

Measuring Aircraft Maintenance Availability

Rustom D. Sutaria – Avia Intelligence, Dubai, UAE, 2018

Aircraft availability is defined as all required maintenance is accomplished and the aircraft is airworthy, as defined by the regulations

When an aircraft is either scheduled for maintenance or is not available due to unscheduled maintenance, it cannot perform revenue flight segments. Aircraft availability is measured based on a percentage of days. To understand measurement better, here are 3 fundamental steps:

DEFINE AVAILABILITY

As mentioned above, Aircraft Availability is defined as:

"Where all required maintenance is accomplished and the aircraft is airworthy, as defined by the regulations and is considered "available" for flight."

The aircraft is "not available" for flight if it is undergoing:

- Scheduled or unscheduled maintenance,
- Damage repair,
- Embodiment of an AD,
- Interior or exterior refurbishment,

Where things get confusing:

The aircraft is being maintained or modified during times when the user(s) have indicated explicitly that the aircraft is not required. It could be argued that maintenance down days should not be scored as "not available".

THIS IS A BAD IDEA!!!

Taking this approach in effect "hides" the days the aircraft was in maintenance. In simple terms, the aircraft was in maintenance, but it doesn't show up in the reliability/availability data.

Hiding data in this way detracts from the value of this analysis as a tracking tool, since it distorts the true number of maintenance down days.

Our recommendation is to measure maintenance availability against the 24-hours-per-day, 365-days-per-year (calendar time) since this is the most comprehensive measure.



DETERMINE THE CATEGORIES OF MAINTENANCE DOWN DAYS.

We recommend as follows:

- Scheduled maintenance
- Unscheduled maintenance
- Interior/exterior cosmetic maintenance or refurbishment
- Airworthiness Directives
- Damage Repair



ACCURATELY & CONSISTENLY RECORD THE INFORMATION FOR EACH AIRCRAFT ON EACH DAY OF THE YEAR.

The information that needs to be recorded is the:

- aircraft tail number,
- number of hours that the aircraft was not available,
- detailed cause

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• Did "non-availability" have an this impact on a scheduled flight.

Once again, the chief benefit is that you will have hard information with which to:

- Analyze the benefits of switching maintenance schedules,
- Installing optional service bulletins that are supposed to improve maintainability/Reliability, etc.

You will also have the information the manufacturers and vendors need to judge the real-world impact of their maintainability and reliability programs and to make real improvements in these areas.