining.com/2009_ConventionSafetyReview.pdf)

<sup>3</sup> Ibid.

<sup>4</sup> Title: Safety Study: Introduction of Glass Cockpit Avionics into Light Aircraft NTSB Report Number: SS--10-01, adopted on 3/9/2010 NTIS Report Number: PB2010-917001

<sup>5</sup> Ibid

1994 AOPA Air Safety Foundation PA46 Safety Review<sup>6</sup>. Action is required to reverse the current trend. A paradigm shift is needed; that is, a fundamental shift in what training is provided and how we provide that training. Former Alaskan bush pilot and FAA Safety Team (FAAST) Program Manager Fred Kaiser said it best: “What we are looking for is a discipline which will allow us to operate to the highest professional standard possible, the same way each time. Set a standard and stick with it. Let no outside influences interfere... Do it the same way each time ... I’m here because of it”<sup>7</sup> The SOP that follows is a road map for that effort.

PA46 safety can be improved by emulating successful single-pilot training and SMS (Safety Management System) models. One such model is the National Business Aviation Association’s (NBAA) Standard Operating Procedures. NBAA has reduced the number and severity of accidents involving their members through the voluntary adoption of standard operating procedures (SOPs).<sup>8</sup> Another worthy example is Cape Air. In 2009 Cape Air flew more than 65,000 accident-free single-pilot IFR hours in complex aircraft, and all of the training and mentoring was provided by experienced instructors, in the aircraft, using checklists, flows and memory items.<sup>9</sup>

The procedures set forth in this document are derived from the National Business Aircraft Association pro forma SOP. They are adapted to apply to the challenges associated with mid-level single pilot/owner-pilot operations typical of the PA46. The methodology in this SOP is modeled after the Cape Air training and SMS. I encourage each PA46 pilot to:

- Study and adopt these Standard Operating Procedures
- Train to ATP standards at least twice per year with a PAPI M3 certified instructor pilot, in your aircraft using well organized checklists, flows and memory items.



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*Fly Safely – Train Often*

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<sup>6</sup> Retrieved 7 December 2009 from the RWR Pilot Training website:  
[http://www.rwrpilottraining.com/Malibu-Mirage\\_Safety\\_Review.pdf](http://www.rwrpilottraining.com/Malibu-Mirage_Safety_Review.pdf)

<sup>7</sup> Retrieved 26 June 2010 from the FAA website  
[http://videoontheweb.faa.gov/aviation\\_safety/ssd2010\\_RiskMgt.aspx](http://videoontheweb.faa.gov/aviation_safety/ssd2010_RiskMgt.aspx)

<sup>8</sup> Retrieved 7 Dec 2009 from the NBAA website [www.NBAA.com](http://www.NBAA.com)

<sup>9</sup> IFR Magazine Fall 2009

## **General Operating Rules**

All PA46 aircraft operations shall be conducted in accordance with all applicable Federal Aviation Regulations (FARs) or EASA<sup>10</sup> rules as applicable, The Aeronautical Information Manual (AIM), local and national laws, the aircraft POH and this SOP. Aircraft shall be operated in an airworthy condition at all times. PA46 owners and pilots are expected to develop and utilize sound, conservative judgment in their approach to their duties through proper training and discipline. The pilot-in-command (PIC or pilot) shall be responsible for all activity listed here and ensure it is in compliance with this document. Ensuring safe, reliable transportation is the primary objective of this document.

All inoperable equipment and abnormal operations shall be reported to ATC as soon as practicable and appropriate assistance shall be requested. If, in the judgment of the pilot, compliance with an ATC clearance would adversely affect the safety of the flight, an alternate ATC clearance shall be requested. If an acceptable alternate clearance is not received in a timely matter, the pilot shall declare the emergency and take any actions deemed necessary to ensure the safety of the flight.

## **Liability and Insurance**

The owner shall ensure that all pilots are named insured on the aircraft insurance policy. A Certificate of Insurance naming any other pilot or pilot instructor shall be issued prior to any flight. Additionally, each pilot or instructor pilot is encouraged to carry his or her own primary non-owned hull and liability insurance and owners are encouraged to request evidence of this coverage. In the case of self insured aircraft or when the underwriter requires it, a hold harmless indemnification contract shall be in place.

## **Training**

Since proper and frequent training is the cornerstone of all successful aviation programs, each PA46 pilot shall train with an active status M3 certified instructor pilot in an aircraft based training program at least twice per year (annual and mid-year). Optionally the mid-year program could consist of:

- USAF Physiology Training
- Ground and flight training dedicated to unusual attitudes and upsets from a nationally recognized aerobatic training facility
- An advanced FAA or EASA rating or certificate

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<sup>10</sup> [http://en.wikipedia.org/wiki/European\\_Aviation\\_Safety\\_Agency](http://en.wikipedia.org/wiki/European_Aviation_Safety_Agency)

- Underwriter approved initial or recurrent training specific to another turbine powered or pressurized aircraft or any aircraft with greater than 450 HP.
- Any PAPI (Professional Association of Flight Instructors) approved 1 day program on topics such as Airframe Ice, Tactical Weather Avoidance, ATP Instrument prep, High Altitude Physiology, PA46 PPCs

## High Altitude Training & the Use of Supplemental Oxygen

Each PA46 pilot shall hold a logbook endorsement from a qualified pilot instructor verifying completion of high altitude (physiology) training. This training shall include simulation of the use of the O2 generator canisters during flight under realistic conditions. Pilots shall be familiar with the use of the quick-donning flight deck oxygen masks when the aircraft is so equipped. Each pilot shall ensure that the flight deck oxygen mask provided for his/her use is properly adjusted to provide a good fit. Pilots shall maintain any beard or mustache in a manner that will allow the oxygen mask to properly seal against the face of the wearer. In-flight training shall be conducted with this equipment. When stowed, the oxygen masks must be set to 100% and in a “ready” position. Completion of the US Air Force Physiology training (available to all civilian pilots through the FAA) is highly recommended.

## Prohibited Operations

The following maneuvers have been demonstrated to greatly increase the risk of accident or injury and as such are strictly prohibited in PA46 aircraft:

- “Touch and Go” landings/takeoffs<sup>11</sup>
- 180 degree low altitude zero thrust return to the runway (simulated engine-out) except as detailed in FAA Commercial Pilot training doctrine<sup>12</sup>
- Low altitude high speed passes (buzzing)<sup>13</sup>
- Intentional engine shutdown/air restart<sup>14</sup>

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<sup>11</sup> 11 Sep 2014 – Retrieved from:

<https://www.faa.gov/files/gslac/library/documents/2011/Feb/50765/FLYING%20LESSONS%20110127.pdf> Performing only full-stop landings: This not only avoids the risk of T&Gs, it positive reinforces the proper sequence of events for both landing and takeoff. In fact, T&Gs tend to reinforce *improper* techniques, such as focusing inside and not outside the airplane during landing, “cleaning up” the airplane while still on the landing roll, and taking off without completing a Takeoff checklist, that can get a pilot in trouble when otherwise distracted.

<sup>12</sup> 11 Sep 2014 - Retrieved from:

<http://www.aviationsafetymagazine.com/newspics/0308-RESULTS-FROM-STUDYING.pdf> “The turnback success rate was 43 percent; the straight-ahead success rate was 100 percent.”

<sup>13</sup> FAR 91.13 - Careless Operation and FAR 91.119 - Safe Altitude



## High Minimums Pilot

All PA46 pilots shall first complete a PAPI approved initial training program provided by an active status M3CIP. A PAPI approved recurrent training program shall be completed each year prior to acting as PIC. A high minimums pilot is defined as any rated and current pilot who has completed PAPI approved training in the last 12 months, but who has not completed:

- 250 Hrs PIC in the PA46 Make/Model and less than 2000 hours total time as PIC, and
- PAPI approved PA46 initial or recurrent training within the last 6 months, and
- 50 instrument flight hours (actual or simulated) and 24 instrument approaches as PIC in the PA46 within the last 12 months

High Minimums pilots shall abide by the following restrictions:

- Pilots with less than 500 hours total time shall complete 100 hours of flight training and/or supervised solo with an underwriter approved Senior M3CIP<sup>15</sup>.
- Pilots having less than 250 hours make/model or 2000 hours total time shall complete underwriter approved training with an underwriter approved senior instructor<sup>16</sup> every 4 months.
- The autopilot shall be fully functional and available for use during all flights conducted at night or in IMC.
- Takeoff visibility of not less than 1 mile and 1,000 ft ceiling in non mountainous terrain; 1 mile and 2,000 ft ceiling in mountainous terrain including forecasts for 1 hr before to 1 hr after scheduled departure.
- Landing minimums from 1 hour before ETA to one hour after ETA shall be no less than 800 feet/2 miles visibility (non-precision) and 600 feet/2 miles visibility (precision approach).
- The runway length of the intended runway must be at least 30% greater than that required by the AFM.
- The crosswind component is less than 10 knots.
- The braking action is reported to be not less than good.

Pilots who carry a valid and current PA46 Pro Card<sup>17</sup> from an underwriter approved training program are excluded from these restrictions.

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<sup>14</sup> FAR 91.13 - Careless Operation

<sup>15</sup> Note: a Senior M3CIP has 750 hours or more of flight instruction given in the PA46 and is operating within an approved company with an approved syllabus and a minimum of \$1M liability insurance.

<sup>16</sup> Ibid

<sup>17</sup> Note: A "Pro Card" is issued by the approved training company when the pilot demonstrates ATP level knowledge and skill during the evaluation. The Pro Card is

## **Safety Pilot Limitations**

Rated and current pilots who have not completed training from an underwriter approved pilot instructor within the last 12 months are not qualified as PIC for the PA46. They may function as a safety pilot only provided they meet the currency requirements for the certificates and ratings required for the flight.

The “high minimums” listed in the preceding paragraph apply to any flight requiring a safety pilot unless the pilot is Pro Card qualified.

## **Checklists, Flows and Memory Items**

The PA46 SOPs are based on the regular and systematic use of checklists, flows and memory items to accomplish the required tasks (normal, abnormal, emergency etc.). Consistent and proper use of these procedures is essential to safe operations. The PA46 pilot shall comply with these procedures.

## **Single Pilot Operations**

During single pilot operations (including standardization flights and flight training) the pilot shall use a cockpit flow to accomplish all normal and abnormal operations. Use of a printed checklist during single pilot operations shall be limited to the following conditions:

- When the aircraft is stopped on the ground
- When the autopilot is engaged during flight

In the absence of a compelling reason to do otherwise the autopilot shall be used from the beginning of the second segment climb until the runway is in sight at the destination.

During single pilot operations, an emergency shall be met first with the use of memory items and a flow followed by a checklist when positive aircraft control is not at risk.

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valid for 6 months. Most insurance companies recognize Pro Card holders with a modest discount on the insurance premium.

## **Crew Operations**

The PF (pilot flying) operates or commands the operation of the flight controls, flight instruments and the autopilot and his/her primary responsibility is to fly the aircraft.

The PNF (pilot not flying) performs all other cockpit duties including the following:

- In normal flight - Navigates, communicates, programs communication and navigation equipment, monitors the radar and flight and engine instruments, and completes required paperwork and other tasks, as directed by the PF.
- During emergencies or abnormal system operations - Checks instrument indications, reads/accomplishes checklists, performs checks, and takes corrective action, as necessary.

All emergency actions taken by the PNF shall be validated with the PF and concurrence obtained prior to taking the action. If an apparent error in any flight parameter is detected, the PNF shall immediately notify the PF of the deviation from published procedures, limitations, or air traffic clearance or routing. The PF and the PNF shall coordinate with each other prior to initiating the following:

- A change in aircraft configuration.
- A transferring of aircraft control.
- Selection or change of navigation equipment settings or frequencies.
- Checklist initiation and completion.
- A change in altitude.

The PIC shall conduct a pre-departure briefing prior to each flight. If there is more than one pilot, the briefing shall include all pilots to enhance team-building and set the tone for the flight.

## **Airworthiness Determination**

The final responsibility for determining airworthiness of the aircraft (FAR 91.7) rests with the PIC. In addition to completing a pre-flight check, the pilot shall consider the Aircraft Maintenance Log and Deferred Maintenance Log and satisfy himself/herself that the aircraft is in an airworthy condition. These responsibilities include but are not limited to ensuring:

- Compliance with all applicable AD's SBs and SLs.
- that the planned flight or series of flights shall not exceed the time remaining for the time/date maintenance requirements as shown on the "Item Due" sticker.

- That all inspection due dates, hour or cycle engine limits (turbine aircraft only) have been carried forward and are not past due.
- That all maintenance discrepancies have been corrected or deferred in accordance with the MEL, POH and/or governing regulation. All maintenance record entries shall be completed and signed by certified technician approving the aircraft for return to service.
- That the deferred items do not render the aircraft unsuitable for the planned flight or series of flights.
- That all required equipment and documents (including the aircraft POH and all POH revisions & supplements) are on board including current databases where applicable.

## **IFR Minimums**

Each pilot making an IFR takeoff, approach, or landing at an airport shall comply with the applicable instrument approach and weather minimums published for that facility, including takeoff minimums and obstacle departure procedures (ODPs). All PA46 aircraft shall be operated as category B aircraft within 5 NM of the arrival airport when the reported weather is less than 800 feet/2 miles visibility (non-precision approach) and 600 feet/2 miles visibility (precision approach).

At airports where weather reporting services are available, pilots shall not initiate an instrument approach procedure with the intention of landing unless the latest weather report for that airport reports the visibility at or above the published IFR landing minimums as depicted on the applicable instrument approach procedure chart and in accordance with FAR 91.175.

If during an instrument approach that utilizes RVR for landing visibility, the RVR is reported to be below the required minimums before the aircraft has passed the FAF, the approach shall be abandoned and a missed approach shall be executed. If the aircraft is inside of the FAF when the RVR is reported to have gone below minimum conditions, the pilot may continue the approach in accordance with applicable FAA regulations.

## **Required Publications**

The aircraft shall carry a current set of aeronautical charts and instrument approach procedures, including legend data, standard terminal arrivals (STARs) and departure procedures (DPs) for the entire area of operation (everything within 100 NM on all sides of the intended route) and applicable supplemental information. Use of electronic charts is permitted and encouraged, however in such cases where electronic data is used as a primary source of data, a current backup set of data shall be within reach and immediately available to the pilot.

## **Flight Planning**

The PIC is responsible for flight planning and all related information. The pilot shall make the maximum use of available information and specialized equipment (computer flight planning and commercial weather services).

## **Aircraft Pre-Flight Check**

Pre-flight checks are to be accomplished by the pilot in accordance with the PA46 Aircraft Flight Manual with special emphasis to those areas prone to damage and wear.

## **Frost, Snow and Ice Contamination**

No pilot shall attempt a takeoff if the aircraft has frost, snow or ice adhering to the windshield, power plant installation, flight or pitot/static instrument system, wings, control surfaces or other areas that could affect flight characteristics or performance. Aircraft that are found to have frost, snow or ice accumulations must be de-iced prior to flight. If existing conditions could cause accumulations to reoccur, the pilot must ensure that the aircraft is deiced as often as necessary based on deicing product specifications and observed conditions. Prior to takeoff, the pilot must determine that there is no accumulation that would affect performance of the aircraft.

## **Emergency & Survival Equipment**

A factory approved dual Halon fire extinguisher shall be carried aboard the aircraft. It shall be properly serviced and secured within reach of the pilot. Each pilot shall be familiar with its proper use.

No flight shall be conducted over water that is more than 30 minutes flying time, or 100 nautical miles from the nearest shoreline unless an approved aviation type floatation device is available and within reach for each person. Additional equipment shall be carried, as necessary or as required by regulation on flights over sparsely populated areas such as the arctic regions, deserts, jungle, etc. Each pilot is strongly encouraged to carry a registered 406 MHz personal locator beacon within reach in the aircraft at all times.

The pilot shall ensure that the proper amount and type of emergency and survival equipment is on board prior to departure and that each person is familiar with its location and operation.

## **Baggage Loading/Storage**

Baggage shall be placed in designated compartments or placed where it will not block access to aisles, emergency equipment, air vents or normal/emergency egress routes. Passengers may access hand baggage during cruise flight. Baggage must be secured for takeoff and landing and passengers shall be briefed of this requirement. All baggage must be properly positioned within center of gravity limits and within the load limits for each compartment or area of the cabin. Safety webbing shall be used when practicable.

## **Cabin Announcements/Briefings**

The pilot shall ensure that all passengers are briefed as required under FAR Part 91. Prior to flights requiring flotation equipment, pilots shall ensure that all passengers have been briefed on its use. The aircraft shall not take the runway for departure until all passengers are seated with seat belts fastened and loose articles are properly stowed.

## **Admission to the Cockpit Area**

No person shall be admitted to the cockpit area when operating at or below 10,000 feet except as defined herein:

- A crewmember
- A person engaged during flight for the purpose of checking pilot performance for a government agency (FAA Examiner or Designated Pilot Examiner).
- An active status M<sup>3</sup>CIP (Matrix-Mirage-Meridian Certified Instructor Pilot) authorized by the aircraft owner to provide pilot training or conduct a flight crew performance evaluation involving named insured pilots.
- Qualified maintenance technicians or other technical personnel directly involved in maintenance related activities requiring an in-flight evaluation or adjustment.

A passenger may occupy an empty front seat (observer's position) during takeoff, landing and/or cruise flight at the discretion of the pilot. This passenger shall also have a cabin seat available in case an emergency situation arises. The pilot shall ensure that anyone occupying a front seat for takeoff and/or landing has been thoroughly briefed.

## **Operation of Flight Controls**

Operation of the flight controls is limited to the following:

- Named insured pilots
- Individuals receiving training from an M<sup>3</sup>CIP
- FAA Pilot Examiner in the conduct of his or her duties
- Designated Pilot Examiner in the conduct of FAA duties
- Piper Aircraft demonstration/test pilot in the conduct of company duties
- Active status M<sup>3</sup>CIP instructor pilot

## **Sterile Cockpit**

A “10k” check shall be made during climbs and descents when passing 10,000 feet. Pilots shall eliminate all cockpit conversation which does not apply directly to the operation of the aircraft anytime the aircraft is in motion on the surface, or airborne, while operating below 10,000 feet MSL or 3,000 feet AGL whichever is encountered last in the climb or first in the descent.

The sterile cockpit environment shall also be maintained during climbs and descents when within 1000 feet of reaching an assigned altitude.

## **Ground Movement**

Aircraft lights shall be employed in accordance with the current FAA FAR/AIM. Taxi diagrams shall be used at all towered airports. All taxi clearances shall be copied and read back in the same manner as any other clearance. Progressive clearances shall not be relied upon in lieu of proper planning since they interfere with the ground controller’s division of attention. Radar shall be in the standby mode in ramp areas & during taxi operations.

The aircraft shall be properly configured prior to entering the runway environment and no configuration changes shall be made until the aircraft has reached a positive rate of climb and is clear of any runway environment obstacles. All possible contingencies shall be considered prior to takeoff. Pitot heat shall be used on each flight from the time the aircraft enters the runway environment until taxi speed is reached on the roll out at the destination airport. Proper call-outs in conjunction with AIM 7-5-7 procedures shall be used on every takeoff.

## **Takeoff Minimums**

If take-off minimums are not prescribed for a particular airport, 1 statute mile visibility shall apply for takeoffs under IFR. In addition to the minimums specified herein, the pilot shall consider all of the factors affecting non-

towered airport operations (i.e., other aircraft, animals or personnel on the runway, debris, and pavement damage, etc.), and increase the takeoff minimum as necessary. Special attention shall be given to the charted minimum climb rate for obstacle avoidance as applicable. Current PA46 Pro Card holders are excepted from these restrictions to the extent that they are more restrictive than 14 CFR Part 91.

## **Noise Abatement**

Pilots shall adhere to published noise abatement procedures and voluntary curfews except when the pilot has determined that the safety of flight may be adversely affected.

## **Severe Weather and Weather Detection Devices**

Flights into areas of known or forecast severe weather shall be avoided to the maximum extent possible. When flight is necessary into areas of reported thunderstorms, icing, turbulence, etc., avoidance shall be accomplished using lightning detection equipment and airborne radar and, when available NEXRAD and air traffic control assistance. A minimum distance in miles equal to the height of the storm in thousands of feet (e.g.: tops 45,000 = 45 miles distance) shall be maintained from all areas of weather which have produced lightning within the last twenty minutes.

An operable weather radar system must be installed in the aircraft if operation is planned into areas of known or forecast thunderstorm activity where avoidance cannot be accomplished by visual means. NEXRAD shall be used for corroboration if it is available; however it is not acceptable as a stand-alone tool for tactical convective weather avoidance. Aircraft without operable airborne weather radar shall not depart on any flight into areas of known or forecast convective activity or rain greater than light.

## **In-Flight Icing**

During flight, alternate induction air (piston aircraft) shall be used at all times in the presence of any visible moisture (clouds, rain, snow, etc.) Alternate induction air shall continue in use until the pilot is absolutely sure no ice remains in the plenum behind the air filter. Since there is no way to empirically know this, the pilot is strongly encouraged to leave the alternate air open until after landing and shut-down.

Flight must not be attempted into known or forecast icing conditions unless the aircraft deicing/anti-icing systems are fully functional. Propeller heat shall be used in the presence of visible moisture when the outside air temperature is between +10° C and -20° C. All other anti-ice equipment shall be applied at the pilot's discretion or when ice is present.



De-ice boots shall be used immediately when ice is observed. Allowing ice to build prior to activating de-ice equipment is not authorized. Airframe ice shall be reported in accordance with the AIM and alternate plans shall be carried out when light ice is expected to continue for 20 minutes or more, or when the accumulation is moderate or greater. Any loss of airspeed or airframe vibration, regardless of other observations shall be considered severe ice and the contingency plan shall be initiated immediately. No aircraft shall be flown into known severe icing conditions.

### **Minimum Landing Fuel Reserves**

One hour is established as the minimum reserve fuel planned to be on board at the time of landing. Minimum fuel reserves are designed as an absolute minimum and are not intended to be used as a landing fuel target.

### **Minimum Runway Requirements**

The minimum authorized airports/runway lengths for use shall:

- Exceed those published in the POH by 15%. In any case the takeoff shall be immediately discontinued if 60 Kts is not reached by the halfway point.<sup>18</sup>
- Meet or exceed the aircraft climb performance required for the flight.

### **Braking Action Requirements**

The pilot operating at airports where ice or snow covered runways are reported, or anticipated shall obtain runway condition reports and braking action reports where practicable, prior to operating at those airports.

A braking action report must be evaluated with regard to its source, timeliness and changes to be expected with fluctuations in temperature. The reported braking action must be better than nil if the runway length is less than 200% of that required by the POH. Braking action reports of “fair or poor” are acceptable if the runway is into the wind and exceeds the landing field requirement by 150% or, in the case of takeoff, AIM 7-5-7. Extreme caution shall be exercised under these conditions. The pilot’s judgment shall always be the determining factor.

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<sup>18</sup> In accordance with AIM 7-5-7

## **Landing and Shut Down**

Landings shall be accomplished at the slowest speed consistent with safety and the aircraft shall be de-rotated and brought to taxi speed as quickly as practicable with the smooth and coordinated use of Beta (turbine powered aircraft), back pressure and brakes. No configuration changes shall be attempted until the aircraft is at taxi speed and clear of the active runway.

Shutdown shall be accomplished as soon as practicable after stopping the aircraft. Vigilance shall be maintained outside the aircraft at all times during this process. Pilots shall not command chocks until the propeller is completely stopped. Special care is required when operating on snow and ice.

## **Towing**

All towing operations shall be performed in accordance with the methods and limitations described in the appropriate sections of the AFM and/or maintenance manual. The pilot shall directly or indirectly supervise all towing operations.

## **Aircraft Refueling Procedures**

The pilot is responsible to ensure that fuel is of the proper grade and quality and that the desired amount is placed into the proper fuel tanks. The pilot shall verify that the refueling equipment is labeled with the name of the product ordered (100 LL, Jet A, Jet A1, etc.), and is properly positioned and is not under any part of the aircraft that could settle during refueling. Fuel trucks shall not be backed up to the aircraft and shall be parked so that the truck could be moved away from the aircraft in case of a malfunction or emergency. The use of a protective fueling mat is encouraged.

Passengers shall not remain onboard the aircraft during refueling unless there is a crewmember present in the cabin and positioned near the cabin door and in this case, the main entry door must remain open. No smoking is permitted and cell phones and two-way radios shall be turned off, holstered or kept at least 20 feet away during refueling.

The fuel truck shall be bonded to the aircraft structure at the recommended bonding point at either main landing gear strut. The pilot shall ensure that the fuel caps are secure and determine that all bonding wires have been disconnected from the aircraft.

Fuel samples shall have no evidence of free or suspended (cloudy or hazy) water and have no visible particulate matter (dirt, rust, etc.). If there is any question as to the quality of the fuel or fueling equipment being used, the pilot shall make a written request for testing, reject the fuel and seek an alternative source.

## **Training Standardization Program**

Organization and coordination is essential in the safe operation of the PA46 aircraft. The proper and consistent use of checklists, flows, memory items and these SOPs creates a standardized method whereby the pilots become immediately aware of any departure from the normal sequence of events or normal system operations. The use of these items will place the pilot in the best position to recognize potential problems and respond appropriately.

Pilots are not authorized to deviate from these SOPs unless the deviation is in the best interest of safety. Frequent evaluation in concert with regular training by an active status M3CIP ensures that these procedures are effective and suitable all for PA46 flight operations.

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*Fly Safely – Train Often*



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## Biography

### Dick Rochfort, ATP, CFII Master Instructor



A former corporate pilot and primary flight instructor, Dick is a full-time Master Certified Flight Instructor providing type-specific, insurance-approved initial, recurrent and instructor standardization training, buyer consulting, relocation and expert witness services to Piper PA46 (M350 – M500 – M600, Matrix, Malibu, Mirage, and Meridian) owners, pilots and instructors worldwide.

He has published hundreds of documents and training videos online at [www.rwrpilottraining.com](http://www.rwrpilottraining.com) and his YouTube channel has over 8,000 subscribers. He holds multi-engine ATP and Gold Seal Flight Instructor Certificates with CFII, MEI and CE-525S ratings. He has been actively involved in flight training on a full-time basis since 1991.

Dick has conducted hundreds of programs for the pilot community worldwide. His training programs are insurance industry approved, FAA Industry Training Standards approved and FAA Wings approved. The National Association of Flight Instructors (NAFI) has designated him Master CFI. Less than 1% of all flight instructors earn this designation.

Dick served as a “Green Beret” Staff Sergeant E6 in the US Army Special Forces from 1970 until 1976 as an A team radio operator, training indigenous personnel in field communications. He worked from 1976 until 1991 as an industrial engineer training manufacturing personnel for the production of communication and navigation equipment for the US military.

His education includes undergraduate degrees in Clinical Psychology and Engineering, and a Masters Degree in Business Administration. Dick lives in Baltimore, Maryland with his wife and has two daughters. He is a PADI (Professional Association of Diving Instructors) Certified Scuba Diving Instructor, a DAN (Divers Alert Network) First Aid Instructor and an Eagle Scout.

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## **RWR Pilot Training**

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