

Junkers F13



Flight Manual



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General information about the Junkers F13

FUEL	Liters	Gallons	lb	
Fuel Quantity Left Tank	142	37,51	225,03	
Fuel Quantity Right Tank	142	37,51	225,03	
Total Fuel	284	75,02	450,06	
Unusable Fuel	40	10,56	63,40	

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1. Particularities of the Junkers F13

Tanks:

The Junkers F13 has two fuel tanks, one in each wing.

A third little tank is in the front of the cockpit. This tank is used as auxiliary tank and must always be filled for engine start and safe flight. This tank is filled by using the Manual Fuel Pump in the middle of the cockpit.

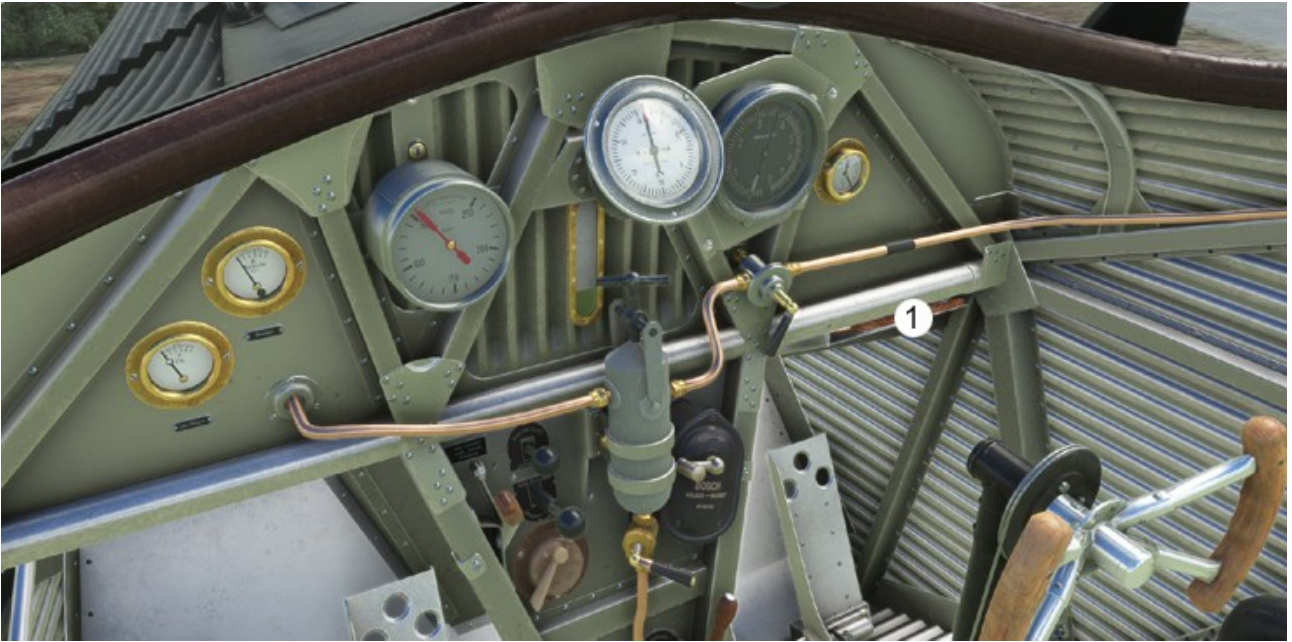
Cockpit Rear Window:



If it should be necessary to speak with your passengers you can open/close the rear window.

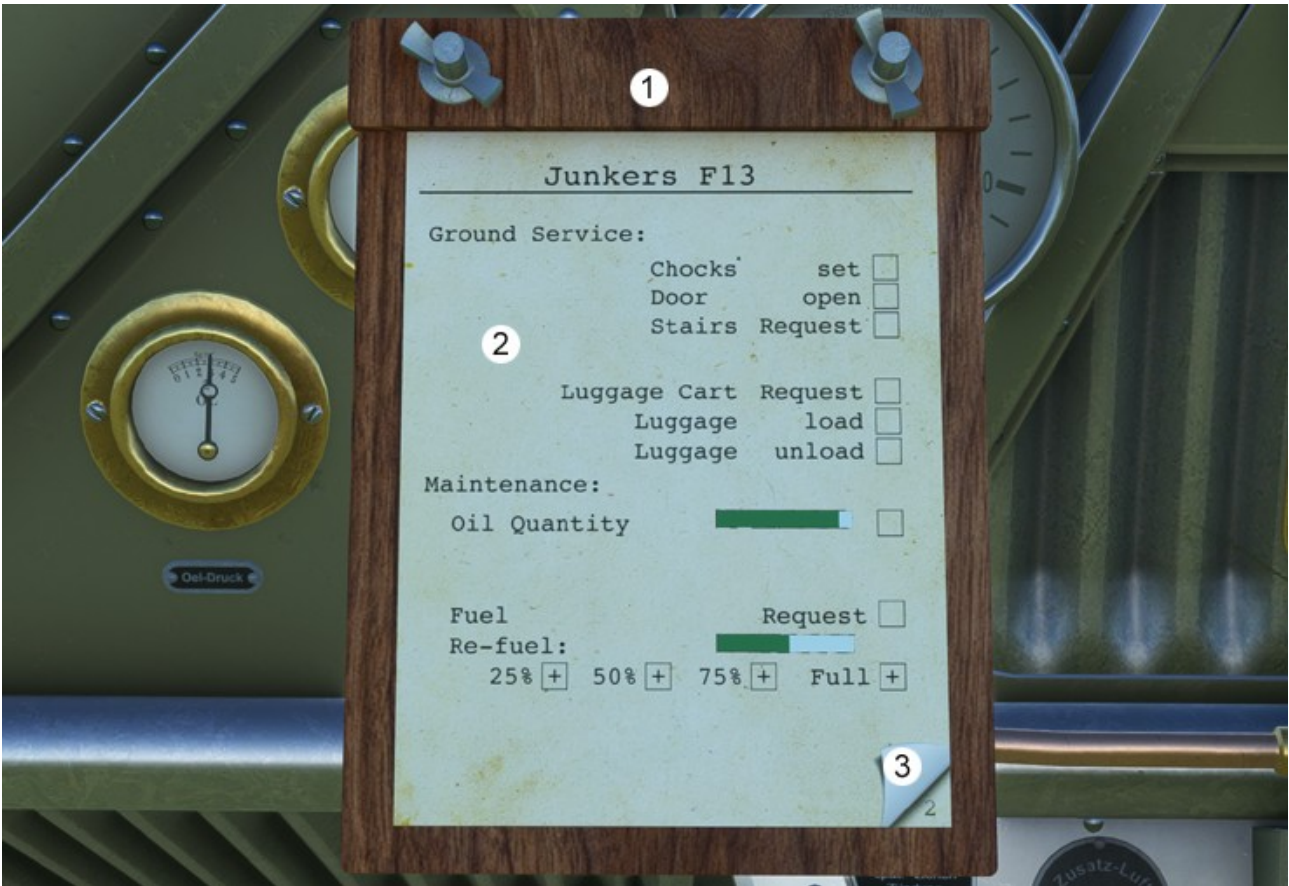
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2. Clipboard



1	The Clipboard is located in front of the copilot. Click on the clipboard to take it out.	

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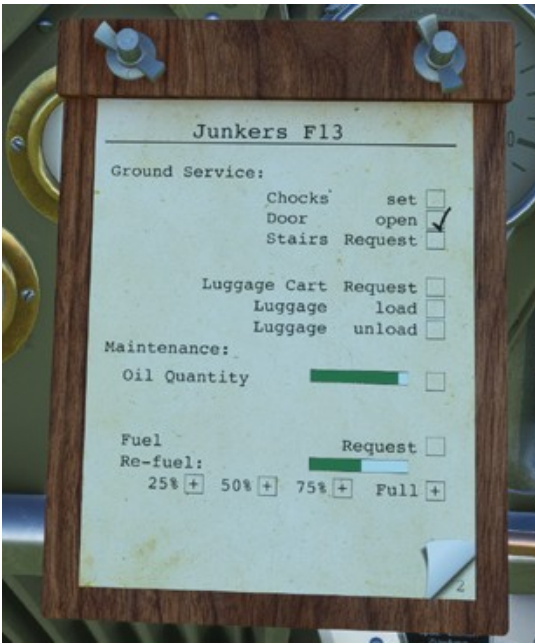
1	Clipboard Toggle Area	
2	Page Information and/or Action	
3	Page Selection	

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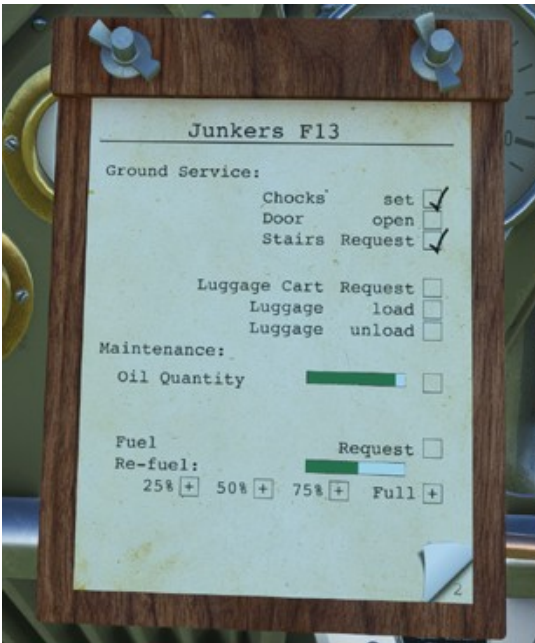


Page 1: Clipboard Chocks		
	Airplanes around the 1920s didn't have brakes, so no parking brakes either. They had a spike instead of a tail wheel because there were no paved runways at the time.	
	In MSFS the Chocks take over the function of the Parking Brakes.	
	<u>Note:</u> Before using some of the functions from the clipboard you have to set the aircraft in a safe condition. That means: Secure Aircraft: Engine not running and at least Main Tank Valve closed.	

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Page 1: Clipboard Door	
Open/close the left door.	



Page 1: Clipboard Stairs	
If you need a stair you can request it here.	
<u>Note:</u> The stair is not available if the aircraft is not secured and the chocks are not set.	

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Page 1: Clipboard Luggage		
<u>Note:</u> You can only request a luggage cart when the aircraft is secured!		
Make sure that the engine is not running and the main fuel valve is closed.		
1.	Engine not running	Check
2.	Main Tank Valve	Closed
3.	Chocks	In place
4.	Luggage cart	Request
Luggage load/unload		
1.	Stairs	Request
2.	Door	Open

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load	if set	Luggage is loading from luggage cart into the aircraft	
unload	if set	Luggage is unloading from luggage cart into the aircraft	

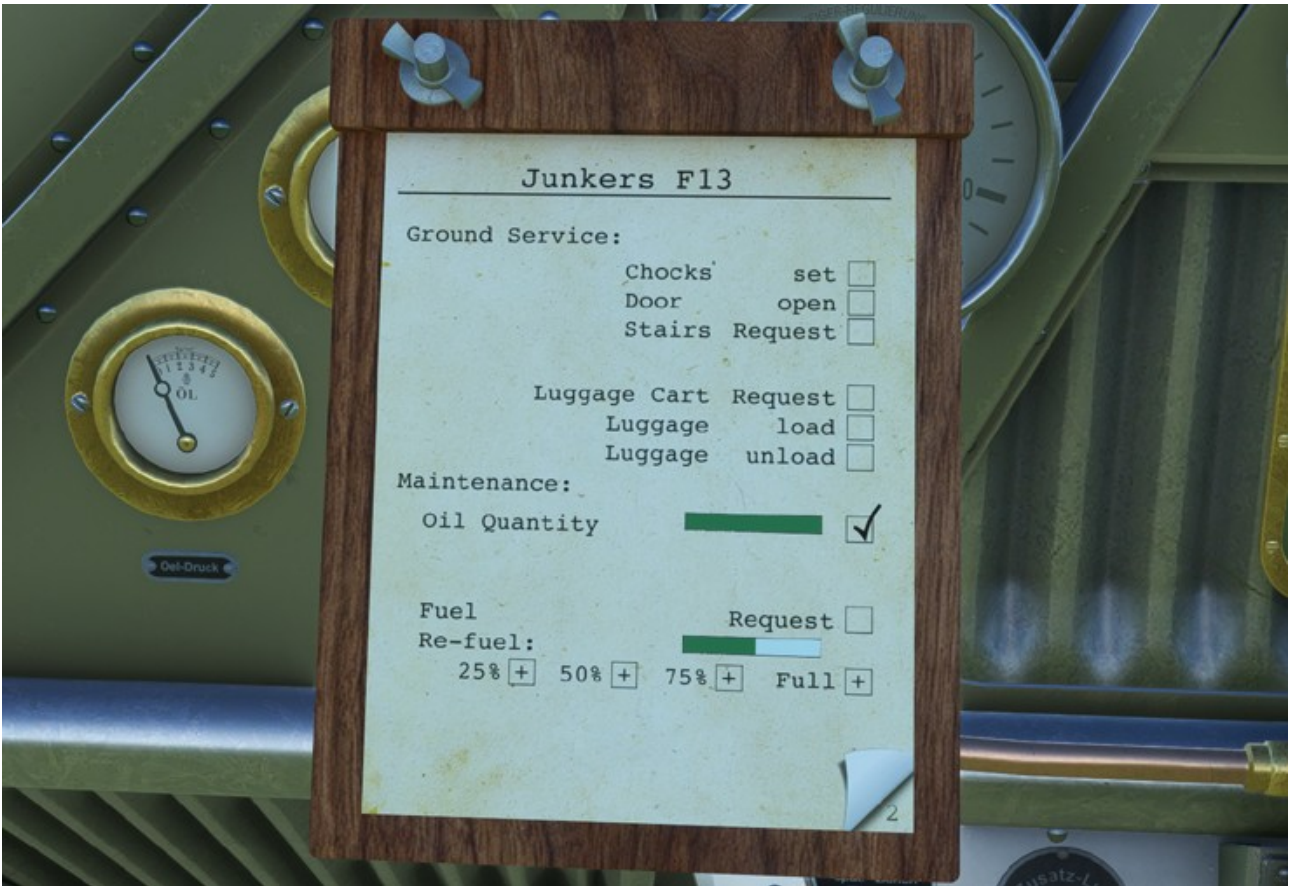


Note:

Baggage will not be automatically reset. This means that once you have fully loaded the plane, you must first unload it in order to have a fully packed luggage cart again.

If you do not completely unload the luggage cart, the remaining pieces of luggage remain in the trolley until you load or unload them again.

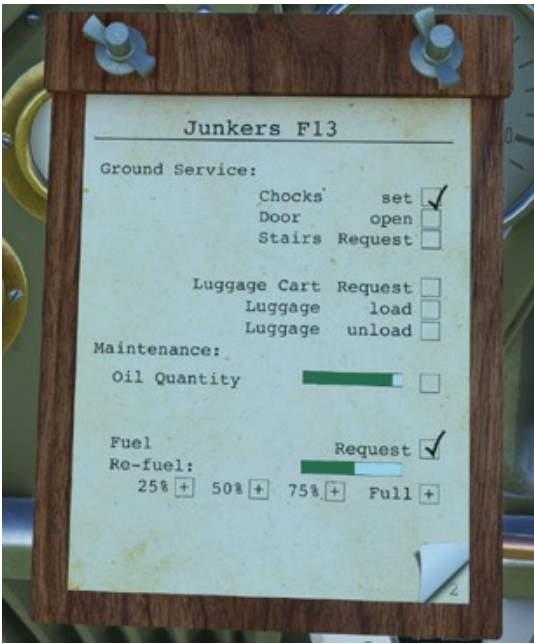
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Page 1: Clipboard Maintenance

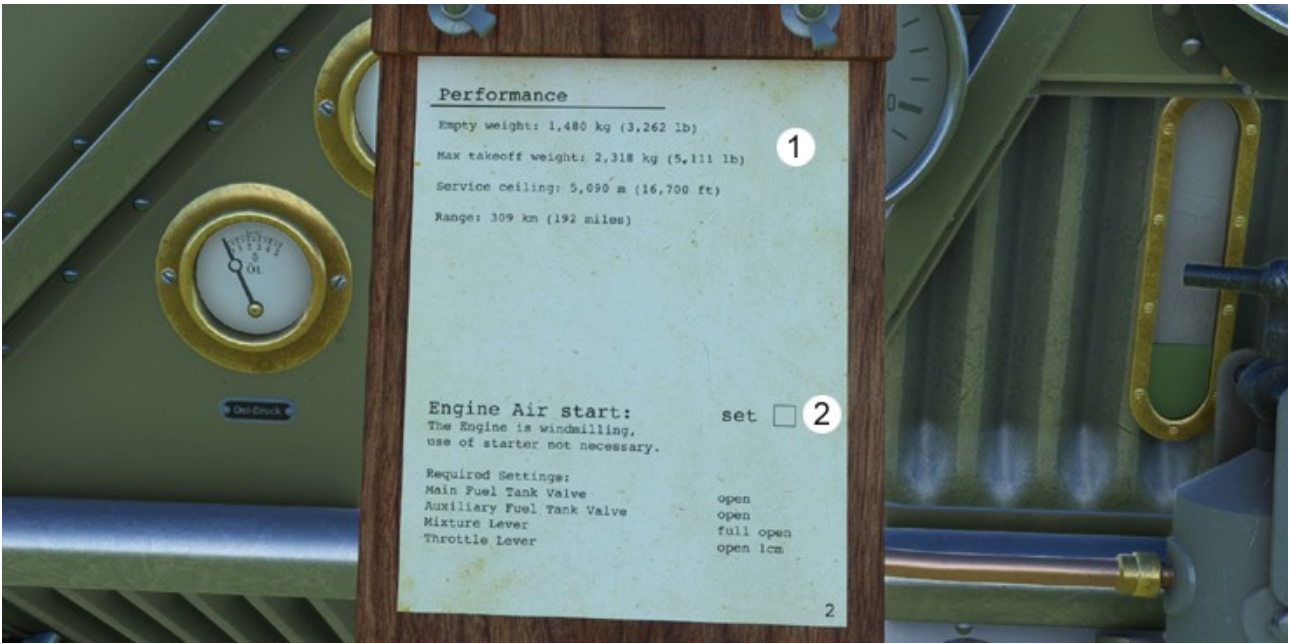
set	The amount of oil decreases depending on the engine running time.	
not set	Oil quantity is permanently 80%	

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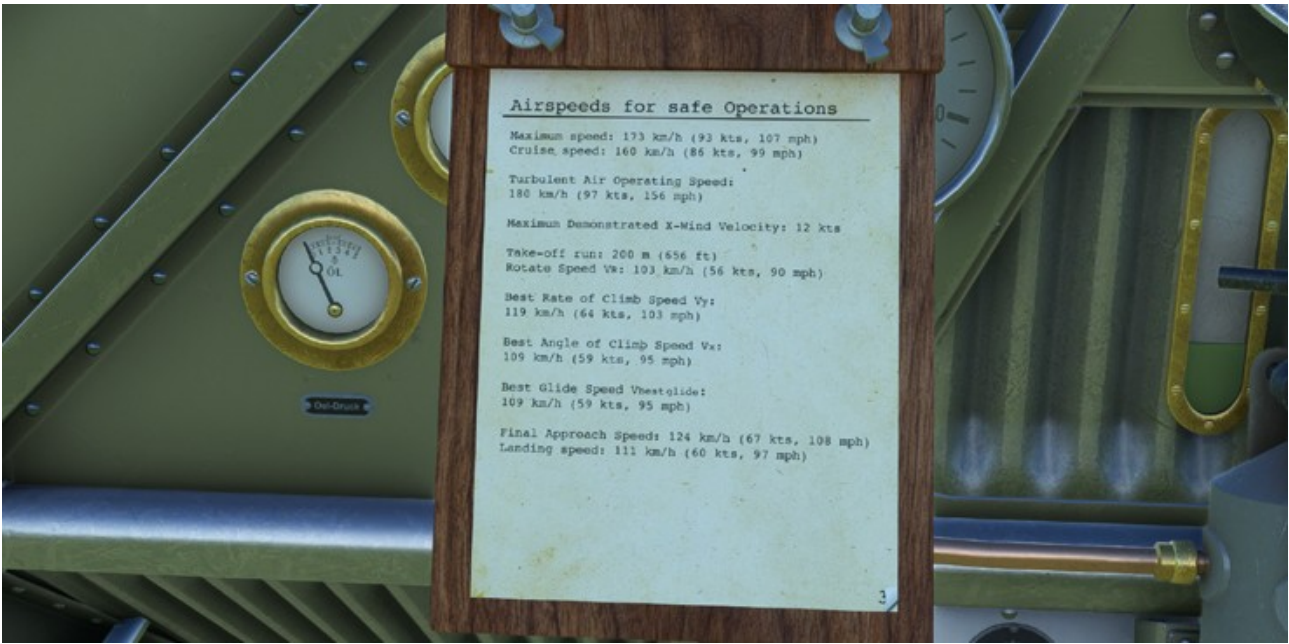
Page 1: Clipboard Refuel					
<u>Note:</u> You can only request a fuel when the aircraft is secured!					
Make sure that the engine is not running and the main fuel valve is closed.					
1.	Engine not running			Check	
2.	Main Tank Valve			Closed	
3.	Chocks			In place	
4.	Fuel Handcart			Request	
5.	Re-fuel:				
	+ 25%	~ 100 liters	~ 26,4 gal	~ 160 lb	
	+ 50%	~ 200 liters	~ 52,8 gal	~ 320 lb	
	+ 75%	~ 300 liters	~ 79.2 gal	~ 475 lb	
	+ 100%	~ 400 liters	~ 105,6 gal	~ 634 lb	

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Page 2:			
1.	Clipboard Performance:		
	Empty weight:	1,480 kg (3,262 lb)	
	Max takeoff weight:	2,318 kg (5,111 lb)	
	Service ceiling:	5,090 m (16,700 ft)	
	Range:	309 km (192 miles)	
2.	Clipboard Engine Air start:		
	The aircraft is windmilling that means no need of starter is necessary.		
	Press and hold the “set” box for a few seconds. A tick will appear during this time.		

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Page 3: Clipboard Engine Airspeeds for safe operations

Maximum speed:	198 km/h (107 kts, 172 mph)
Cruise speed:	170 km/h (92 kts, 148 mph)
Turbulent Air Operating Speed:	180 km/h (97 kts, 156 mph)
Maximum Demonstrated X-Wind Velocity:	12 kts
Take-off run:	200 m (656 ft)
Rotate Speed VR:	103 km/h (56 kts, 90 mph)
Best Rate of CLimb Speed Vy:	119 km/h (64 kts, 103 mph)
Best Angle of CLimb Speed Vx:	109 km/h (59 kts, 95 mph)
Best Glide Clim Speed Vbest glide	109 km/h (59 kts, 95 mph)
Final Approach Speed:	124 km/h (67 kts, 108 mph)
Landing speed:	111 km/h (60 kts, 97 mph)

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3. Starting and Shut-off Engines using keybindings:

B. Engine Auto Start:			
		Auto Start Engine	
		Keybinding:	Control + E
		<u>Note:</u>	
		You should open the throttle 1 inch to get the best fuel support.	

Engine Shut-Off: Autostop			
		Keybinding:	Shift + Control + E

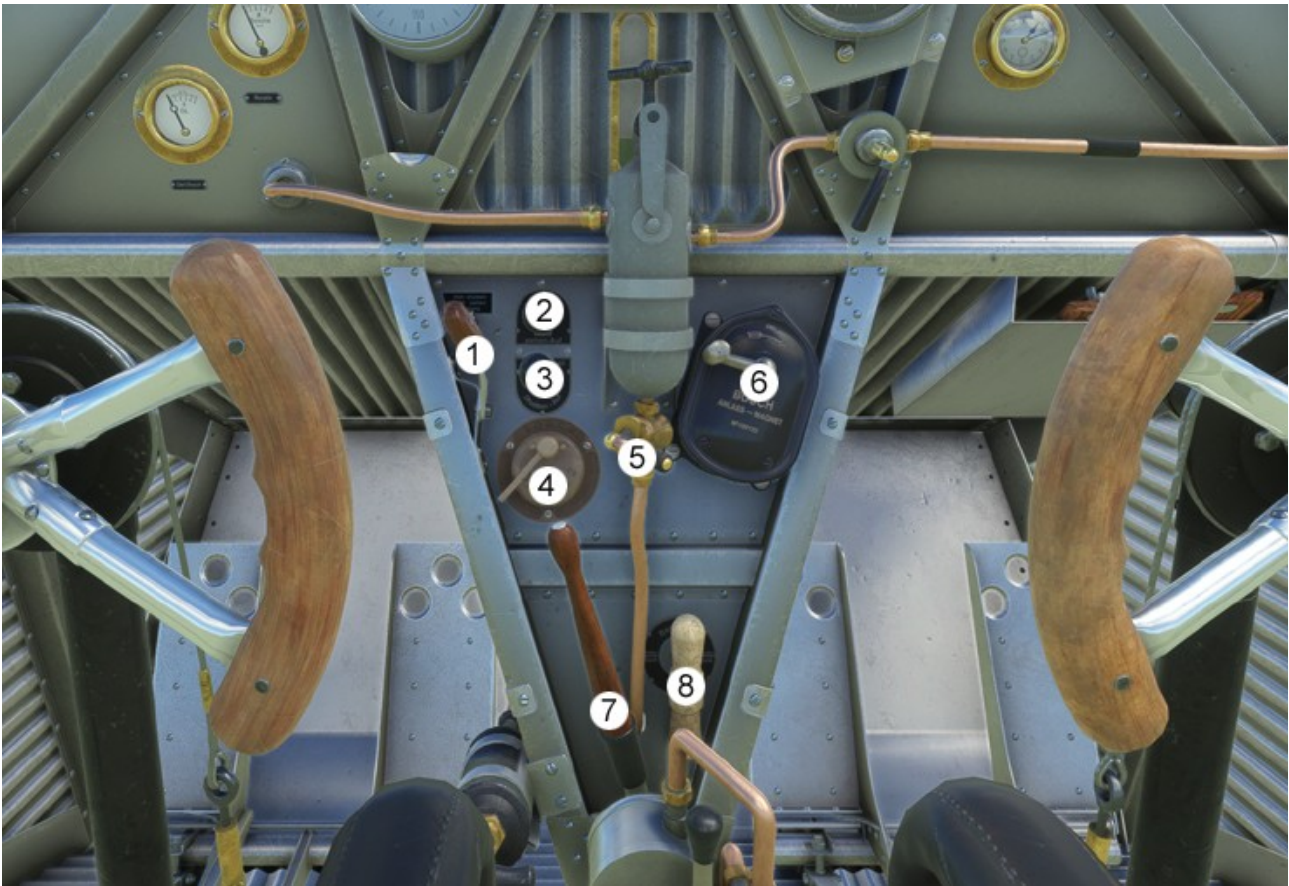
4. Cockpit Overview

Main Panel



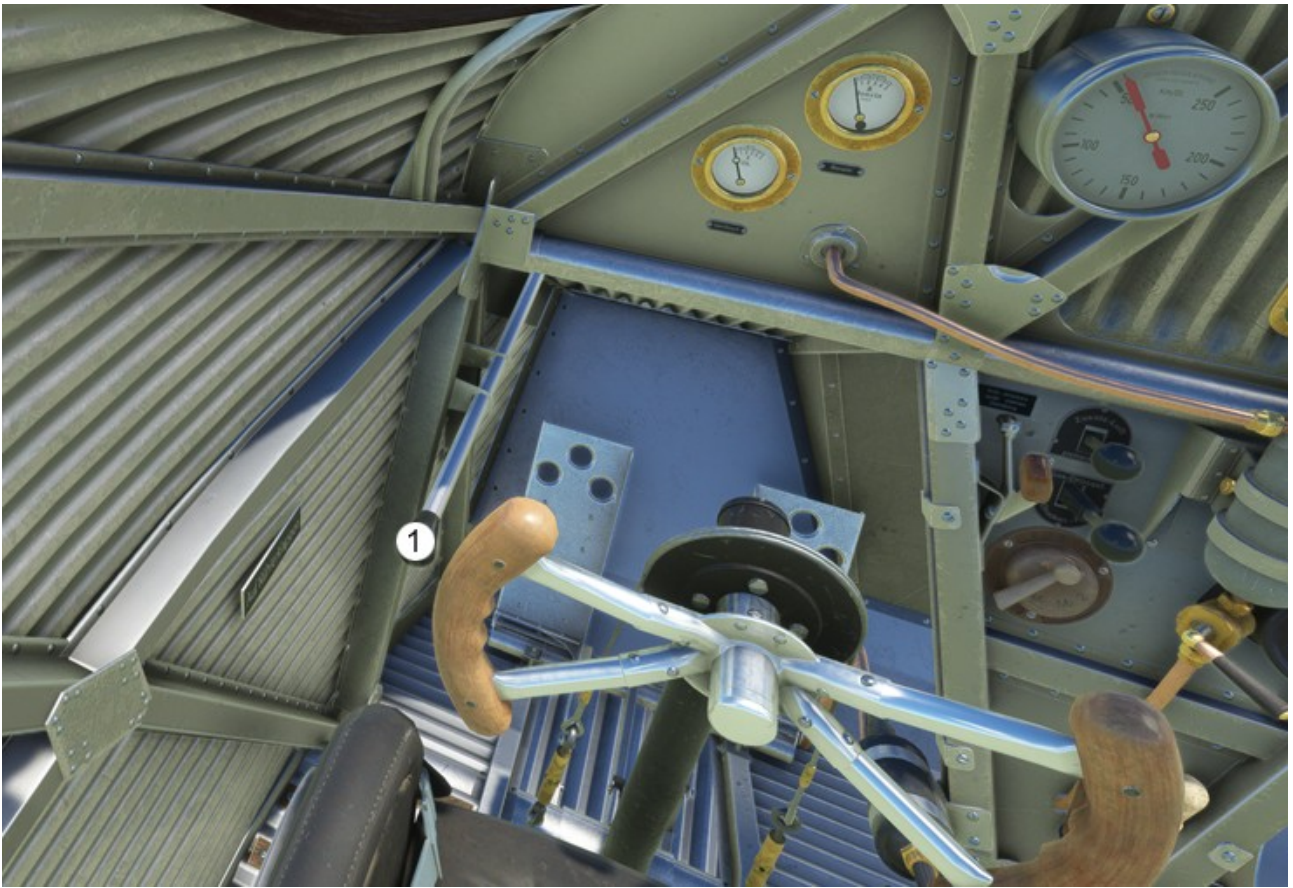
1	Compass		
2	RPM Indicator		
3	Airspeed Indicator	km/h	
4	Altimeter	Meter	
5	Auxiliary Fuel Tank Level		
6	Oil Pressure	kg/cm ²	
7	Fuel Pressure	kg/cm ²	
8	Main Tank Valve		
9	Clock		

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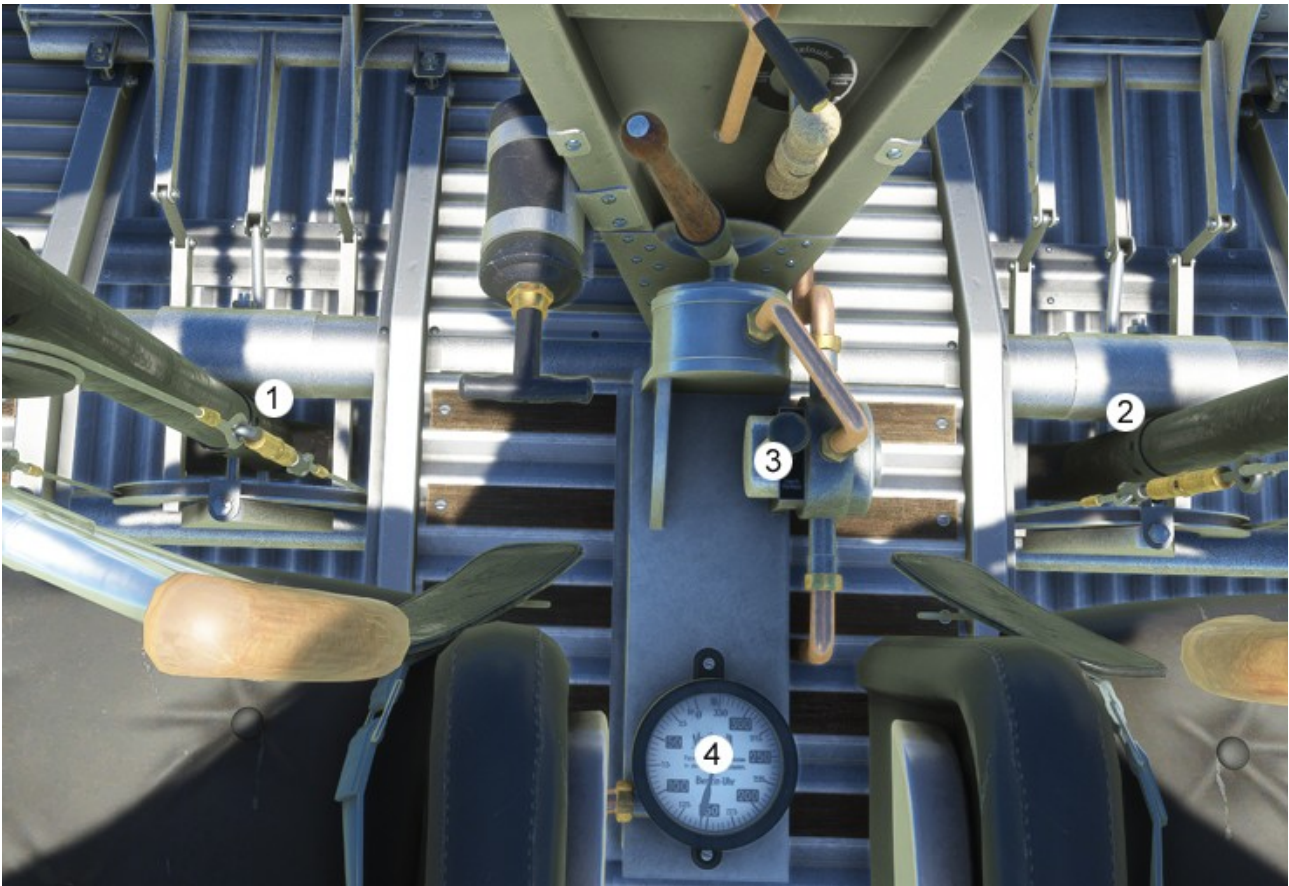
1	Ignition Lever	Normally in „Spät (late)“ condition	
2	Mixture Lever		
3	Throttle Lever		
4	Magneto Switch	Set to „M1“ for engine start, if RPM is stabilized switch to „2“	
5	Starter Tank Valve		
6	Starter		
7	Manual Fuel Pump		
8	Fuel Selector		

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1	Cowl Flaps Lever		
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1	Yoke Hider	Left side	
2	Yoke Hider	Right side	
3	Pitch Trim Lever		
4	Fuel Quantity	Liter	

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