Kelly Aerospace
Willoughby, OH
NC-12-014, Rev. C

FAA APPROVED
AIRPLANE FLIGHT MANUAL SUPPLEMENT
FOR
Cessna 172N, 172P, 172R & 172S
With Basic Controls or
With Digital Climate Controller
AIR CONDITIONING SYSTEM

Aircraft SN: _____

Aircraft Registration Number: _____

This supplement must be attached to the FAA approved flight manual when the Kelly Aerospace Air Conditioning system is installed in accordance with STC SA02006CH. 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.

FAA-Approved
Manager, Southwest Flight Test Section, AIR-713
Federal Aviation Administration
Ft. Worth, TX

Date 2/22/18

LOG OF REVISIONS

REV.	PAGES	DESCRIPTION	APPROVED BY	DATE
A	1 - 8	Complete Supplement	Steven L. Lardinois Manager, Systems & Flight Test, Chicago ACO, Des Plaines, Il	9/28/2012
B	1-7	Revised Climate Controller from A1235 to CB-1	Steven L. Lardinois Manager, Systems & Flight Test, Chicago ACO, Des Plaines, Il	6/23/2015
C	1-7	Added model 172N, 172P & 172R and content for optional CB-2 Climate Controller	Manager, Southwest Flight Test Section, AIR-713 Federal Aviation Administration Ft. Worth, TX	2/22/18

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SECTION 1
GENERAL

This supplement supplies information necessary for the operation of the airplane when the optional Air Conditioning System is installed in accordance with FAA Approved Data, either STC or Original Equipment.

SECTION 2
LIMITATIONS

1. When the Air Conditioning System is operated on the ground a minimum of 1000 engine RPM is required to allow the alternator to output enough power to operate the system.

SECTION 3
AIR CONDITIONING SYSTEM EMERGENCY PROCEDURES

If Air Conditioning fails to operate correctly or is exhibiting abnormal behavior turn the Air Conditioning System off as follows:

If equipped with toggle switches:

1. AC Switch – OFF

If equipped with CB-1 Climate Controller

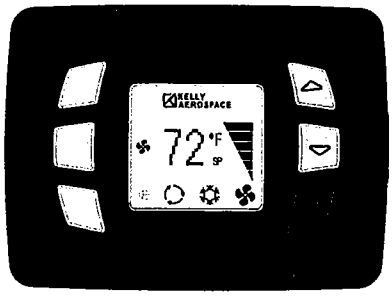
1. Upper Left Button ⏻ - PRESS and HOLD for 3 SECONDS

If equipped with CB-2 Climate Controller

1. Bottom Right Button ⏻ - PRESS and HOLD for 3 SECONDS

SECTION 4
NORMAL PROCEDURES

AIR CONDITIONING SYSTEM WITH CB-2 CONTROLLER
NORMAL CHECKLIST



CB-2 Climate Controller

Prior to Engine Start

1. Ensure Air Conditioning is OFF by verifying that there is nothing displayed on the CB-2 climate controller LCD screen.
2. Follow normal procedures for engine start-up.

Air Conditioning AC Mode

1. Press the lower right button on the CB-2 Climate Controller, the display will first show the logo and software version; then it will show temperature set point, fan speed bar graph, and mode display.
2. Press the bottom left button and toggle between modes with the middle right button.
3. After selecting AC mode, either press the bottom right button to enter or wait 3 seconds and the display will return to the main screen. The snow flake symbol in the bottom center of the display will indicate Air Conditioning mode.

Air Conditioning Fan Only Mode

1. Press the bottom left button and toggle between modes with the middle right button.
2. After selecting fan mode, either press the bottom right button to enter or wait 3 seconds and the display will return to the main screen.

To Control Fan Speed

1. Press the middle left button to bring up the fan speed screen.
2. Toggle the fan speed up or down using the middle and upper right buttons. Speed Range is 1 to 3.
3. After selecting desired fan speed press the bottom right 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

1. Press the top or middle right 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.

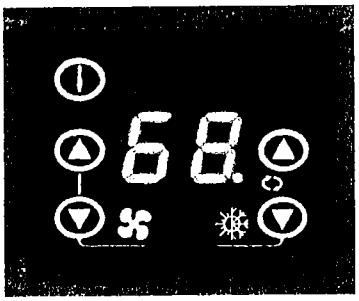
To display cabin temperature

1. Press and release the bottom right button, the cabin temperature will be displayed with a TEMP indication. After a few seconds the temperature set point will be displayed again.

To turn air conditioning system off

1. Press and hold lower right button.

AIR CONDITIONING SYSTEM WITH CB-1 CONTROLLER NORMAL CHECKLIST



CB-1 Climate Controller

Prior to Engine Start

1. Ensure Air Conditioning is OFF by verifying that there is no temperature displayed on the CB-1 climate controller.
2. Follow normal procedures for engine start-up.

Air Conditioning AC Mode

1. Press the upper left button on the CB-1 Climate Controller, the display will first show fan speed, then will show temperature set point.
2. Press the Upper or Lower right button to adjust temperature set point low enough to cause AC to run.

Air Conditioning Fan Only Mode

1. Press the upper or lower right button to adjust temperature set point high enough to cause AC to shut off.

To Control Fan Speed

1. Use the left hand selector arrows on the CB-1 Climate Controller to increase or decrease fan speed.
2. Speed Range is 1 to 3.

To Display Cabin Temperature

1. Press and release the upper left button, the cabin temperature will be displayed with a dot in the lower right hand corner indicating that cabin temperature is being displayed. After a few seconds the temperature set point will be displayed again.

To Turn Air Conditioning System Off

1. Press and hold upper left button.

AIR CONDITIONING SYSTEM WITH BASIC SWITCH CONTROL
NORMAL CHECKLIST

Prior to Engine Start

1. Ensure Air Conditioning switch is OFF.
2. Follow normal procedures for engine start-up.

Air Conditioning AC Mode

1. Air Conditioner switch ON.
2. Select HI or LOW.

To Turn Air Conditioning System Off

1. Air Conditioner switch OFF.

SECTION 5
PERFORMANCE

At full output of the air conditioner, the electrical load is equivalent to 2.8 hp at the crankshaft. This system is approved for operations during takeoff and landing. The following performance information should be allowed for:

1) Add 5% to all takeoff distances with the system operating during takeoff.
2) Climb-out performance will be reduced by up to 50 fpm with the system operating during climb.
3) The fuel consumption and range / endurance performance for this model is negligible.

NOTE: *If a maximum performance takeoff and climb are desired, the air conditioning should be OFF.*

SECTION 6
LOADING INFORMATION

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. Proper weight and balance calculations must be performed prior to flight to insure aircraft is properly loaded and within operating limitations.

SECTION 7
DESCRIPTION AND OPERATION OF THE AIR CONDITIONING SYSTEM

DESCRIPTION

Conditioned air is supplied to the cabin via vents installed above the hat rack section in the baggage compartment which direct air along the cabin ceiling. All air conditioning equipment is located on the hat rack shelf in the aft baggage area. Climate controls are located on the co-pilot's side of the instrument panel. The optional Digital climate controller is used to set fan speed and desired air temperature. The standard Air Conditioning controls switch the AC ON/OFF and HI/LOW. Power is supplied to the system through the normal 28 VDC aircraft bus.

OPERATION

The Air Conditioning system should be turned off during engine startup. The system can then be turned on when the aircraft engine is brought up to a 1000 RPM idle. The air conditioning system is turned on when the Digital Climate Controller is turned on and the temperature set point is low enough for the air conditioner to run, or the AC master switch is turned ON.

OVERLOAD

If an overload condition occurs, the air conditioning unit circuit breakers may trip. These breakers are located on the Air Conditioning System Plenum in the baggage area of the aircraft and shall not be reset until the aircraft returns to the ground. The 60 Amp breaker controls power to the compressor. The 7.5 Amp breaker controls power to the condenser fan. The 10 Amp breaker controls power to the evaporator blower and the 3 Amp breaker controls power to the climate controller.