

Mishawaka Air Activities Flying Club

Cirrus Flight Operations Manual

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Contents

Purpose	3
Reference: Cirrus Flight Operations Manual	3
Operating Limitations	3
Pilot Training and Currency	3
Operations on Grass	3
Cold Weather Operations	3
Preflight	4
Weight and Balance	4
Getting Into the Airplane	4
Moving the Airplane	5
General	5
Tow Bar	5
Tug	6
Startup and Taxi	6
Leaning	6
Postflight	6
Refueling	6
General Notes	7
Seats	7
Doors	7
Closing the Doors	7
	1

Doors and Wind	7
Taxiing With the Doors Open	8
Windscreen	8
PFD, MFD and Garmin 430s	8
MFD Standard Data Field Configuration	9
Garmin 430 Standard Data Field Configuration	9
Parking Brake	9
<u>Questions/Suggestions</u>	10

Purpose

The purpose of this operations manual is to provide guidelines for the safe operation of the club's Cirrus SR20 airplane, primarily to avoid any risk of injury to pilots, passengers, and people on the ground, and secondarily to limit maintenance requirements to normal wear and tear items only.

You are responsible for reading and understanding the information in this manual, and ensuring **both you and your passengers** adhere to the guidelines contained herein.

As is the case with all club flight operations, you are solely responsible for the safety of yourself and your passengers.

Reference: Cirrus Flight Operations Manual

Unless otherwise noted in this document, **all operations will be in accordance with the Cirrus Flight Operations Manual (FOM)**, available to download at the club web site.

If there are any conflicts between this document and the Cirrus FOM, the procedures in this document should be followed.

See the Documents section at www.flymaa.org for all manuals and supplemental information for the Cirrus.

Operating Limitations

Pilot Training and Currency

The following is required to act as pilot in command of the Cirrus:

- MAA Cirrus transition training with a club flight instructor has been completed, or a Cirrus checkout has been performed with a club flight instructor for members who have previously completed Cirrus Transition Training.
- 3 hours of flight time within the preceding 120 days. If this currency has lapsed, a refresher flight with a club flight instructor is required.

Note: Talk to your instructor **for** details about both transition training and recurrent training. It is expected that all pilots will fly N446CD in accordance with all MAA Flight Operation Manuals/Policies and Procedures and all Cirrus POH/FOM/checklists.

Operations on Grass

Operations on grass, including landing, takeoff and/or parking, are not permitted.

Cold Weather Operations

In accordance with the FOM, if the A/C is going to be subjected to below 20 degree F temperatures for longer than 2 hours, the A/C will need to be pre-heated prior to starting. We currently do not have

an engine heater installed on the A/C. It is advisable to make sure pre-heating or hangaring resources are available, at your destination, prior to your trip.

Preflight

Weight and Balance

- Complete a weight and balance **prior to every flight** using the **Cirrus SR20 Weight and Balance Section of the POH, or** another weight and balance program such as a smartphone app, ForeFlight Pro Edition, etc.
- This airplane's CG envelope can easily result in a **too-forward CG** when loaded with two adults in the front seat.
 - There will be ballast available in the hangar with the weight marked on them. Use them as ballast in the baggage compartment to balance the airplane to avoid a too-forward CG. Reference your weight and balance calculations to determine the correct weight.
 - Be sure to use the cargo straps in the back of the plane to tie the ballast down so it doesn't fly around in turbulence.

Getting Into the Airplane

- Take care to walk only on the wing walks on each wing. The plastic surface of the wing is easily scratched by dirt.
 - Flaps should be at 50% for loading and unloading. This helps deter passengers from using portions of the wing that are not designed for loading.
 - Do not stand on the very tail end of the wing walk (near the flap) as it's quite weak and can break after repeated stress.
- To get in:
 - Hold the overhead handle inside the airplane with your inside hand. I.e. your right hand if entering the pilot's side, or your left hand if entering the passenger side.
 - Step in with your inside leg (same as your hand).
 - Sit down.
 - Carefully pull the other leg in, avoiding rubbing your shoes on the door frame, as this easily leaves black scuffs marks.
 - (To get out, reverse the procedure.)
- Please help your passengers get into the airplane from the passenger side.

- This is usually easiest with you standing in front of the wing and assisting them, reminding them to walk on the wing walk, use the overhead handle, and avoid stepping on/kneeling on the seats.
- **Close the passenger door yourself**, to ensure it's not closed with too much force. This also allows you to visually see if either the top or bottom latch is not secure (the door will not be flush with the fuselage in this case.)

Moving the Airplane

General

- When pulling the airplane in and out of the hangar, it can be done by hand.
- Use the red heavy-duty tow bar in the hangar when moving the airplane by hand
- Use only the small metal chocks for N446CD. If traveling take the small metal chocks for use while away from EKM. Do not use the wooden chocks as most will damage the wheel fairings. The Cirrus requires a low profile chock.

Tow Bar

Use the steps below to use the tow bar.

1. Carefully place the non-moving side of the tow bar into the pilot-side tow lug on the nose wheel. Be careful not to scratch the nose wheel pant.



2. Using the crank, tighten the tow bar while keeping it lined up with the passenger-side lug on the nose wheel.



3. The tow bar should now be firmly attached and ready for use.



To remove the tow bar, reverse the process, again being careful not to scratch the nose wheel pant as you remove the tow bar.

Power tow/tug:

Be careful if you use or an FBO uses a power tow/tug to move the airplane. It is easy to damage the front wheel fairing.

Startup and Taxi

- Detailed in the Flight Operations Manual.

Leaning

- Lean the airplane as detailed in the Flight Operations Manual.

Postflight

Refueling

- Fill to “tabs” in each tank (13 gallons usable per tank/26 total gallons).
- Don’t rest the hose on the wing when fueling.
- Ground the airplane using the exhaust pipe, **but** clamp to the inboard portion of the pipe to avoid unsightly scratches.

General Notes

Don't set bags/books/etc. on the wing and/or drag across the wing, as it scratches easily.

Seats

The front seats include a special honeycomb construction designed to crush upon impact if the parachute is deployed, absorbing up to 22 G's of force. If the honeycomb is crushed, the effectiveness is reduced.

Standing or kneeling on the seats will **permanently damage the core**, so please **do not stand or kneel on the seats**, and take care that your passengers avoid this as well.

Here's a picture of a damaged core (left) compared to a new one (right):



The rear seats do not have the honeycomb core, though it's a good rule to not kneel or stand on those either, to reduce wear and tear.

Doors

Closing the Doors

Do Not close the doors with the seat backs forward/down.

The first door to close will require very little force, as compared to the second door which will require a little more speed due to the air pressure inside the cabin as you close it.

Too much force applied while closing the first door can cause damage around the door frame, so **be firm without slamming.**

Doors and Wind

Take care to hold onto the doors tightly when opening them on a windy day, as the wind can catch them and stress the gas door cartridge.

Taxiing With the Doors Open

On a hot day, it may be more comfortable to taxi with one or both doors open. Hold the door open with your elbow or hand and use caution when stopping as wind from your tail may catch the doors and pull them open (see *Doors and Wind*, above).

Windscreen

- Use a microfiber cloth or our standard Wipe-Alls when cleaning the windshield. There are some cloths in the hangar and in the baggage compartment. Do not use paper towels as it will scratch the Plexiglass...
- To clean the windscreen:
- Spray on cleaning solution
 - Wipe **very gently** to prevent scratching.
 - Wipe in a vertical direction, **never** in circles.
- Do not rub at bugs that do not come off using light pressure; use a fingernail to loosen them up. You should never have to rub with more than a very light touch.
- If you choose to use a suction cup mount on the inside of the windshield, please mount to the lower left side of the windshield. Also, please be sure it is clean and that no residue is left behind.
- Do not set anything on top of the panel as it can easily scratch the inside of the windscreen.

PFD, MFD and Garmin 430s

- Do not touch the screens (they are *not* touchscreens). Fingerprints are distracting and the screens need special care to clean.
- Do not attempt to clean the screens (they require a special technique and cleaning solution). If you find the screens are overly dirty, please enter a squawk and the maintenance team will clean them.
- Please do not change the configuration of the data fields on the MFD, as they are set to a standard configuration for training. See below for the standard configuration.

MFD Standard Data Field Configuration

The following is the standard configuration of the data fields on the MFD:

Left Side		Right Side
Nearest Airport Bearing and Distance		Next Waypoint Distance/time/fuel remaining
Amps		Destination Distance/time/fuel remaining
Outside Air Temperature		Time (Local)
Current Position Lat/Long		Time (UTC)



Garmin 430 Standard Data Field Configuration

The following is the standard configuration of the data fields on the top Garmin 430:

DIS	DTK	ETA
VSR	TRK	ETE



Parking Brake

Setting the parking brake in the Cirrus is different from the Cessna. In the Cessna, you don't need to put your feet on the toe brakes before setting the brake. In the Cirrus, the parking brake knob does not set the brakes; it holds pressure applied to the brakes, so you need to put pressure on them first.

To set the parking brake:

1. Apply pressure on the toe brakes
2. Pull the parking brake knob while holding the toe brakes
3. Release the toe brakes

Questions/Suggestions

If you have any questions or suggestions about this flight operations manual, please contact a club flight instructor or club officer.