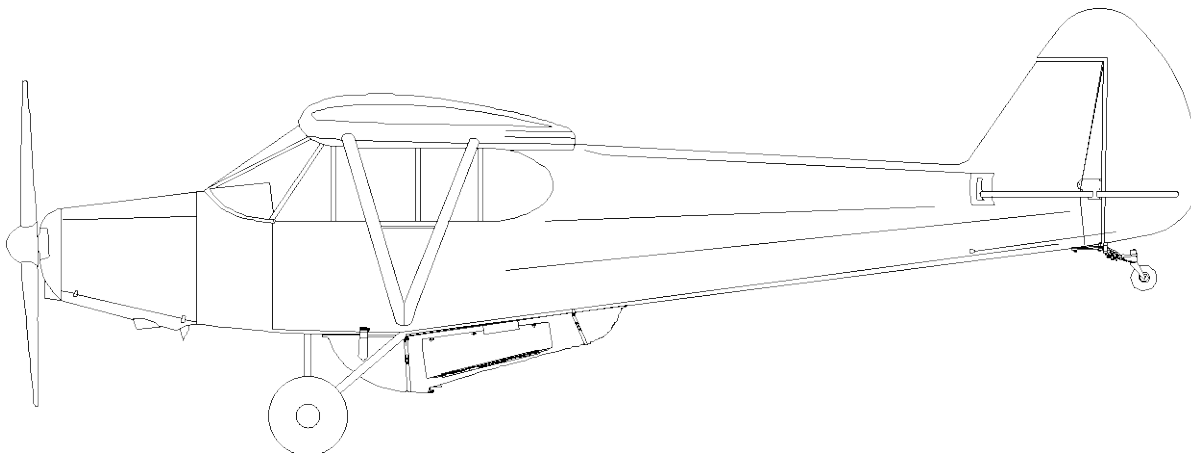


**AIRGLAS, INC.**  
**DOCUMENT AE95-4FM**  
**FAA-APPROVED AIRPLANE FLIGHT MANUAL SUPPLEMENT**  
**LTC18 & LTC18WB**  
**FUEL/CARGO POD**  
PIPER PA-18 "150" and PA-18A "150", Cub Crafters CC18-180, CC18-180A

**Registration Number** \_\_\_\_\_

**Serial Number** \_\_\_\_\_

This supplement must be attached to the DMCR Approved Airplane Flight Manual dated October 1, 1954 or later approved revision and must be carried in the airplane when the Airglas LTC18 or LTC18WB Fuel/Cargo Pod is installed in accordance with Airglas, Inc. STC SA02049AK. The installation of LTC18WB is for aircraft that incorporate the STC SA02187AK for PA-18 Wide Body. The information contained in this document supplements or supersedes the basic manual and applicable appendices only in those areas listed. For limitations, procedures, and performance information not contained in this supplement, consult the basic Airplane Flight Manual.



FAA Approved: \_\_\_\_\_  
Manager, Anchorage Aircraft Certification Office  
Anchorage, Alaska

FAA Approved  
Date: \_\_\_\_\_

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**LOG OF REVISIONS**

<b>REV</b>	<b>Pages Affected</b>	<b>Description</b>	<b>FAA Approved</b>	<b>Date</b>
Initial Release	1 - 8	Original	MKD	19 April 1996
<b>A</b>	1 - 8	Added LTC18WB		20 Aug 2008
<b>B</b>	1	Added CC18-180, CC18-180A		29 March 2011
<b>C</b>	8	Revised Section VIII		10 May, 2011
<b>D</b>	8-9	Revised Weight and Balance, Section VIII		20 June 2011
<b>E</b>	2-10	Revised Limitations Section		

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**SECTION I. General**

This airplane is equipped with an Airglas, Inc., LTC18 or LTC18WB combination Fuel/Cargo Pod and auxiliary fuel transfer system. The forward section of the pod is an auxiliary fuel tank with a capacity of 18 U.S. gallons. The aft section of the pod is a cargo compartment in which up to 165 lbs. (163 lbs. for LTC18WB) of cargo may be carried. A fuel tight bulkhead separates the two sections and forms the aft wall of the fuel tank. The bulkhead is reinforced with UHMW plastic to reduce the likelihood of foreign object penetration. The LTC18 or LTC18WB pod is belly-mounted to the fuselage aft of the main landing gear using stainless steel clamps, brackets, and straps. The auxiliary fuel transfer system, consisting of an electric fuel pump, associated electrical components, and fuel lines, is mounted in the cabin. The pod extends approximately 5 inches below the bolts which attach the main landing gear shock struts to the cabane "v" assembly, and it reduces the airplane's ground clearance accordingly. The actual minimum ground clearance of the pod will vary with tire type and inflation pressure, airplane loading, and ground roughness.

**WARNING**

The reinforced bulkhead is not designed to resist the effects of detonating explosives, bullets discharged from loaded firearms, or other high-energy impacts. Exercise extreme caution when selecting items to be carried in the cargo compartment.

**SECTION II. Limitations**

1. The Never Exceed Speed ( $V_{NE}$ ) with the pod installed is 138 MPH IAS (red radial line on airspeed indicator).
2. The range of speed in which operations should be conducted with caution and only in smooth air extends from 110 MPH to 138 MPH IAS with the pod installed (yellow arc on airspeed indicator).
3. The Maximum Cruising Speed ( $V_{NO}$ ) with the pod installed is 110 MPH IAS (upper end of green arc on airspeed indicator).
4. The maximum weight that can be carried in the cargo compartment of the pod is limited to 165 lbs. **(163 lbs. for Wide Body installations)**
5. 1/2 gallon of the fuel carried in the auxiliary tank is unusable.
6. The right wing tank must be selected before fuel is transferred from the auxiliary tank to the left wing tank. Transfer fuel in level flight only.

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**SECTION II. Limitations** (Continued)

7. This airplane must be operated in the Normal Category only with the pod installed. All Utility Category limitations are deleted.

8. **Placards** : The following placards are added:

A.

57 lbs. Max. Baggage with full pod fuel.  
Total combined pod fuel and baggage must not  
exceed 165 lbs.

Located on the side door of the Fuel/Cargo Pod. (LTC18)

57 lbs. Max. Baggage with full pod fuel.  
Total combined pod fuel and baggage must not  
exceed 165 lbs.

-WARNING-

FLIGHT NOT PERMITTED WITH DOOR OPEN

Located on the aft door of the Fuel/Cargo Pod. (LTC18)

55 lbs. Max. Baggage with full pod fuel.  
Total combined pod fuel and baggage must not  
exceed 163 lbs.

Located on the side door of the Fuel/Cargo Pod. (LTC18WB)

55 lbs. Max. Baggage with full pod fuel.  
Total combined pod fuel and baggage must not  
exceed 163 lbs.

-WARNING-

FLIGHT NOT PERMITTED WITH DOOR OPEN

Located on the aft door of the Fuel/Cargo Pod. (LTC18WB)

B.

80/87 Octane Minimum Aviation Gasoline (18 gallons  
capacity)

Located adjacent to the filler spout of the Fuel/Cargo Pod.

C.

AUX FUEL TRANSFER ON

Adjacent to Auxiliary Fuel Annunciator Light

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**SECTION II. Limitations (Continued)**

ON
OFF

AUX FUEL (17.5 gallons useable)

Adjacent to Auxiliary Fuel Switch

DO NOT EXCEED **138 MPH IAS**  
WITH AIRGLAS POD INSTALLED

Place Airspeed Limitation Placard on instrument panel adjacent to airspeed indicator.

ONLY NORMAL CATEGORY OPERATIONS  
APPROVED  
WITH AIRGLAS POD INSTALLED  
**SPINS ARE PROHIBITED**

Located on instrument panel in full view of the pilot.

9. **Instrument Markings:** The airspeed indicator is marked as follows:  
The yellow arc extends from 110 MPH to 138 MPH.  
The red radial line is located at 138 MPH.  
The upper part of the green arc is located at 110 MPH.

**SECTION III. Emergency Procedures**

1. TOTAL ELECTRICAL FAILURE

**WARNING**

In the event of total electrical failure it is not possible to transfer fuel from the auxiliary belly tank to the left wing tank. All fuel remaining in the AUX tank is unusable. Consideration should be given to diverting to an alternate airport within range of the fuel remaining in the wing tanks.

2. AUX FUEL ANNUNCIATOR OFF WITH AUX FUEL SWITCH ON or NO FUEL TRANSFER (indicated by left wing tank fuel quantity not increasing)

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**SECTION III. Emergency Procedures (Continued)**

- A. Annunciator Light - Press to Test
- B. Aux Fuel Pump Circuit Breaker -- Reset (one time only)

**WARNING**

If the auxiliary fuel pump is inoperative it is not possible to transfer fuel from the auxiliary tank to the left wing tank. All fuel remaining in the AUX tank is unusable. Consideration should be given to diverting to an alternate airport within range of the fuel remaining in the wing tanks.

**SECTION IV. Normal Procedures**

1. PREFLIGHT INSPECTION

- A. (Right Side) Attaching Hardware/Straps -- Secure
- B. Auxiliary Fuel/Cargo Pod Drain -- Check for water and contaminants
- C. (Left Side) Attaching Hardware/Straps -- Secure
- D. Auxiliary Fuel/Cargo Pod -- No leaks
- E. Auxiliary Fuel Quantity -- Visually Check
- F. Auxiliary Fuel/Cargo Pod Filler Neck Cap -- Secure
- G. Fuel/Cargo Pod Door -- Hinge secure and door closed and latched
- H. Fuel Vent -- Closed.

2. COCKPIT/CABIN PREPARATION

- A. Aux Fuel Switch -- OFF. Amber Light -- OFF.

3. CRUISE

- A. Fuel Transfer - As required (when left tank is 1/2 full or less preferred)
  - (1) Airplane Flight Attitude -- Straight and Level
  - (2) Right Wing Tank Fuel Quantity Indicator -- Check and verify that usable fuel quantity present in right wing tank is sufficient to run engine for entire duration of fuel transfer operation.
  - (3) Airplane Fuel Selector Valve -- RIGHT

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**SECTION IV. Normal Procedures (Continued)**

- (4) Aux Fuel Switch -- ON. Amber Light -- ON
- (5) Left Wing Tank Fuel Quantity Indicator -- Monitor at intervals not to exceed 5 minutes. As fuel quantity in left wing tank approaches 7/8 full, stop transfer.
- (6) Aux Fuel Switch -- OFF. Amber Light -- OFF
- (7) Airplane Fuel Selector Valve -- LEFT or RIGHT as desired, if any usable fuel remains in right tank. LEFT if no usable fuel remains in right tank.

4. APPROACH

- A. Aux Fuel Switch -- OFF. Amber Light -- OFF.

5. LANDING

- A. The landing site should be free of large rocks or other obstacles.

**WARNING**

The auxiliary fuel transfer system has no provisions for automatically shutting off the auxiliary fuel transfer pump to prevent overflow or rupture of the left wing fuel tank. When transferring fuel, the pilot must monitor the fuel quantity in the left wing tank at intervals not to exceed 5 minutes to prevent it from being overfilled and consequently overflowing or rupturing. As the fuel quantity in the left wing tank approaches 7/8 full, turn Aux Fuel switch to OFF to stop transfer.

**WARNING**

Be aware of the reduced clearance beneath Fuel/Cargo Pod. Collision with obstacles may rupture the fuel tank and result in fire. Exercise extreme caution when selecting off-airport landing sites.

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**SECTION V. Performance Information**

1. CLIMB           Climb performance is unaffected by this modification.
2. CRUISE         Cruise performance is unchanged by this modification.

**SECTION VI. Weight and Balance/Equipment List**

The equipment added to this airplane by this modification consists of the LTC18 or LTC18WB Fuel/Cargo Pod and an auxiliary fuel transfer system. Because the weight of the pod varies slightly from one production article to another, see the airplane's current weight and balance report for exact weight and balance information. The arm of the fuel in the auxiliary fuel tank is listed below. The arm of the cargo carried in the compartment may vary from the forward end of the compartment to the aft end of the compartment depending on the weights and locations of the individual items carried. The actual arm of the fuel and/or cargo must be determined when computing the airplane's weight and balance for each flight on which pod fuel or cargo is to be carried. Use the chart below to determine your aircrafts weight and balance.

<b>Aircraft</b>	<b>Pod Model</b>	<b>Datum Location</b>	<b>Pod Installation Arm and Weight</b>	<b>Plumbing Installation Arm and Weight</b>	<b>Pod Fuel Arm and Weight (18 gal.)</b>	<b>Cargo Arm</b>
Piper: PA-18 "150", PA-18A "150", PA-18S "150", PA-18AS "150"	LTC18	Wing Leading Edge	30.75 lbs. +/- 1 lbs. @ +34"	3.1 lbs. @ +30.75"	108 lbs. @ +20.01"	Centered @ +52" Ranges from +29.75" to +74.25"
Piper: PA-18 "150", PA-18A "150", PA-18S "150", PA-18AS "150" Modified under STC SA02187AK "Wide Body"	LTC18WB	Wing Leading Edge	32.75 lbs. +/- 1 lbs. @ +34"	3.1 lbs. @ +30.75"	108 lbs. @ +20.01"	Centered @ +52" Ranges from +29.75" to +74.25"
Cub Crafters: CC18-180, CC18-180A	LTC18	60" forward of Wing Leading Edge	30.75 lbs. +/- 1 lbs. @ +94"	3.1 lbs. @ +90.75"	108 lbs. @ +80.01"	Centered @ +112" Ranges from +89.75" to +134.25"



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**SECTION VII. Systems Descriptions**

This airplane is equipped with an Airglas, Inc., LTC18 or LTC18WB combination Fuel/Cargo Pod and auxiliary fuel transfer system. The forward section of the pod is an auxiliary fuel tank with a capacity of 18 U.S. gallons, of which 17.5 gallons is usable. The aft section of the pod is a cargo compartment in which up to 165 lbs. (163 for LTC18WB) of cargo may be carried. The pod is belly-mounted to the fuselage aft of the main landing gear using stainless steel clamps, brackets, and straps. The auxiliary fuel transfer system consists of an electric fuel pump and associated fuel transfer line which pumps fuel from the auxiliary fuel tank into the left wing tank. There is a one way check valve to prevent reverse transfer of fuel from the wing tank to the pod tank. The pump is mounted under the rear seat and is controlled by a switch on the instrument panel. Both the switch and the pump are protected by a 2-amp circuit breaker mounted on the circuit breaker panel in the cabin inboard of the right wing root. During normal operation the pump can transfer fuel at the rate of approximately 0.367 gallons per minute, or one gallon in approximately 2 minutes and 44 seconds.

**WARNING**

The auxiliary fuel transfer system has no provisions for automatically shutting off the auxiliary fuel transfer pump to prevent overflow or rupture of the left wing fuel tank. When transferring fuel, the pilot must monitor the fuel quantity in the left wing tank at intervals not to exceed 5 minutes to prevent it from being overfilled and consequently overflowing or rupturing. As the fuel quantity in the left wing tank approaches 7/8 full, turn Aux. Fuel switch to OFF to stop transfer. An amber annunciator light advises that the Aux. fuel pump switch is in the ON position and is energized. The circuit breaker protects the pump and its switch circuit against overload and short circuits.

**CAUTION**

The amber annunciator light indicates only that a fuel transfer is being attempted. The pilot must monitor the fuel quantity in the left wing tank to verify fuel transfer.

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**SECTION VIII. Handling, Servicing and Maintenance**

All handling procedures for this modification are standard. The LTC18 & LTC18WB Fuel/Cargo Pod and auxiliary fuel transfer system must be maintained in accordance with Part 43 of the Federal Aviation Regulations (14 CFR 43). Service and maintain in accordance with Airglas Inc. Document No: LC18/LTC18-105, original issue dated 20 June 2011 or later FAA-approved revision, to insure the continued airworthiness of this modification. Information on removing and re-installing the LTC18 & LTC18WB Fuel/Cargo Pod and auxiliary fuel transfer system and information on testing the auxiliary fuel transfer system for proper operation can be found in Airglas Inc. Document No. LC18/LTC18-105.

END