

Mothballs & Maintenance: The Risks of Long Term Storage

OPSGROUP Team
2 February, 2021



It's a strange time for aviation right now: closed countries, fewer passengers, and a lot of aircraft being moved into hangars – not to see the sky again for some time. The long-term storage of aircraft is leading to some unforeseen issues...

We reported on some these before, but we thought now might be a good time to give another quick summary because **aircraft are starting to fly again** – in particular the 737 Max which is back in the skies of Canada, the US, and soon Europe as well.

The Dangers of Long-Term Storage...

There have been a lot of incidents attributed to aircraft coming out of long-term storage. Wizzair fell foul of some bugs in 2020, an Aeroflot had a bit of a mishap after it was only partially ready to go back flying...

Both the US and EASA safety regulators have **raised concerns about certain issues for aircraft coming out of long-term storage**, so in case your airplane is currently stashed away, read on.

Nesting Nasties

We mentioned this one before, but with Covid dragging on, we figured it might be worth a reminder.

It sounds nightmarish, but insects have been known to build lairs deep inside aircraft probes, where even the most eagle-eyed walk-around check might not spot them.

And these critters have led to an alarming trend of **airspeed problems for aircraft new out of storage**.

Check out our earlier article on the risks of this here, and be sure to do an **in-depth check** of your aircraft's nook and crannies before taking to the skies again.



Wasps, bugs, beetles... all kinds of nasties in your nooks and crannies

Batteries Not Included

Aircraft with **Nickel-Cadmium batteries** (which is most of them, unless they have newer lithium ion ones) are suffering from **premature power loss**.

Embarrassing for the batteries, and dangerous for the pilots.

When disconnected, these batteries can lose their capacity, and when they are plugged back in again, they might not regain it – leading to **a lot less time of usefulness** that you think you have.

A battery not providing the performance you are expecting on that already bad day when you drop down to emergency power levels, is going to make it a really, really bad day...

What can you do? Well, EASA recommend that aircraft approval holders work with battery manufactures to check out this new found phenomenon, but in the meantime – if you are waking your airplane up from a long term hibernation, make sure its ticker is ticking properly with **a full maintenance check**, before you head out for a spin.



From the classic 1987 movie 'Batteries Not Included'

Clean as a Whistle

Disinfecting is big right now, what with this old pandemic thing. But a lot of the cleaning agents that can kill Covid, can also **damage your airplane**.

Damage to screens, fogging and misting from liquid pooling in out of sights areas, and some alcohol based substances 'crazing' up windows (alcohol crazes most of us up, but on windows it can cause fine cracks, and permanent damage) are all risks of using the **wrong cleaning fluids**.

There is also a chance long-term use of certain cleaning agents might start to corrode parts and **increase the flammability of the interior**, and even cause some shorting of the circuitry.

So, the FAA and EASA have issued guidance suggesting you **check which disinfectants are suitable for your aircraft type**. That seems sensible. Their recommendations on how to clean are here, and you can find links to anti-Covid approved cleaning agents that you can check with your aircraft manufacturer before spritzing your plane.

Check your flappers

Back in July 2020, the FAA issued an airworthiness directive for 737 Classics and NGs because, when stored for just 7 days, they can start to suffer from **corrosion on the Bleed Air 5th stage check valve**.

What's the risk here? Only a little case of **double engine failure**, according to the directive. Thankfully, they also recommend a fairly straight forward check to confirm your valve and its flapper plate are flapping as they should.



The poor A380 is not hangared so much as retired at this point

What else can you do?

EASA recommend operators carry out **extra checks when bringing an aircraft back into service**. These include engine runs, flight control manoeuvrability and brake checks.

To be safe, they suggest you do it on **20% of your fleet**, and to be extra safe, they suggest you consider flight checks on **the first 10% returning to the skies**. Don't rush these checks. It takes 3-5 days to ready an aircraft for long term storage, so it probably takes the same to bring them out again.

And don't forget about your pilots! Pilots don't fare much better in long term storage either. Like their aircraft, they need consistent use, and without it, you're going to have to spend a bit longer getting them airworthy again. (We would suggest you let them clean themselves though, and it's probably best not to ask how their flapper valve is functioning ☹)

Some other stuff to read

- IATA Operations Info
- FlightGlobal Airworthiness concerns



A sad site but the yards are filling up