INFLIGHT PILOT TRAINING

Piper PA28RT-201 Arrow IV Pilot’s Guide
Welcome

Welcome to Inflight Pilot Training! We are so glad to have you with us. We hope you find this document helpful as you operate our Piper Arrow IV aircraft. Inflight Pilot Training is a high-volume flight school with many people utilizing a limited number of aircraft. We have published this aircraft pilot’s guide in order to help all pilots better care for our aircraft.

This document does not supersede the POH in any way but is merely to inform the pilot of some best practices that will help the airplane last for many years.

The Piper Arrow IV is built to be strong, yet light. To avoid damaging the aircraft, pilots should never yank or slam movable parts. Use FIRM, CONSISTENT pressure to activate controls and movable parts. Excessive force can damage the aircraft.

If you have questions about any of the material presented in the guide, please ask your CFI for further clarification. If you have suggestions or feedback, we would be glad to hear it. Please send your feedback to fly@inflightpilottraining.
Pre-Flight and Consumables

The Piper Arrow IV aircraft used at Inflight Pilot Training is equipped with an **Electronic Flight Bag (EFB)**, using an iPad Mini and Garmin Pilot. Be sure to mount the iPad securely prior to flight, in a position that gives a good view of the instruments. The power cord should be connected prior to starting the engine. **Seat position** should be adjusted to the same position every time you fly. The front seats are adjustable fore and aft by a lever located under the seat, and seat height may be adjusted by a lever found on the forward portion, under the seat.

The **key** can be found on a lanyard and carabiner under the instrument panel. The key is always left in the airplane when parked at Inflight Pilot Training.

Note the position of the **control lock** when removing it from the airplane, pictured below. It will be replaced in the same position after flight and secured by tightening the cinch straps.
Baggage Door: be careful when unlocking, opening, and closing the baggage door. The mechanisms are old and must NOT be forced. The strap should be re-secured on the inner pin of the baggage door prior to closing. The tow bar for the aircraft should be properly stowed on the aft wall, prior to flight.

Cleaning the Windscreen. The plexiglass windscreens of aircraft must be cleaned carefully, or damage may result. If needed, get a ladder from the Line Staff. DO NOT USE oil rags to clean the windscreen. It will severely reduce flight visibility. Only use the microfiber towels provided by Inflight/Line Staff. Apply a liberal coating of plexiglass cleaner, allow it to set for a minute, and clean the windscreen with vertical strokes, in line with the airflow. NEVER CLEAN THE WINDSCREEN WITH A CIRCULAR MOTION.

Pre-Flight Inspection Items. Below are several examples of common pre-flight questions pilots have about the Piper Arrow IV. Always talk to your CFI if you have a concern about an aircraft issue prior to flight.

Tire Inflation. A properly inflated tire should appear as in the picture to the right. If the tires appear low, talk to your CFI, the Pilot Concierge, or a member of the Inflight Aircraft Maintenance staff.
**Brakes.** Brake pads on training aircraft are used thoroughly. The picture below contains brake pads that are about halfway used. Check connections and fittings for signs of leaking hydraulic fluid. (slippery, red fluid)

**Landing Gear Struts.** The main landing gear struts and nose strut have slightly different tolerances. Refer to the aircraft checklists for specific values. Correctly inflated struts should appear as pictured below. Be alert for a strut leaking fluid (slippery, red hydraulic fluid) on colder days.

![Nose and Main Struts](image)

**Landing Gear.** When preparing the Arrow IV for flight, a close inspection of the landing gear mechanism is critical before departure. The main landing gear **downlocks** (left, center) should be locked in a straight line. The **hydraulic actuators** and **hydraulic lines** (right) should be inspected for leaks.
The limit switches and squat switch should be inspected for integrity and security. The main landing gear limit switch (below, left), nose gear limit switch (center), and squat switch (left), should each be inspected.

Control Surfaces. When moving control surfaces, be gentle and apply pressure only at certain points. When moving the stabilator, do not use the trim tab to move the control surface. Only move the stabilator with your hand in the position as shown (below, left). When testing the rudder, only apply pressure to the lines of rivets, as shown in the center picture. Always verify the security and presence of jam nuts, cotter pins, and safety wire for all control surfaces!
**Propeller/Cowl.** Be alert for the presence of grease or oil appearing near the base of the propeller (below, left). This could indicate that the propeller hub seal is leaking. The Arrow uses quick fasteners to secure the upper cowl. Check the fasteners to ensure they are locked into position, aligned with airflow, prior to flight (right).

![Propeller/Cowl Image]

**Measuring/Sumping/Refueling the Aircraft.** When refueling the aircraft, whether on your own via self-serve, or by a line staff member, there are several important cautions to keep in mind.

- Ground the aircraft via the exhaust pipe.
- Be aware of sharp objects on your person that might damage paint. (ex: belt buckles, keys, etc.)
- Use a rubber mat if available.
- Insert the fuel nozzle pointed inward toward the cabin (below, left).
- Support the fuel nozzle with your hands, not by levering it against the opening (below, right).
- Be sure the nozzle touches the edges of the opening, to keep any static electricity from potentially sparking and causing a fire (below, left).

![Refueling Image]
When fueling the aircraft, it should be fueled either to tabs (50 GAL) or to full tanks (72GAL). When at Inflight Pilot Training, the aircraft will be fueled to tabs unless requested otherwise.

**CAUTION:** The Arrow IV can easily exceed the Forward CG Limits when filled to FULL tanks with only 2 front seat occupants! Use caution when fueling and loading the aircraft for long flights! It is for this reason that the standard fuel load is 50 GAL when at Inflight Pilot Training.

Once the airplane is fueled as necessary, verify the amount of fuel, sump the tanks, and ensure the fuel caps are **fully on**. The 50 GAL fuel tab is shown in the picture to the right.

The fuel gauges on older Piper aircraft provide only a basic indication, so a good preflight calculation of the fuel is essential!

Clean fuel that has been sumped can be returned to the tank through the screen and pour spout on the sump jar (below, left).

The fuel caps should be rotated against the stop and aligned with the airflow over the wing.
Accessing the Aircraft

The door for the Arrow IV is a 2-latch system. Both latches must be secured before flight to ensure a tightly sealed door.

Wing Walk. The wing of the Arrow IV is only designed to hold one person at a time. When occupants are entering or exiting the airplane, ensure only one person is standing on the wing.

Closing the Door. When inside the aircraft, the door should be closed by pulling lightly from the underside of the handle until the latch engages (below, left). Second, the forward latch should be pushed down into the locking position (center), followed by the upper latch on top of the door (right).

Upper Latch. If the upper latch does not engage easily, it may be that the hook portion is not catching the mechanism well. A close inspection while attempting to close the latch will confirm if it is the case. If this occurs, talk to an Inflight staff member before departing.

Seat Belts. It is often easiest to adjust and tighten the aircraft seat belts with the door open. Verify that the seat belts are clear of the doorframe before closing the doors.
Cockpit Management

The cockpit is not large, so a good understanding of cockpit management and control placement is important prior to flight.

Pilot Equipment. Be aware of all equipment in the cockpit. Whatever was brought into the cockpit for flight MUST also exit the cockpit after flight. This includes pens, water bottles, headsets, etc. Even a missing pen has the potential to jam critical flight control systems!

Glareshield. Be careful not to place objects on top of the glareshield. Objects will slide and scratch the plexiglass windshield!

Sun Visors. The sun visors found in the Arrow are easy to break. When adjusting the visor, always hold it near the base attachment screws, as pictured (right).

Parking Brake. The aircraft parking brake should always remain forward in the OFF position, as pictured. The aircraft chocks will provide security to ensure the aircraft remains in its parking spot. If the parking brake is left on and the aircraft is towed, it will damage the brakes and could cause a fire.

Environmental Controls. The aircraft is equipped with fresh air vents, cabin heat, and defrost controls. The cabin heat and defrost levers are located near the door. Lift and slide the levers to the right to increase heat or defrost airflow (below, left).

Fresh airflow can be used to cool the cabin. Use the vents found near the floor (center), as well as the lever found on the cabin headliner (right) to control the amount of airflow.
**Volume and Mic Control.** Setting the volume appropriately can be a confusing process, but a few minutes will make a flight much more enjoyable! In the Arrow IV there are several places volume can be adjusted.

**Intercom.** The intercom controls the volume and mic sensitivity of the occupants' headsets. It is important to adjust volume and mic sensitivity (also known as ‘squelch’) prior to flight. Different aviation headsets will require different settings in the same aircraft, due to differences in headset mics and speakers. It can be helpful to change to a separate, non-active frequency while making intercom adjustments, so there is not extra radio chatter in the background.

Adjust the **intercom volume** to a comfortable level. The Arrow IV has a **single** volume control for all occupants (right).

Adjust the **squelch** (mic sensitivity) so that the mic activates when you and your passengers speak at a normal level. A light, continuous background static may indicate that the mic setting is too sensitive and is not turning off between sentences. The Arrow IV is equipped with a **single** intercom control for all occupants.

**Radios.** The second volume setting is that of the individual **Comm** and **Nav** radios. Each radio's volume is individually adjustable, for maximum flexibility. Test and set radio volumes before communication begins with ATC! The previous pilot may have needed much more volume than your ears want to hear!
The Nav radios are also volume-adjustable but must be selected on the audio panel before they can be received in the headset.

**Headsets.** The final volume control is found on the headset. Not all headsets are equipped with volume control, but if the headset is equipped, it will control the overall volume of all communications (both intercom and radios) coming into the user’s headset. Some headsets, as pictured at left, allow the volume to be controlled individually in either ear.
Ground Handling and Parking

Parking and moving the aircraft can be a challenge on a busy ramp. Always taxi at no more than a walking pace when near other aircraft and objects. If in doubt, **STOP THE AIRCRAFT AND GET HELP.**

**ALWAYS ENSURE THE KEYS ARE NOT IN THE IGNITION AND THE BATTERY MASTER IS OFF BEFORE MOVING THE AIRCRAFT BY HAND.**

**Moving the Aircraft.** When moving the aircraft, always use the provided tow bar, found in the baggage compartment. The tow bar must be inserted in the axle of the nose gear as pictured (below, left). It can then be used to push, pull, and steer the aircraft as needed.

**CAUTION:** The Arrow has a very narrow band of **nose wheel turn radius.** **DO NOT** exceed the nosewheel limits of the Arrow, or the landing gear will be damaged. The turn limits will be exceeded if the center red line moves beyond either outer red limit line (below, right).
Winter Operations

While winter can provide some wonderful flying conditions, it does come with its own set of challenges. One of the primary concerns involves starting a cold engine. To mitigate this, the aircraft should be pre-heated, using the provided engine blanket and engine block heater.

**Engine Blanket.** When installing the engine blanket, drape it over the cowling first. Attach the Velcro from the spinner down, then attach the plastic clips and tighten the straps (below, right) as illustrated to secure the blanket.

![Engine Blanket Installation](image)

**TANIS Heater Plug-In.** Inflight aircraft are equipped with block heaters to pre-heat the engine oil and cylinders. The plug-in for the Arrow IV is located in the oil door. **Be sure to verify the extension cord LED is illuminated, otherwise there is no power going to the engine heater!**

![TANIS Heater Plug-In](image)

Thank you for taking the time to learn how to better use the Piper Arrow IV! We hope this guide has been helpful as you learn how to better operate this aircraft. If there are any topics you would like to see covered in future revisions of this user guide, please let us know. We are always interested to hear how we can better educate and teach pilots.
# Record of Revisions

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<th>Author</th>
<th>Date</th>
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