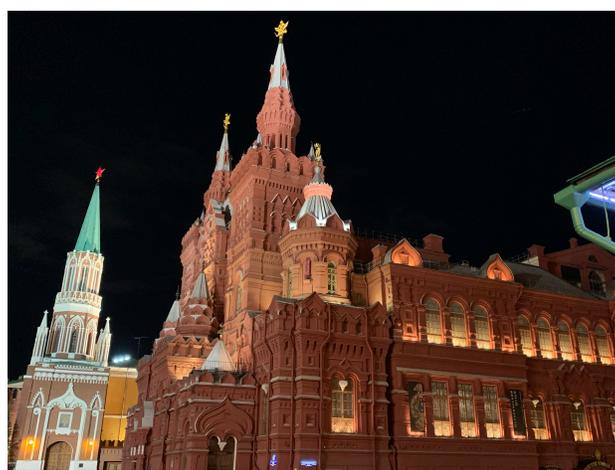
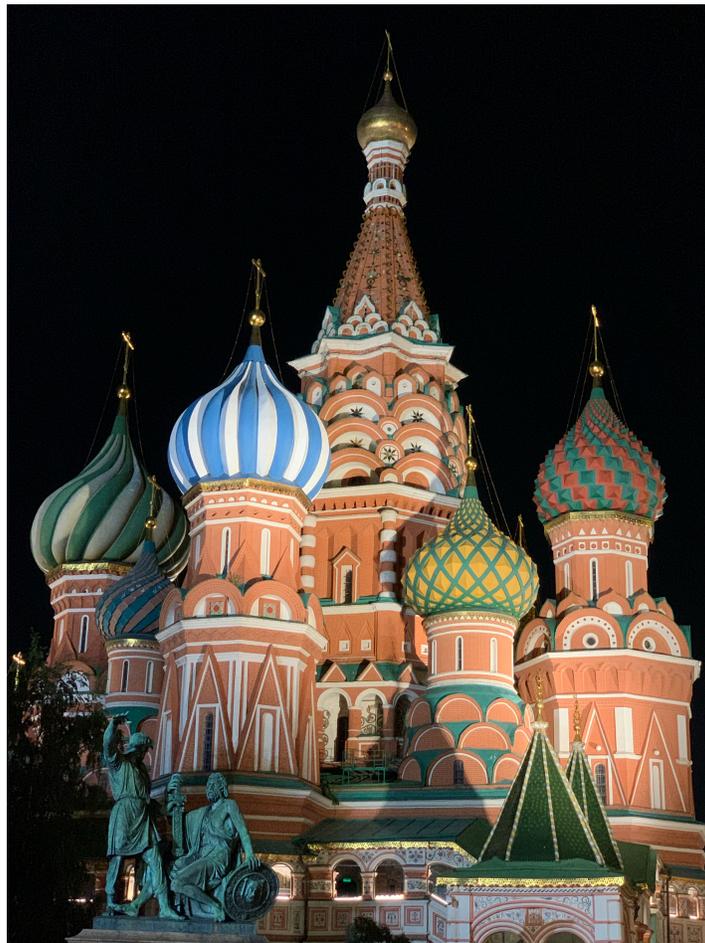


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# Russia

St Petersburg to Moscow

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## **ULLI St Petersburg to UUBM Moscow - emergency diversion to UUBW Moscow**

360NM Short flight of around 1:40hrs

We left the apartment at 9am for a 40 minute drive to the airport- by 11:50 am we were ready to start the engine.

What happened in between that time frame was a lot of messy disorganised, poor instructions and people with “authority” blocks. First we couldn't find the crew security gate. Then the check desk couldn't understand why a foreign crew would not be using the International entrance to airside - we are a domestic flight, our flight ops got on the phone to them and explained in Russian the reasons and provided our clearances.

After all of that confusion the crew bus took us to our lonely aircrafts sitting in their remote parking. After we learn that the reason our aircrafts were ushered to park so far away from operations is due to a complete block on all flights into St Petersburg on that arrival day, it was expected that the President was to fly into the area and normal operations are suspended on these occasions, also our delayed arrival caused a lot of complications and the airport really did the best they could without actually cancelling our permits to fly in.

Fuel truck was next and funnily enough the same guy that tried to help us when we arrived and were stranded was the refueller. The departure was smooth from there on.

Alex & Martijn in their SR22 having already taken off were ahead of us in the air and they also report a smooth takeoff and everything ok, we are on the same frequency by the time we reach our first waypoint.

Above the clouds and unable to see anything but small glimpses of the landscape flying south of St Petersburg.

On cruise level of 310 FL we get a message SDF ALTITUDE MIS-COMPARE, at first we were not too worried as we had had this before and it was just a sensor but when Amir checked ADC #1, the mis-compare was not consistent, it was fluctuating up and down then climbing, a lot! - that was strange. The altitude reaching 31,400 feet (the SF50 is only certified to 31,000 feet) - Then all of a sudden we get an over speed warning and the warning systems start to go off! There is now a SDF Altitude and Speed mis-compare, we commence descended immediately as we are in RVSM airspace and not allowed to fly manually in this airspace. We cannot trust the airspeed and altitude readings - the auto pilot is reading from an instrument that is probably incorrect. The

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airspeed climbs up and indicates 233 knots the Auto Pilot thinks we are going to fast and can break the aircraft. Still trying to descend - we get another warning announcement "OVERSPEED WARNING \_ OVERSPEED WARNING!" and the auto pilot announces "ENGAGING AUTO PILOT, OVER SPEED" the auto pilot engages and raises the nose of the aircraft very aggressively, fighting Amir's efforts to descend and the auto pilot also reduced the thrust power to 3%. He disengages the AP, and changes to the ADC#2 which appears to be showing the correct air speed reading of 144 knots, he continues to descend flying by hand. We need to get to 28 000 feet at least to be out of RVSM airspace. Amir asked the air traffic controllers to callout our airspeed and altitude and provide direction heading (direction on compass ) to follow eg: heading 140. This went on for over 20 mins as we continued to descend through. Each radio frequency we were passed through the ATC kept calling out our radar detected ground speed and altitude. I also checked our GPS indicated altitude and ground speed each time on the iPad Foreflight application. Out of the 3 instruments that measure Altitude and Air speed - 2 were in sync and the ADC #1 was not. ATC can only provide ground speed not actual airspeed. Continually all the way to 8000 feet the altitude was providing false reading up and down sometimes indicating a 5000 feet drop and spinning back up to plus 5,000 and the airspeed was constantly indicating over speed- the AP fighting against Amir and auto engaging to correct over speed. Eventually Amir had to permanently disengage the auto pilot by pressing on the disengagement button for over 30 secs. This unfortunately also disengages the parachute deployment systems - that added another warning on the avionics. By the time we got to 5000 feet, all the systems came back and were working fine. We had already declared "Pan Pan" and diverted to a different airport so we continued to land at that alternative airport. Amir thinks the static port sensors have water stuck in them and have iced up, giving incorrect readings. There was a lot of rain when we were parked in St Petersburg. We land safely at UUBW just 36 km from Moscow and only 12 km from our original destination airport. This airport and runway is the 2nd longest in Russia at 4600m it was built for the Russian spacecraft. The ground staff there were very excited to see us and tell us we made their day. (I'm glad someone is having a good time ....) Checking over the aircraft everything seems to be OK, we notice a lot of water pooled under the drains and inspection covers under the baggage compartment door we think this maybe the culprit.

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We ask our flight ops to lodge another flight plan to our original destination UUBM and we will continue onto the airport we had planned.

We take off to 1000 feet, take a spectacular right hand turn to head to the originally planned airport just 6NM, it is a VFR visual approach, the avionics don't have any data for the small general aviation airport so off again go all the warnings- the TAWS (terrain awareness system) voice calling out - "TERRAIN PULL UP!!" All the avionics are Red not recognising this as a runway. We are having quite a day!

A call to Cirrus and a discussion with the experts tell us that it does appear that there was more than likely water in the static sensor that iced up, they confirm that the water is designed to flush automatically and the landing at the 1st airport and the next takeoff and landing would have certainly cleared it. However Amir is advised to do the next flight in full visual conditions and take the altitude at stages ensuring each stage to check the static systems. This means we have a little more time in Moscow and we use this time well by visiting the Kremlin inside after all how could we go to such an incredible city without a visit to one of the worlds most historically significant places.

We stay at the Savoy Historical Hotel established in the early 1900 the hotel has seen many turbulent times and hosted many distinguished guests, it is just a short walk to the Red Square and the centre of all the highlights that Moscow has to offer.

Alex and Martijn continue on with their SR22 after a few nights as they have fair weather, so they leave us in Moscow to wait for our next weather break. We need to ensure we have good weather and visual conditions to fly the next few flights to test the avionics to see if the obstruction has cleared.



**What do pilots do when they are in the bus to their planes? Take photos of other planes of course.**

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Middle photo: Inside the Church of Archangel in the Kremlin- tombs of the past Tzars including the Romanov and Ivan the Terrible.

End photo: GUM department store, originally was only for party members.