DISINFECTING AIRCRAFT

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With the rapid introduction of coronavirus disease 2019 (COVID-19), the airborne public safety community has been faced with many questions to ensure proper treatment and survival. One issue on many aircrew members' minds is how to disinfect their aircraft.

In my research, I've found no one document telling us exactly how to disinfect our aircraft. Much of the aviation-related documentation available deals with COVID-19-infected passengers, not aircraft themselves.

However, references and resources are available to help you protect yourself through aircraft cleaning. And while we are currently dealing with COVID-19, the suggestions are relevant to almost any virus coming along in the future. Future details will change regarding the etiology (cause) and pathophysiology (what happens to the body) of COVID-19, but the overall disinfecting advice will remain relevant.

ABOUT CORONAVIRUSES

Coronavirus is an umbrella term, and several viruses fall into the category. Coronaviruses are common in different animals, and an animal coronavirus can sometimes infect humans.

Some coronaviruses cause colds or other mild respiratory (nose, throat, lung) illnesses. Other coronaviruses can cause more serious diseases, including severe acute respiratory syndrome (SARS) and middle east respiratory syndrome (MERS).

Coronaviruses are named for their appearance. Under the microscope, the viruses look like they are covered with pointed structures surrounding them like a crown, or corona.

While the term coronavirus is an overall category, COVID-19 is the specific disease caused by the new coronavirus that emerged in China in December 2019. What we know about the virus so far includes:

1. Symptoms may be cough, fever, shortness of breath, muscle aches, sore throat, unexplained loss of taste or smell, diarrhea and headache.
2. COVID-19 can be severe, and some cases have caused death.
3. The new coronavirus can spread from person-to-person.
4. The virus is diagnosed by a laboratory test, and no vaccine is available yet.
5. Prevention involves frequent hand washing, coughing into the bend of your elbow, staying home when you are sick and wearing a cloth face

covering, especially if you can't practice social distancing.

We still have much to learn about this new coronavirus, SARS-CoV-2, which causes COVID-19. Based on what is currently known, spread from person-to-person happens most frequently among close contacts within about 6 feet via respiratory droplets. Studies indicate people who are infected but do not have symptoms likely also play a role in virus transmission.

Transmission of the novel coronavirus to persons from contaminated surfaces has not been documented. Transmission more commonly occurs through respiratory droplets than fomites—things like clothing, utensils, etc. But current evidence suggests SARS-CoV-2 may remain viable for hours to days on surfaces made from a variety of materials.

Cleaning and disinfecting visibly dirty surfaces is a best-practice measure for preventing COVID-19 and other viral respiratory illnesses in households and community settings. So, why clean surfaces when SARS-CoV-2 transmission from surfaces to people is undocumented? Because it also has not been 100 percent ruled out as a transmission method.

RESOURCES & RECOMMENDATIONS

"Cleaning" refers to the removal of germs, dirt and impurities from surfaces. The process does not kill germs, but by removing them, it lowers their numbers and the risk of spreading infection. "Disinfecting" refers to using chemicals, e.g. EPA-registered disinfectants, to kill germs on surfaces. The process does not necessarily clean dirty surfaces or remove germs, but by killing germs on surfaces after cleaning, it can further lower the risk of spreading infection.

The following resources provide recommendations on the cleaning and disinfecting of aviation elements on which the SARS-CoV-2 may be found. The recommendations are aimed at limiting the survival of the virus in our environment.

1. **U.S. Environmental Protection Agency (EPA).** EPA has created a valuable document titled "Products with Emerging Viral Pathogens and Human Coronavirus Claims for Use Against SARS-COV-2," which can be accessed at www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2. The document is recent, updated on April 8, and contains a lot of important information.

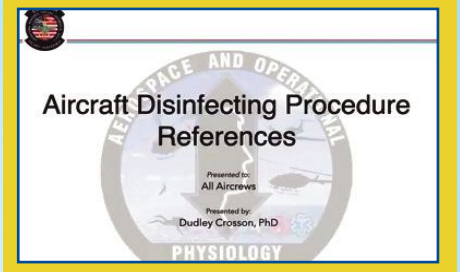
2. **Centers for Disease Control and Prevention (CDC).** CDC provides several documents worth consulting: "Updated Interim Guidance for Airlines and Airline Crew: Coronavirus Disease 2019," updated on March 4 and found at www.cdc.gov/quarantine/air/managing-sick-travelers/ncov-airlines.html, and "Preventing Spread of Disease on Commercial Aircraft: Guidance for Cabin Crew," found at www.cdc.gov/quarantine/air/managing-sick-travelers/commercial-aircraft/infection-control-cabin-crew.html.

3. **Federal Aviation Administration.** FAA offers no resource directly related to aircraft disinfection, but the administration provides a document for air traffic controllers titled "Coronavirus (COVID-19) Response General Cleanliness (Air Traffic Organization)," which can be found on the APSA website.

4. **European Union Aviation Safety Agency (EASA).** EASA has several documents public safety aviators may find helpful. "Interim Guidance on Aircraft Cleaning and Disinfection in Relation to the SARS-CoV-2 Pandemics," updated March 20, can be found at www.easa.europa.eu/sites/default/files/dfu/Interim-guidance-on-Aircraft-Cleaning-and-Disinfection.pdf. Another March release is "EASA Guidelines – COVID-19 Guidance for Continued Helicopter Operations In relation to the SARS-CoV-2 Pandemic," which is available at www.easa.europa.eu/document-library/general-publications/guidance-continued-helicopter-operations.

5. **National Business Aviation Association (NBAA).** NBAA has published "Aircraft Disinfection for the Coronavirus," updated March 16 and found at nbaa.org/aircraft-operations/safety/coronavirus/aircraft-disinfection-coronavirus/. The webpage also includes references to OEM-specific guidelines. While they are helpful, few differences exist between the various OEM procedures.

DISINFECTING IN ACTION



For more information on the resources mentioned in this article, see the video at https://tinyurl.com/y7lqwrgv. In the short video, APSA Aeromedical Liaison Dudley Crosson discusses several resources for properly disinfecting aircraft.