

**FAA APPROVED
AIRPLANE FLIGHT MANUAL SUPPLEMENT
FOR THE
COSTRUZIONI AERONAUTICHE
TECNAM P2010
WITH
KELLY AEROSPACE
AIR CONDITIONING SYSTEM**

Aircraft Serial Number: _____

Aircraft Registration: _____

This supplement must be attached to the FAA Airplane Flight Manual when the Kit # KATS-19-005, KATS-19-006 or KATS-19-007 Kelly Aerospace Air Conditioning System is installed via FAA STC SA04529CH. The information contained in this document supplements or supersedes the basic manual only in those areas listed. For limitations, procedures, performance, and loading information not contained in this supplement, consult the basic FAA Airplane Flight Manual.

for Monica Merritt

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Ft. Worth, TX

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SECTION 1

GENERAL

This Airplane Flight Manual Supplement supplies information necessary for the operation of the airplane when the optional Kelly Aerospace Air Conditioning System is installed in accordance with FAA approved data via Supplemental Type Certificate.

SECTION 2

LIMITATIONS

No change to the basic Airplane Flight Manual.

SECTION 3

EMERGENCY PROCEDURES

Amend the following checklist:

Alternator Failure

If **ALT FAIL** caution is **ON**:

1. Circuit breaker(s) *Check*
2. A/C circuit breaker (1 A) **OFF**
3. Generator SWITCH..... *OFF*
4. Generator SWITCH..... *ON*

If **ALT FAIL** remains **ON**:

5. Generator SWITCH..... *OFF*

Add the following checklist:

Electrical Abnormal Operation

Pilot-In-Command detects any anomaly in the aircraft's electrical system:

1. A/C circuit breaker **OFF**
2. A1235 controller red "FAIL" light illuminated..... **SELECT**
FAN MODE

SECTION 4

NORMAL PROCEDURES

CHECKLISTS

Amend the following checklists:

BEFORE STARTING ENGINE *(insert at end)*

Air Conditioning: *OFF*

BEFORE TAXIING *(insert at end)*

Air Conditioning: *set as desired*

ENGINE SHUTDOWN *(insert prior to engine thermal stabilization)*

Air Conditioning: *OFF*

SECTION 5

PERFORMANCE

No change to the basic Airplane Flight Manual.

SECTION 6

WEIGHT AND BALANCE

The addition of the Air Conditioning System has been accounted for/included in the aircraft's basic empty weight and center of gravity. The Standard Aircraft Loading and CG envelope remain unchanged.

SECTION 7

AIRFRAME AND SYSTEMS DESCRIPTION

AIR CONDITIONING SYSTEM

Description

The Air Conditioning System ducts cool dry air through an evaporator mounted behind the bulkhead just aft of the baggage area. The condenser and compressor for the system are mounted in the tail cone. The climate controller is located on the instrument panel. The climate controller is used to set the fan speed and/or desired air temperature. Power is supplied to the system from the battery terminal of the alternator.

The electrical wiring for the Air Conditioning System is protected by 4 circuit breakers. A 1 amp circuit breaker labeled A/C is located in the main circuit breaker panel in the cockpit. This circuit breaker controls power to the climate controller and will also disable the entire system. A 60 amp circuit breaker, a 10 amp circuit breaker and a 20 amp circuit breaker are located in the rear of the aircraft and are not resettable in flight. These circuit breakers control the compressor, evaporator fan and condenser fan.

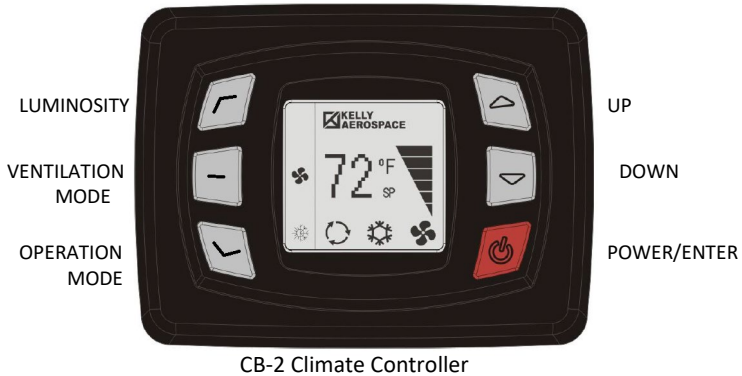
General Operation

Use of the Air Conditioning System is optional. The system must be turned off during engine startup. The system can then be turned on when the aircraft is stable at idle before taxi. Operating the Air Conditioning System with the engine at idle for extended periods of time may cause the bus voltage to drop below 24 VDC. Maintain appropriate engine RPM to avoid prolonged discharge of battery while Air Conditioning System is in use. Follow AFM guidance for the electrical system during taxiing. If any electrical anomaly or condition is detected on the ground or in flight, the system should be turned off. After landing, turn off the Air Conditioning System prior to engine thermal stabilization before shutdown.

The Kelly Aerospace Air Conditioning System can be installed with three Controller options – CB-2 Climate Controller (KATS-19-005), Toggle Switch Controller (KATS-19-006), or A1235 Climate Controller (KATS-19-007).

See below for system operating information for each controller.

CB-2 Climate Controller Option (KATS-19-005)



To Turn Air Conditioning System On or Off

1. Press the Power/Enter button to turn ON.
2. Press and hold the Power/Enter button to turn OFF.

Air Conditioning AC Mode

1. Close fresh air vents.
2. Press the Power/Enter button on the CB-2 Climate Controller. The display will first show the logo and software version; then it will show the temperature set point, fan speed bar graph, and mode display.
3. Press the Operation Mode button and toggle between modes with the UP or DOWN buttons.
4. After selecting AC mode, either press the Power/Enter button to enter or wait 3 seconds and the display will return to the main screen. The snowflake symbol in the bottom center of the display will indicate the system is in Air Conditioning mode.

Air Conditioning Fan Only Mode

1. Press the Operation Mode button and toggle between modes with the UP or DOWN buttons.
2. After selecting Fan mode, either press the Power/Enter button to enter or wait 3 seconds and the display will return to the main screen.

To Control Fan Speed

1. Press the Ventilation Mode button to bring up the fan speed screen.
2. Toggle the fan speed up or down using the Up and Down buttons. Speed Range is 1 to 3.
3. After selecting desired fan speed, press the Power/Enter button to enter or wait 3 seconds and the display will return to the main screen. The fan speed bar graph on the right side of the screen will show selected fan speed. Fan speed can be controlled in both AC and Fan Only modes.

Changing Temperature Set Point (SP)

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1. Press the Up or Down buttons to adjust the temperature set point up or down.
2. The set point temperature will be displayed with an SP indication. The CB-2 display will default to the temperature set point.

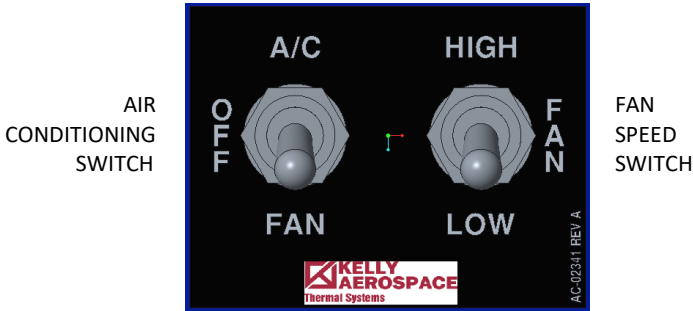
To Display Cabin Temperature

1. Press and release the Power/Enter button; the cabin temperature will be displayed with a TEMP indication. After a few seconds the temperature set point will be displayed again.

Before Engine Shut-Down

1. Press and hold the Power/Enter button to turn the system OFF.

TOGGLE SWITCH Climate Control Option (KATS-19-006)



TOGGLE SWITCH Climate Controller

Prior to Engine Start

1. Ensure Air Conditioning switch (left) is set to the OFF (middle) position.

Fan Mode

1. Close fresh air vents.
2. Air Conditioner switch is set to FAN.
3. FAN Speed switch, select HIGH or LOW.

Air Conditioning Mode

1. Close fresh air vents.
2. Air Conditioner switch set to A/C.
3. FAN Speed switch, select HIGH or LOW.

To Turn Air Conditioning System Off

1. Ensure Air Conditioner switch is set to the OFF position.

Before Engine Shut-Down

1. Ensure Air Conditioner switch is set to the OFF position.

A1235 Climate Controller Option (KATS-19-007)



A1235 Climate Controller

Climate Controller Power-On Self Check

1. Climate controller initiates a self-check at power-on. A fault is indicated by the red "FAIL" illuminated. Normal operation defaults to FAN mode (FAN green light illuminated) with a fan speed of "0".

Prior to Engine Start

1. Ensure Air Conditioning is OFF by verifying that the system is in FAN mode (AC green light is not illuminated and FAN green light is on). Press the "FAN ▼" until the display indicates a fan speed of "0". Manual speed range is 0 to 5.

Air Conditioning AC Mode

1. Close fresh air vents.
2. Press the AC button to toggle operating modes between FAN and AC.
3. Select AC mode and verify AC green light is illuminated.
4. Adjust desired temperature using "TEMP" buttons. Evaporator fan speed will adjust automatically based on set temperature and actual temperature indicated.

Air Conditioning Fan Only Mode

1. Press the AC button to toggle operating modes between FAN and AC.
2. Select FAN mode and verify FAN green light is illuminated.
3. Adjust desired fan speed using "FAN" speed buttons. Manual speed Range is 0 to 5.

Air Conditioning Fault

1. Red FAIL light illuminated indicates an air conditioning fault has occurred.
2. Select FAN Mode.

Before Engine Shut-Down

1. Turn off the Air Conditioner by selecting FAN mode and a fan speed of "0".