Ju52AlpineFlight (V1.0)

Flight created on 28.02.2026

Estimated flight duration: 1 hour

Difficulty level: Medium to difficult

Task: Fly from Locarno to Dubendorf with a Ju52.

Prerequisite: The Junkers Ju52 is essential for this flight.
Download this aircraft here:
https://www.rikoooo.com/downloads/viewdownload/52/963
(This aircraft also works in P3d V6, even though the website only states P3D V4/5 compatibility.)
If the download link does not work, please contact me:
p3d@andi20.ch

Introduction:

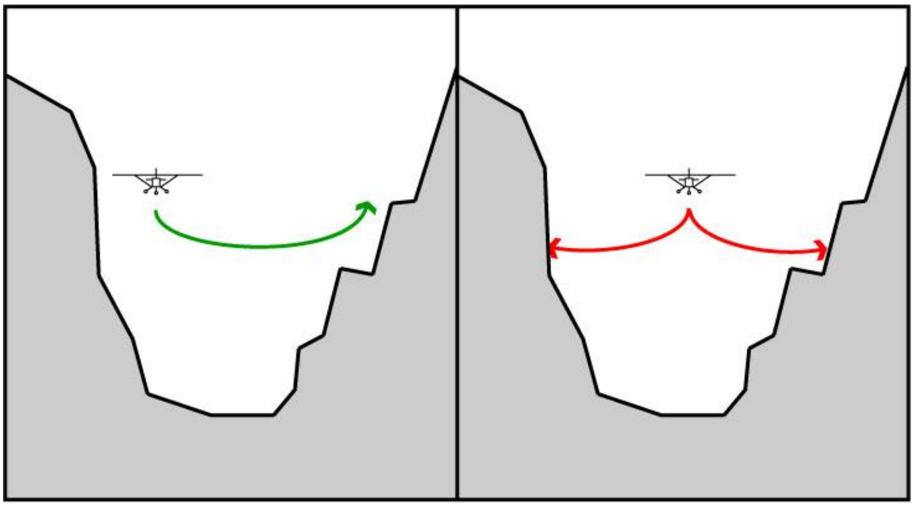
On August 4, 2018, during a flight from Locarno to Dubendorf, the Junkers Ju52 crashed into a valley at Piz Segnas, north of Flims in the canton of Graubünden, Switzerland. All 20 people on board were killed in the crash.

Note: The destination is actually called **"Dübendorf"**, but in P3d it is referred to as **"Dubendorf"**. That is why I only use the name "Dubendorf" throughout the mission.

Information about the Ju52 accident on August 4, 2018:

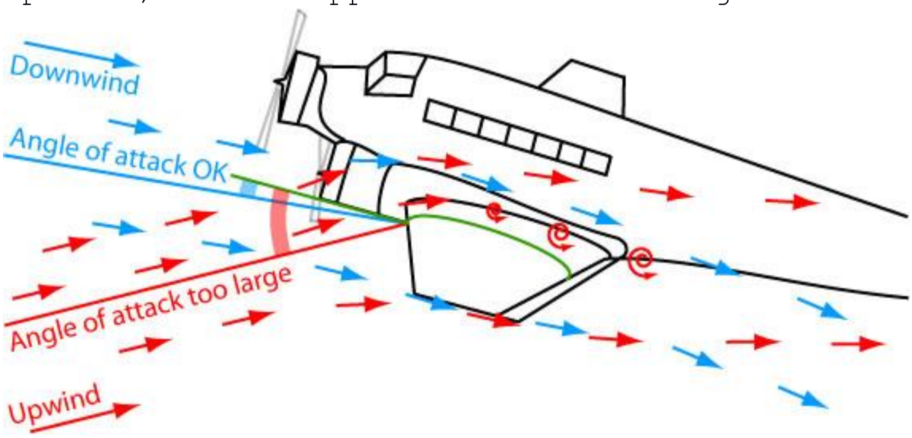
First, some basic information:
There are legally prescribed minimum flight altitudes that every pilot must know. Over built-up areas, this is 1,000 ft (300 m), and over open terrain, it is 500 ft (150 m). However, this does not mean that you should fly over a mountain pass at this minimum altitude. A minimum of 1000 ft is recommended, and if you encounter a downdraft, even these 1000 ft can be quickly used up.

In addition, there is a rule in mountain flying that you should never fly straight (at a right angle) over a pass. You should always approach at a 45-degree angle, as if you were going to make a turn around. That way, if you see that the weather on the other side is very bad, you are already in the turn around.
In other words, don't fly in the middle (red) of the valley towards the pass, but to the side (green) so that you can make a turn around.



What happened:
The two experienced pilots ignored the above safety rules. In an effort to offer their passengers something spectacular, they flew too low and too slowly.
When they encountered a downdraft shortly before the pass, they tried to prevent the aircraft from descending by raising the nose. However, the airspeed was too low and the pilots did not increase the thrust.

Stall:
A stall does not depend on speed, but only on the angle of attack. In the downdraft (blue), the angle of attack was still okay. When the aircraft encountered an updraft (red), the angle of attack suddenly became too large, even though the aircraft's attitude (green) had not changed. This caused a stall (shown as spirals) on the upper side of the wing.



Due to insufficient altitude and speed, the pilots were unable to intercept the aircraft in time.

Further information:
Anyone interested can find out more at the following links:

Private pilot Hans-Peter Zimmermann explains the accident flight clearly in a 12-minute video:
https://www.youtube.com/watch?v=MKEklU-h2zU

Short final report (6-minute video by SUST) on the SRF (Swiss

Radio and Television) website:
https://www.srf.ch/news/schweiz/schlussbericht-veroeffentlicht-pilotenfehler-fuehrten-zu-tante-ju-absturz-von-2018

Detailed final report by the Swiss Transportation Safety Investigation Board (SUST):

Main section (83-page PDF):
https://www.sust.admin.ch/inhalte/AV-berichte/HB-HOT/DE/SB_HB-HOT_D.pdf

This final report is very detailed and written in a way that is easy to understand, even for laypeople. Technical terms are explained in detail in the 8-page glossary. Several appendices, each 13 to 141 pages long, provide further details. For example, Appendix A1.6 (141-page PDF) contains everything you need to know about the aircraft involved in the accident, such as its maintenance status and known, unresolved damage to the aircraft. The latter is often documented with photos.
All in all, it makes for very interesting reading!

Since this accident, the remaining Ju52s, which belonged to the former operating company Ju-Air, have not flown again because the requirements for continued operation are too expensive and complex.

This is exactly where this fictional flight begins:

Your boss has covered the immense costs of the necessary improvements and is restarting flight operations.

You and a co-pilot are taking charge of the maiden flight, which will follow exactly the same route as the aircraft that crashed back then.

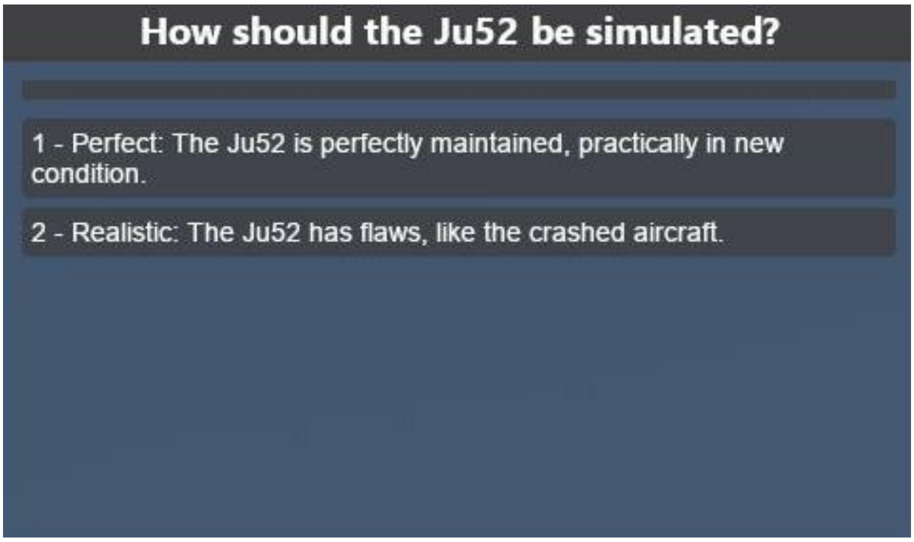
Seventeen brave passengers and one flight attendant have booked this flight, so the aircraft is fully loaded, just like it was back then.

The flight:

You are at Locarno Airport on August 4, 2025 (the same day, just seven years later).

The weather is the same as it was back then.
I have tried to recreate the temperature, weather, wind, wind direction, etc. as accurately as possible.

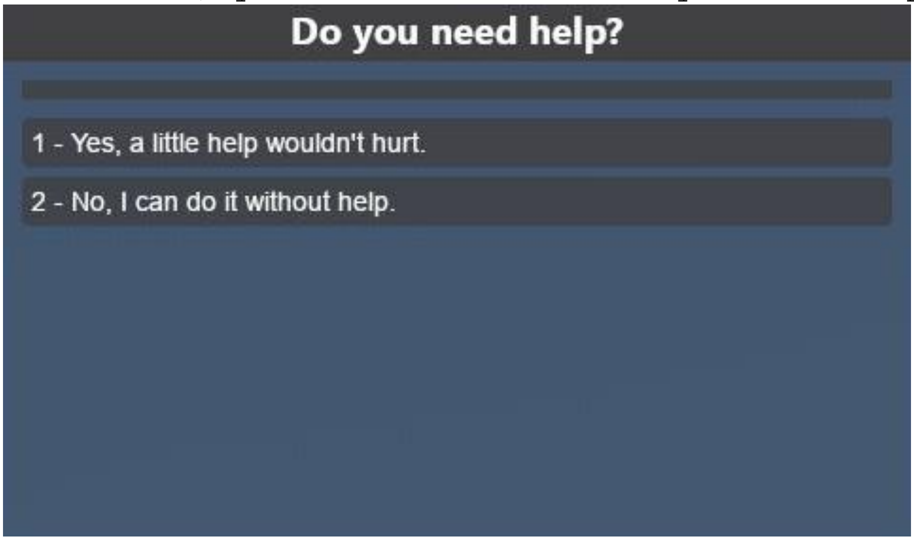
At the beginning, you select the maintenance status of the Ju52.



"2" takes into account the age-related weaknesses of the engines.
Even a small overload can cause damage.
You can read more about this at the bottom of the "spoiler."

By the way:
In the "spoiler," I reveal things that you might not want to know on your first flight.
It's more interesting to be surprised by sudden incidents.
But don't worry, you can easily continue reading this text without learning too much.
I'll let you know in advance when the spoiler begins.

After that, you can choose whether you want help.



When set to "1," the Copilot will give you tips on speed, mixture setting, trim, and flaps.
It will also immediately report oil leaks or loss of power.

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Additional help can be turned on and off at any time.

- The mission compass is always active.
You can decide for yourself whether to show or hide it.

In the Ju52, the flight altitude is displayed in meters, but unfortunately the compass only shows the altitude in feet. That's why I've noted the flight altitude in meters (1640 ft corresponds to 500 m) below most waypoints (WP, or W for short).

- You can also display a GPS in the "Vehicle/Instrument Panel/GPS" menu.
The flight route is programmed so that you can follow the route even without a compass.

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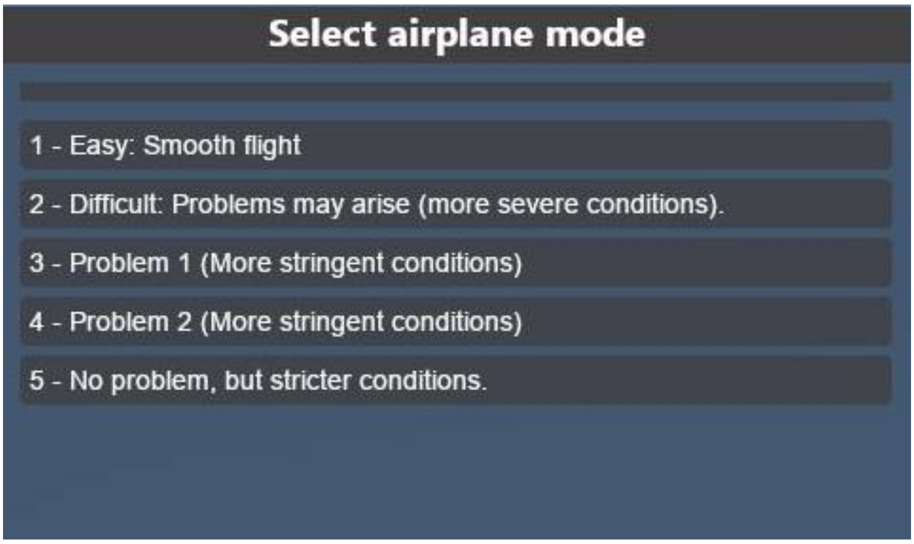
Then select the flight mode.
(The maintenance status of the Ju52 affects all flight modes, if active.)



1 – Easy:
The flight will proceed without any problems.

2 – Difficult:
One of two problems may occur here.
However, it may also be a problem-free flight.

Stricter conditions apply in this variant:
a) Excessive speed (over 260 km/h) will result in damage to the aircraft.
b) The engine loses significant power if the mixture setting is incorrect.
You can find more details about the stricter conditions below, under "Spoiler."

3-5 (problem 1/2/no problem):
Here you can choose between three possible variants (from Random Flight 2 – Difficult).

The flight route:

Regular route red:
You start in Locarno, fly up the Leventina Valley, follow the Blenio Valley to the right to the Lago di Luzzone reservoir.
A few turns further on, you head for the site of the accident just before Piz Segnas. Then you descend into the valleys and land in Dubendorf.

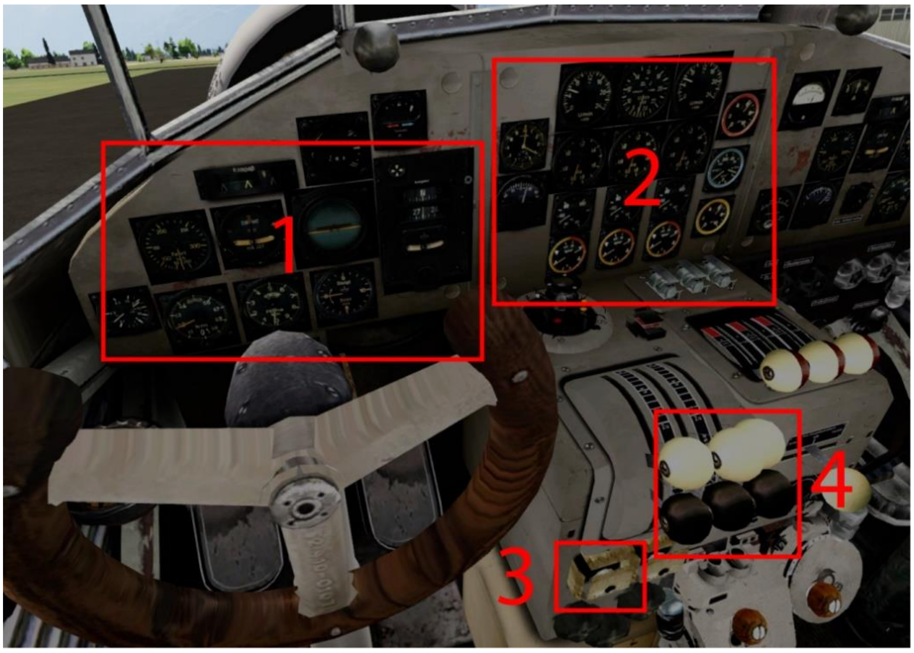
If you get bored flying the regular route (or if you accidentally take the wrong valley), you can fly two alternative routes.

Alternative routes:
Green: Follow the Leventina Valley to the left, fly over Ambri Airport, turn right at Airolo and cross the Gotthard Pass. Then fly towards Piz Segnas.
Light blue: Follow the Misox Valley, fly over the San Bernardino Pass and head for Piz Segnas.

Information about the aircraft:

The Ju52 is an old aircraft with few instruments and controls. You won't find a modern autopilot. Because the Ju52 was built in Germany, some of the displays are a little unusual.

Overview:



1 = Main instruments
2 = Additional displays
3 = Instrument panel light
4 = Throttle lever (white), mixture (black)

Main instruments:

1 = Airspeed Indicator
2 = Turn Indicator
3 = Attitude Indicator
4 = Altimeter 1
5 = Altimeter 2
6 = Vertical Speed Indicator

Airspeed Indicator

The speed is given here in km/h.
The takeoff and landing speed (orange) is approximately 120 km/h (65 knots).
Cruising speed (red) 190 km/h (102 knots)
Anything between 150 and 210 km/h cruising speed (green) is fine for this flight.
Maximum speed (purple) 260 km/h (140 knots)

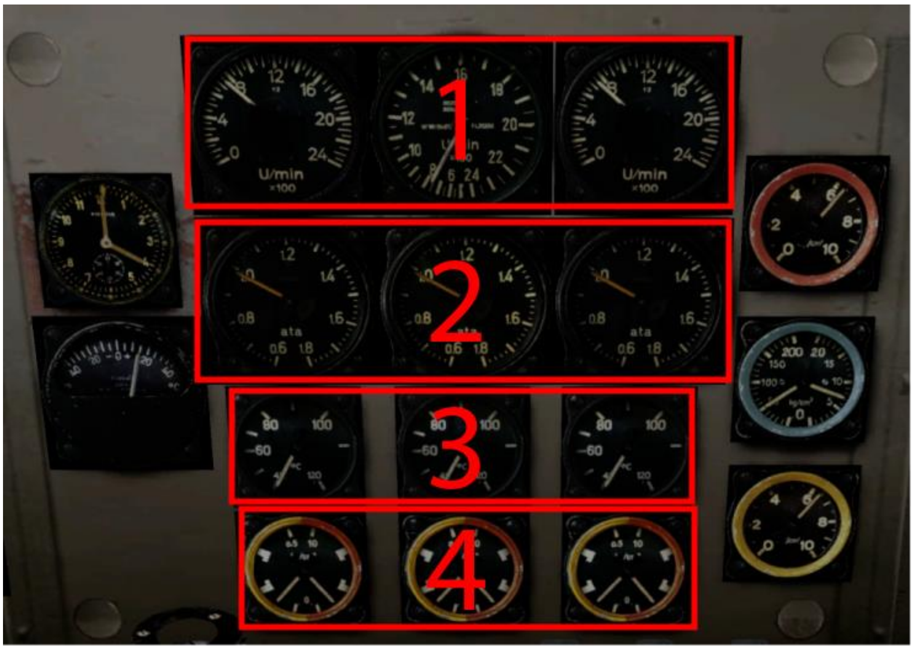
Altimeter 1 + 2

The flight altitude is displayed on two instruments (in meters above sea level, 100 m = 328 ft).
The left instrument shows increments of 100 meters; here, 200 meters are displayed. The numbers in the red frame show increments of 1,000 meters.
The right instrument displays the flight altitude in increments of kilometers.

Vertical Speed Indicator

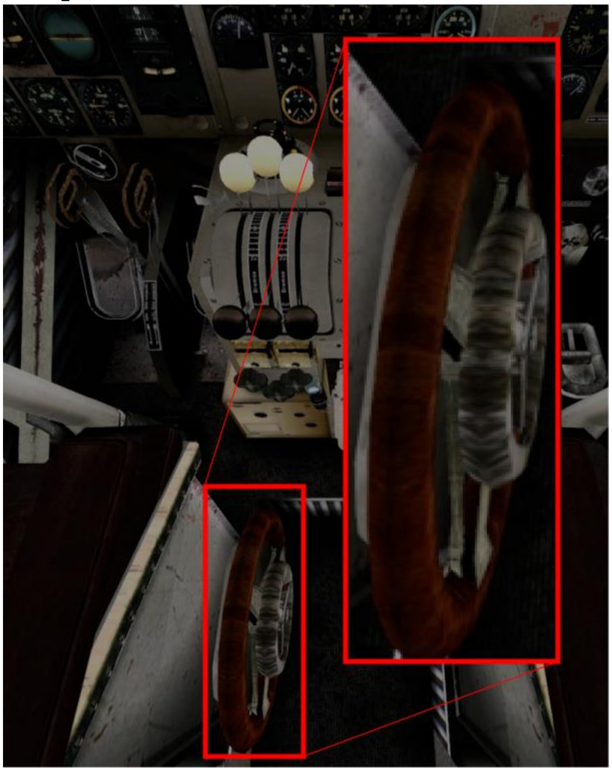
The ascent/descent rate is displayed in meters per second (m/s).
1 m/s corresponds to approximately 197 feet per minute.

Additional displays:



1 = Speedometer (revolutions per minute of the three engines); please do not ask me why the display for engine 2 has a different scale.
2 = Manifold pressure
3 = Oil temperature
4 = Left needle fuel pressure, right needle oil pressure.

Elevator trim and landing flaps:
There are two adjustment wheels on the side of the pilot's seat.
The large wheel is for elevator trim.
The small wheel is for the landing flaps (called "adjustable flaps" on this aircraft).



Spoiler alert!

Here are some tips that you may not want to know on your first flight.

The tips are structured, so you can read them slowly from top to bottom.

Here is a brief overview:

0) General information about Piz Segnas and the strength of the downdraft.
1) The downdraft at Piz Segnas can be made visible.
2) If the mixture setting is incorrect, where can I see this?
3) If the engines lose oil, the oil pressure drops.
4) More severe conditions: What conditions apply?
a) Excessive speed (over 260 km/h) leads to aircraft damage. What kind of damage?
b) The engine loses significant power if the mixture setting is incorrect.
5) If the Ju52 is simulated realistically...
6) Problem 1 offers several variants.

Spoilers ahead!

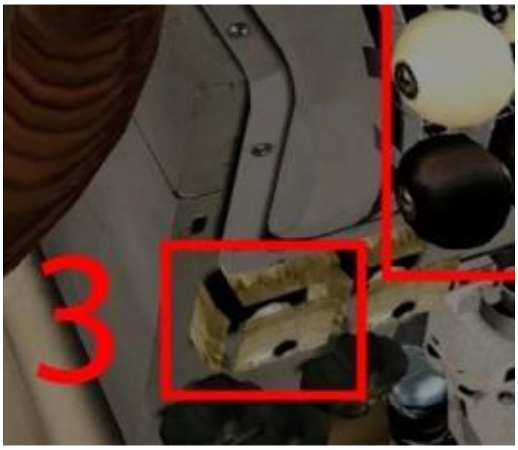
0) General information about Piz Segnas:

In problem 2, the downdraft at Piz Segnas is stronger (-10, normally only -8 m/s).

So don't be surprised if the aircraft suddenly descends more sharply than usual.

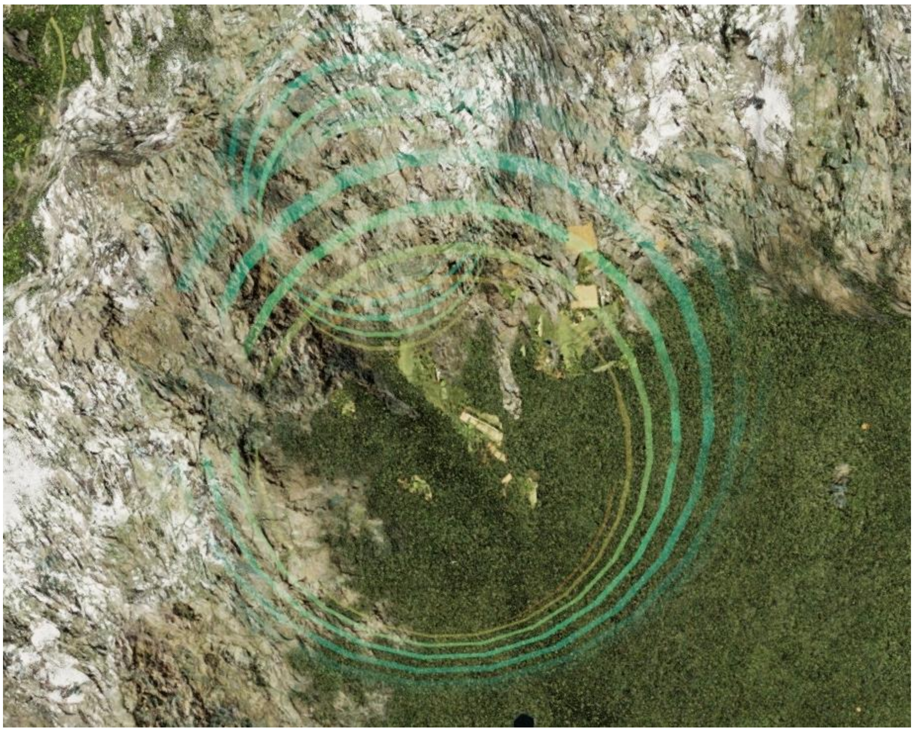
1) Downdrafts at Piz Segnas can be visualized:

At Piz Segnas, you fly into a downdraft and immediately afterwards into an updraft.
When you switch on the “Instrument Panel Light” (overview, point 3),



the thermals are made visible with spirals.

View from above:
Large spiral downdraft, small spiral updraft.



2) If the mixture setting is incorrect, the best way to see the loss of power is on the speedometer (other indicators, point 1).

3) If the engines lose oil, the oil pressure drops. You can see this clearly in the (further displays, point 4) (right needle on the displays).

4) More severe conditions:

a) Excessive speed (over 260 km/h) causes damage to the aircraft.
- If you fly faster than 260 km/h for 10 seconds, the right wing takes 10% damage. This means that it generates less lift, causing the aircraft to drop slightly on the right side. You can easily compensate for this with the control wheel.
- 30 seconds above 260 km/h: The wing suffers 25% damage.
- 50 seconds above 260 km/h: The wing suffers 50% damage. With this amount of damage, it is very difficult to land the aircraft safely.

At high airspeed, you can still compensate for the wing drop relatively well. As the aircraft slows down to landing speed, the wing drop becomes more pronounced, so you have to turn the control wheel almost all the way to the left. You can maintain the flight direction to some extent using the rudder (push the right pedal forward). Good luck with the emergency landing.

b) The engine loses significant power if the mixture setting is incorrect.

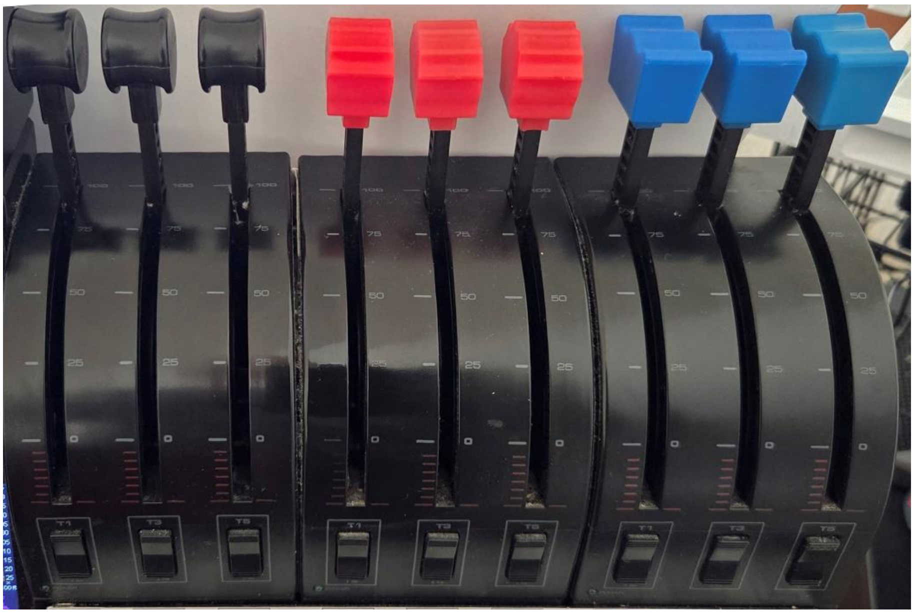
In my opinion, the loss of power due to incorrect mixture settings is not simulated correctly in the Ju52. Even with a severely incorrect mixture setting, there is hardly any noticeable loss of engine power.

At an altitude of 2300 m (7500 ft), the Ju52 flies at 190 km/h with the correct mixture setting (47%, i.e., lean) and 50% power.
- If the mixture setting is incorrect (100%, i.e., rich), only 8% more power (power lever position at 58%) is required to maintain 190 km/h.

That's why I solved it in such a way that cylinders in the engines fail if the mixture setting is incorrect. If the setting is corrected, the failed cylinders will work again.

At 945 m (3100 ft), the mixture should be set to about 60%. At more than 70% or less than 50%, cylinder 1 of the respective engine fails, resulting in a noticeable loss of power, which can be easily compensated for by increasing the power.
- At 2300 m (7500 ft), the mixture should be set to about 47%. At more than 55% or less than 40%, cylinder 2 of the respective engine will fail.
- So if you are flying at an altitude of 2300 m with a 100% mixture, cylinders 1 and 2 will fail. Even at full throttle, it is almost impossible to maintain altitude, let alone a cruising speed of 190 km/h.

If you have two or more throttle quadrants, it is possible that not all engines will lose power if the mixture settings are uneven.



5) If the Ju52 is simulated realistically...
At the time of the accident, the 79-year-old Ju52 no longer achieved the flight performance specified by the manufacturer in tests. For this reason, the aircraft should have been flown with care.

I took the following data from Appendix A1.6 of the SUST final report:

The engines had different operating times at the time of the accident.

Engine	Hours	Days
1	5687	237
2	7036	293
3	8228	343

During the last overhaul, the engines achieved different values. Actual values:

Actual values:		
Engine	RPM	HP
1	1996	666
2	2030	711
3	2038	708
Target values specified by the engine manufacturer:		
1	2050	725

Engine manufacturer's	RPM (U/min)
Increased short-term power 1	2050
Increased continuous power 30	1975
Continuous power	1930
Cruising power	1860

Unfortunately, the simulated Ju52 shows completely different speeds:
Full power (= increased short-term power) 2200 RPM and more. At 1860 RPM, it is almost impossible to keep the aircraft in the air, let alone reach cruising speed.

That is why I did not make the overload dependent on the RPM, but on the power levers.
Because the engines achieved different power ratings during the last overhaul, I also used different values for overload in this simulation.

I had to find a compromise between:
- Short flight time of only 60 minutes
- Increased short-term power for 1 minute (according to the manufacturer, up to 5 minutes at a flight altitude above 900 m)
- Increased continuous power for 30 minutes
- Sufficient failures (in this short flight time)
- Nevertheless, the flight should be completable.

At 50% power, you can reach about 190 km/h, even when climbing slightly. That's why I installed it for overloads of more than 55%.

The table shows the various failures:

Engine	Power %	Time	Cool-down	1. Problem	2. Problem: Time | Failure
1	>90	1 min	1 min	Oil leak 1%	
1	>55	10 min	2 min	Oil leak 2%	After another 10 minutes | Fire: Result of engine failure
2	>90	2 min	1 min	Cylinder 3 failure	
2	>60	15 min	2 min	Cylinder 4 failure	After another 15 min | Failure of cylinder 5
3	>90	1,5 min	1 min	Cylinder 3 failure	
3	>65	5 min	2 min	Oil leak 2%	After 25 minutes, the oil leaked out | Result: engine failure

- **Power** (in percent): **>55** means that the power lever is set to more than 55%.
- **Time** means: **Engine 1** can be operated at more than 55% (**>55**) for **10 minutes**.
- **Cool-down** time means: If **engine 1** has been operated at over 55% (**>55**) power for 8 minutes, for example, the motor recovers after **2 minutes** of operation at less than 55% (**<55**) power. After that,

full power can be drawn again for a full 10 minutes.
- However, if the first problem **(1. Problem)** (**oil leak 2%**) has occurred, the second problem **(2. Problem) (fire and engine failure)** will definitely occur after **10 minutes**, even if the power is back below 55%.

As you can see, engine 1 is the weakest of the three engines. If this engine is overloaded, for example because the mixture setting is incorrect and therefore more than 55% power is drawn for a longer period of time, this engine will be the first to fail.
This can lead to a chain reaction because the remaining engines now have to deliver more power. The result is a loss of power due to cylinder failure, which in turn leads to a further increase in power for the remaining engines.

If this happens before Piz Segnas, it will be difficult to fly over the pass. You may have to make an emergency landing somewhere.
If you have managed to fly over the pass, the Ju52 should make it to Dubendorf.

6) Problem 1 offers several variants.
- Problem 1 occurs quite early, before the turn-off to the Blenio Valley.
- You can decide whether you want to fly back to Locarno or land in Ambri.
- If you decide on Ambri but then fly at the turn-off to the Blenio Valley, further problems will arise.
- If you have already flown into the Misox Valley towards the San Bernardino Pass before the problem occurs, you should turn back when the problem arises. Alternatively, you can continue flying, but further problems will arise.

In any case, it is possible to land safely in Ambri or Locarno. Just try out all the options.

I hope you enjoyed this flight, if so please give feedback to p3d@andi20.ch . Also send error messages (spelling mistakes, wrong information, etc.) to p3d@andi20.ch, I appreciate any feedback.