CAUDRON RAFALE 430

USER MANUAL

BLUE MESH

Microsoft Flight Simulator

CAUDRON 430

History:

The Caudron C.430 "Rafale" is a two-seater monoplane (or single-seater by closing the front seat) of Grand Tourism built by the company Caudron-Renault. It was designed by Marcel Riffard for the training of pilots who had to use racing machines like the Caudron C.362.

Its construction is similar to that of the speed planes built by Caudron at the time: wooden structure, canvas fuselage. The landing gear is fixed.
The first model, n/c 6885, registered F-AMVA, made its first flight on March 22, 1934.

On March 30, 1934, Raymond Delmotte beat the international speed record over 100 km for an aircraft weighing less than 560 kg empty, at 292.018 km/h. During the 1935 Deutsch de la Meurthe Cup, the F-AMVA re-engined with a 180 hp Renault 438 engine was hired to replace the C.560 which was not ready in time. The aircraft suffered a powerplant failure and could not finish the race. It is then re-engined with a Renault 4Pei of 140 hp.

On November 30, 1934, Hélène Boucher was killed during a training flight at Guyancourt airfield at the controls of a Caudron C.430 Rafale13. The press reported a loss of speed on landing and a possible oversight that the controls were reversed: the plane hit the treetops above the Croix du Bois forest in Magny-les-Hameaux and crashed near the Butte aux Chênes road in Brouessy, not far from the family home of aviator Henri Farman (a small stele indicates the location of the accident14). Pilots Raymond Delmotte, Fouquet and Goury, witnesses of the accident, were the first to arrive on the scene. Hélène Boucher, seriously injured, was evacuated to the hospital in Versailles. She died in the ambulance15 on the Satory hill in Guyancourt.

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Tuto Start up:

You can also see this video : https://www.youtube.com/watch?v=wKtyoe5ykPE

Start up :
1- Fuel Valvle , open
2- Magnetos
3- Pull contact
4- Fuel Mixture 100%
5- Throttle 10%
6- Camera -> Instruments -> Hand prop -> Hold left click on the propeller

The engine is running

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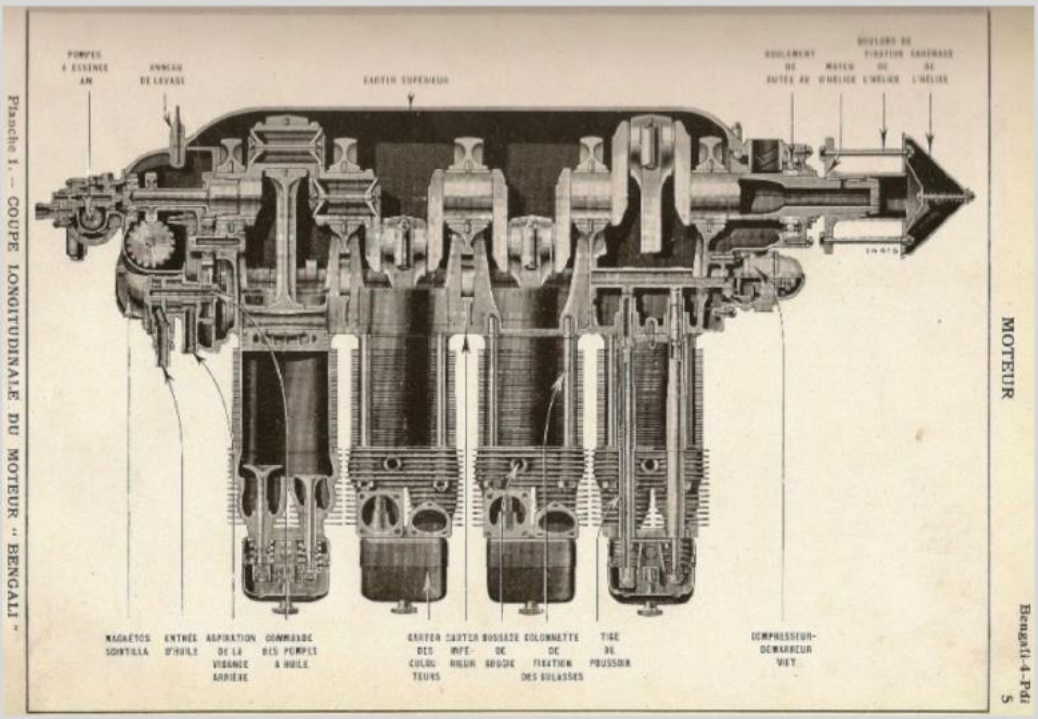
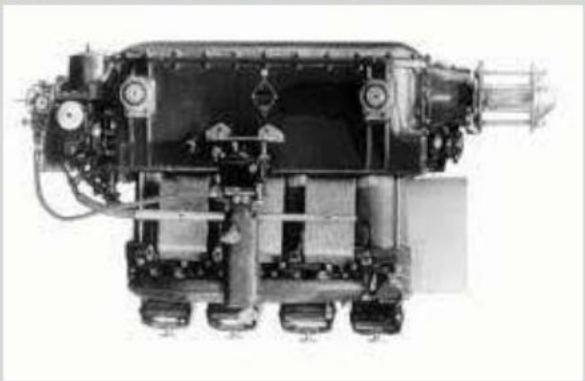
Technical datas

Engine: Renault Bengali 4DPI 120hp

Developed by Charles-Edmond Serre, in 1931, the, with the adoption of 120 mm (4.7 in) bore steel cylinder liners, evolved 4Pdi 6.3 liters to give 110 hp (82 kW) to 120 hp (89 kW) aluminum alloy cylinder heads attached by long studs to the crankcase, Duralumin connecting rods and magnesium alloy housing.



Renault 4Pdi
Steel cylinder liners with 120 mm (4.72 in) inverted bore, aluminum alloy cylinder heads attached to the crankcase by long studs, Duralumin connecting rods and magnesium alloy crankcase. 110 hp / 150 kg - Hanriot 16 , 120 hp / 155 kg - Caudron Phalène



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Propeller Pitch:

In 1933, the pneumatic propeller series 1232 appeared using the ball ramp system. This system aroused the interest of Louis Renault in particular. Paulin Ratier himself supervised its development, which was considered very costly. It is a propeller with variable pitch in two positions, adapted to two speeds of flight of the plane for a given engine speed.

The change of pitch is automatic. An air chamber is inflated before takeoff. It presses on a piston-slide assembly which maintains in position small pitch each of the nipples related to the blades. The bladder valve, housed in the hub of the propeller, is itself subjected to the action of a second piston attached to a disk subjected to wind pressure.

The system deserves to be qualified as astute. Indeed, when the plane reaches a certain speed the air pressure, by pressing on the disc pushes the piston which opens the valve of the bladder. At this moment, under the action of a spring, the slide moves, which causes the rotation of the blade.

However, it is possible to return to the small pitch only after landing, stopping the engine and putting the bladder back under pressure.

https://aviatechno.net/bib/054c_helice_ratier.php

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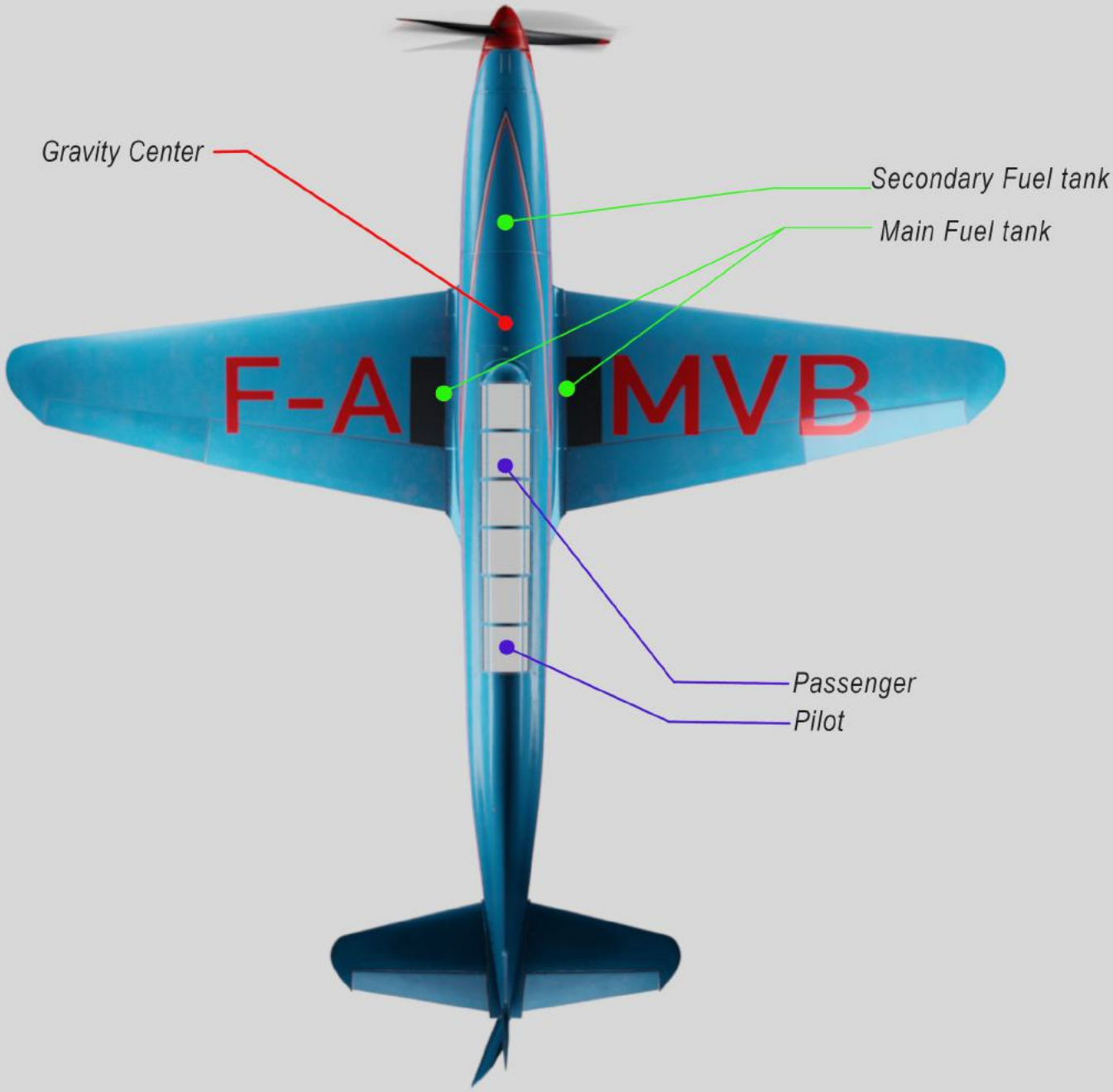
Weight:

Max Weight : 820kg Empty Weight: 480kg
Main Fuel Tank : 250kg Secondary Fuel Tank : NA///
Pilot : ~65Kg Passenger ~65Kg



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