

***NOTE***

***Pilot's Operating Handbook Revision Only  
This Is Not A Complete Handbook***

**REPORT:** VB-1110

Rev. 24 (PR150812) Dated August 12, 2015

This revision shall be inserted into the current PA-34-220T Seneca III Pilot's Operating Handbook, REPORT: VB-1110, issued January 8, 1981.



# SENECA III

## PA-34-220T

### PILOT'S OPERATING HANDBOOK

AND

### FAA APPROVED AIRPLANE FLIGHT MANUAL

AIRPLANE  
SERIAL NO. \_\_\_\_\_

AIRPLANE  
REGIST. NO. \_\_\_\_\_

PA-34-220T  
REPORT: VB-1110 FAA APPROVED BY:

*Ward Evans*

WARD EVANS

D.O.A. NO. SO-1

PIPER AIRCRAFT CORPORATION

VERO BEACH, FLORIDA

DATE OF APPROVAL:  
JANUARY 8, 1981

FAA APPROVED IN NORMAL CATEGORY BASED ON FAR 23. THIS HANDBOOK INCLUDES THE MATERIAL REQUIRED TO BE FURNISHED TO THE PILOT BY FAR 23 AND CONSTITUTES THE APPROVED AIRPLANE FLIGHT MANUAL AND MUST BE CARRIED IN THE AIRPLANE AT ALL TIMES.



***WARNING***

EXTREME CARE MUST BE EXERCISED TO LIMIT THE USE OF THIS HANDBOOK TO APPLICABLE AIRCRAFT. THIS HANDBOOK IS VALID FOR USE WITH THE AIRPLANE IDENTIFIED ON THE FACE OF THE TITLE PAGE. SUBSEQUENT REVISIONS SUPPLIED BY PIPER AIRCRAFT CORPORATION MUST BE PROPERLY INSERTED.

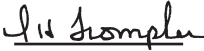
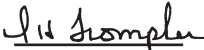

Published by  
PUBLICATIONS DEPARTMENT  
Piper Aircraft Corporation

Issued: January 8, 1981





© 1981 - 1991, 1998, 2004, 2005, 2015 Piper Aircraft, Inc.

All Rights Reserved.

**PILOT'S OPERATING HANDBOOK LOG OF REVISIONS (cont)**

Revision Number and Code	Revised Pages	Description of Revisions	FAA Approved Signature and Date
Rev. 18 (PR910412)	7-12 7-12a	Revised para. 7.13. Revised fig 7-9 and para. 7.13.	 D.H. Trompler <u>April 12, 1991</u> Date
Rev. 19 (PR910426)	7-11	Revised para. 7. 9	 D.H. Trompler <u>April 26, 1991</u> Date
Rev. 20 (PR980508)	vi-o 2-i 2-8 2-9  2-10  2-11 3-ii 3-6 3-17 4-ii 4-1 4-9 4-10 4-25 4-27 4-37 4-38  9-157	Revised Log of Revisions. Revised Table of Contents. Added para. 2.32. Added para. 2.32. Moved text to page 2-10. Moved text from page 2-9. Moved text to page 2-1 1. Moved text from page 2-10. Revised Table of Contents. Revised para. 3.3. Revised para. 3.9. Revised Table of Contents. Revised para. 4.1. Revised para. 4.5. Revised para. 4.5. Revised para. 4.31. Revised para. 4.33. Moved text from page 4-38. Moved text to page 4-37. Added para. 4.61. Revised Section 4, item (a) (1).	 Peter E. Peck <u>May 8, 1998</u> Date

**PILOT'S OPERATING HANDBOOK LOG OF REVISIONS (cont)**

Revision Number and Code	Revised Pages	Description of Revisions	FAA Approved Signature and Date
Rev. 21 (PR041115)	iii iv vi-p 5-3 thru 5-50  8-1  8-1a  8-1b  8-2	Added Warning. Moved info. from page iii. Added Rev. 21 to L of R. Revised para. 5.5 & 5.7 (revised Flight Planning Example and List of Figures, updated and reorganized all performance charts). Moved info. to page 8-1b and revised para. 8.1. Added page and revised para. 8.1. Added page and moved info. from pages 8-1 and 8-2. Moved info. to page 8-1b and revised para. 8.3.	 Linda J. Dicken Nov. 15, 2004
Rev. 22 (PR050301)	vi-p 5-49 5-50	Added Rev. 22 to L of R. Revised figure 5-75. Revised figure 5-77.	 Linda J. Dicken March 1, 2005
Rev. 23 (PR050829)	vi-p 5-3	Added Rev. 23 to L of R. Revised Para. 5.5 (a).	 Linda J. Dicken August 29, 2005
Rev. 24 (PR150812)	ii vi-p 4-16a 7-33 8-8	Added copyright. Added Rev. 24 to L of R. Revised Para. 4.11. Revised Para. 7.25. Revised Para. 8.15.	 Eric A. Wright August 12, 2015

Open the fuel cap to check the quantity and color of the fuel and cap vent. The vent should be free of obstructions. Secure the fuel cap properly. Proceeding around to the engine nacelle, check the oil quantity (six to eight quarts). Make sure that the dipstick has properly seated after checking. Check and ensure that the oil filler cap is securely tightened and secure the inspection door. Check the right propeller for nicks or leaks. The spinner should be secure and undamaged (check closely for cracks). The cowl flaps should be open and secure.

The right fuel drains should be opened to drain moisture and sediment. Drain the two fuel tank drains under the wing and the gascolator drain near the bottom of the engine nacelle (refer to Section 8 for more detailed draining procedure).

Check the nose section for damage and the nose landing gear for leaks and proper strut inflation. Under a normal static load,  $1.2 \pm .25$  inches of strut should be exposed. Check the tire for wear and proper inflation. If the tow bar was used, remove and stow. Before moving on to the forward baggage compartment, check the condition of the landing light. Open the forward baggage compartment and check to make sure that the baggage has been stowed properly. Close, secure and lock the baggage door. The forward baggage compartment door key can be removed in the locked position only.

At the front of the airplane, the windshield should be clean, secure and free from cracks or distortion. Moving around to the left wing, check the wing, engine nacelle and landing gear as described for the right side. Don't forget to check the fuel and oil.

If a pitot cover was installed, it should be removed before flight and the holes checked for obstructions. With the heated pitot switch on, check the heated pitot head and heated lift detector for proper heating. Check the stall warning vanes for freedom of movement and damage.

A squat switch in the stall warning system does not allow the units to be activated on the ground.

**CAUTION**

Care should be taken when an operational check of the heated pitot head and the heated lift detectors is being performed. Both units become very hot. Ground operation should be limited to 3 minutes maximum to avoid damaging the heating elements.

Latch the rear door securely and check the left static vent and dorsal fin air scoop for obstructions. The empennage should be free of ice and damage, and all hinges should be secure. Check the stabilator for freedom of movement and ensure that the right static vent is unobstructed. Antennas should be secure and undamaged. After turning on the battery switch and light switches in the cockpit, check the navigation and landing lights.

#### **4.13 BEFORE STARTING ENGINES**

Before starting engines, adjust the seats and fasten the seat belts and shoulder harnesses.

##### **NOTES**

If the fixed shoulder harness (non-inertia reel type) is installed, it must be connected to the seat belt and adjusted to allow proper accessibility to all controls, including fuel selectors, flaps, trim, etc., while maintaining adequate restraint for the occupant.

If the inertia reel type shoulder harness is installed, a pull test of its locking restraint feature should be performed.

Set the parking brake by first depressing and holding the toe brake pedals and then pulling out the parking brake knob.

##### **WARNING**

No braking will occur if knob is pulled prior to brake application.

Check to make sure all the circuit breakers are in and the radios are OFF. Cowl flaps should be OPEN and alternate air OFF. The alternators should now be switched ON.



To introduce fresh, unheated air into the cabin during flight, the air intake should be open and the heater off. Ram air enters the system and can be individually regulated at each floor outlet. Overhead outlets also supply fresh air for cabin ventilation. The occupant of each seat can manually adjust an outlet in the ceiling to regulate the flow of fresh air to that seat area. An optional fresh air blower may be installed in the overhead ventilation system to provide additional fresh air flow during ground operation.

An overheat switch located in the heater unit acts as a safety device to render the heater inoperative if a malfunction should occur. Should the switch deactivate the heater, the OVERHEAT light on the annunciator panel will illuminate. The overheat switch is located on the forward outboard end of the heater vent jacket. The red reset button on the heater shroud can be reached through the bulkhead access panel in the aft cabin close-out panel.

To prevent activation of the overheat switch upon normal heater shutdown during ground operation, turn the three-position switch to FAN for two minutes with the air intake lever in the open position before turning the switch to OFF. During flight, leave the air intake lever open for a minimum of fifteen seconds after turning the switch to OFF.

The combustion heater uses fuel from the airplane fuel system. An electric fuel pump draws fuel from the right tank at a rate of approximately one-half gallon per hour. Fuel used for heater operation should be considered when planning for a flight.

## **7.27 CABIN FEATURES**

The front seats are adjustable fore and aft. Each seat reclines and is provided with an armrest. The center and rear seats are easily removed to provide additional cargo space.

### **NOTE**

To remove the center seats, retainers securing the back legs of the seats must be unlocked. Re-leasing the retainers is accomplished by de-pressing the plunger behind each rear leg. Any time the seats are installed in the airplane, the retainers should be in the locked position. To remove the rear seats, depress the plunger behind each front leg and slide seat to rear.

An optional jump seat, which can be mounted between the two center seats, gives the Seneca III seven-place capabilities.

Shoulder harnesses with inertia reels are standard equipment for the front seats.

On aircraft serial numbers 34-8133001 through 34-8433086 shoulder harnesses with inertia reels are offered as optional equipment for the third, fourth, fifth and sixth seats, but not for the seventh seat.

On aircraft serial numbers 34-8533001 and up, shoulder harnesses with inertia reels are standard equipment on the third, fourth, fifth and sixth seat. A shoulder harness with inertia reel is also provided when the optional seventh seat is installed.

The inertia reel should be checked by tugging sharply on the strap. The reel will lock in place under this test and prevent the strap from extending. Under normal movement, the strap will extend and retract as required.

On earlier aircraft provided with a single strap adjustable shoulder harness for each front seat the shoulder strap is routed over the shoulder adjacent to the windows and attached to the lap belt in the general area of the person's inboard hip. Adjust this fixed strap so that all controls are accessible while maintaining adequate restraint for the occupant.

Shoulder harnesses shall be worn during takeoff and landing. Shoulder harnesses should be worn during an emergency situation.

Standard cabin features include a pilot's storm window, ashtrays, map pockets, coat hooks and assist straps, a cigar lighter, sun visors, and pockets on the front and center seat backs. Among the options which may be added to suit individual needs are headrests, a fire extinguisher, and a special cabin sound-proofing package.

An optional club seating interior is also available. In the club seating interior the center seats face aft. These seats are equipped with lap belts and adjustable shoulder harnesses.\* Removal of the seats is accomplished by removing the two bolts holding the aft attach points and sliding the seat aft.

An optional refreshment console is located between the center seats. It is removed in a manner identical to the removal of the center seats.

\*Earlier aircraft are equipped with lab belts only.

- (5) Secure tie-down ropes to the wing tie-down rings and to the tail skid at approximately 45 degree angles to the ground. When using rope of non-synthetic material, leave sufficient slack to avoid damage to the airplane should the ropes contract.

*CAUTION*

Use bowline knots, square knots or locked slip knots. Do not use plain slip knots.

*NOTE*

Additional preparations for high winds include using tie-down ropes from the landing gear forks and securing the rudder.

- (6) Install a pitot head cover if available. Be sure to remove the pitot head cover before flight.
- (7) Cabin and baggage doors should be locked when the airplane is unattended.

## 8.11 ENGINE INDUCTION AIR FILTERS

### (a) Removing Induction Air Filter

- (1) Remove the upper cowling to gain access to the air filter box.
- (2) Turn the four studs and remove the air filter box cover.
- (3) Lift the air filter from the filter box.

### (b) Cleaning Induction Air Filters

The induction air filters must be cleaned at least once every 50 hours, and more often, even daily, when operating in dusty conditions. Extra filters are inexpensive, and a spare should be kept on hand for use as a rapid replacement.

To clean the filter:

- (1) Tap filter gently to remove dirt particles. Do not use compressed air or cleaning solvents.

- (2) Inspect filter. If paper element is torn or ruptured or gasket is damaged, the filter should be replaced. The usable life of the filter should be restricted to one year or 500 hours, whichever comes first.

(c) Installation of induction Air Filters

After cleaning, place filter in air box and install cover. Secure cover by turning studs. Replace cowl.

### **8.13BRAKE SERVICE**

The brake system is filled with MIL-H-5606 (petroleum base) hydraulic brake fluid. This should be checked periodically or at every 50-hour inspection and replenished when necessary. The brake reservoir is located in the forward maintenance area. Remove the four screws and rotate the fiberglass nose cone forward and down. The reservoir is located at the top rear of the compartment. Keep the fluid level at the level marked on the reservoir.

No adjustment of brake clearance is necessary. Refer to the Service Manual for brake lining replacement instructions.

### **8.15LANDING GEAR SERVICE**

Two jack points are provided for jacking the aircraft for servicing. One is located outboard of each main landing gear. Before jacking, attach a tail support to the tail skid. Approximately 500 pounds of ballast should be placed on the tail support.

#### *CAUTION*

Be sure to apply sufficient support ballast; otherwise the airplane may tip forward, and the nose section could be damaged.

Landing gear oleos should be serviced according to instruction on the units. Under normal static load (empty weight of airplane plus full fuel and oil). main oleo struts should be exposed approximately 3.20 inches and the nose oleo strut should be exposed  $1.2 \pm .25$  inches. Refer to the Service Manual for complete information on servicing oleo struts.