Covid 19

SUPER MANUAL

Members guide for **pilots**, **dispatchers**, and **aircraft operators**.

With checklists.

SuperManual instructions for use

Instructions for **Borgs**:

Instructions for **Humans**:

Copy, paste and adjust to your hearts content.

This **Covid** *Supermanual* is a collaborative effort by the members of OPSGROUP, also known as humans. We pooled our resources, shared our own manuals (100 or so went into this) and made **one big thing** that might be useful to us all. For most of the procedures, this is just 'what other people are doing'

We've written it in *manual-ese*, so that you can copy chunks, adjust to your own needs, and paste directly into your own manual. Some bits will apply to your operation, and some won't. Use your human superpowers to assess. Check the left column for **source** citations, so you know the advice is legit. If you want an editable Word version, so you can make it your own, just ask the team.

It's just a PDF, but it's **alive**! This is version **0.9**. Not quite finished, but getting there. If you want the next version, here's how it works: send us your latest manual changes, we update this thing, and ping you when we have a new copy. Questions? **team@ops.group**.

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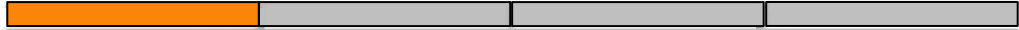
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Before we go flying

Coronavirus disease (Covid-19) is an infectious disease caused by a newly discovered coronavirus. Most people who fall sick with Covid-19 will experience mild to moderate symptoms and recover without special treatment.

The virus that causes Covid-19 is mainly **transmitted** through droplets generated when an infected person coughs, sneezes, or exhales. These droplets are too heavy to hang in the air, and quickly fall on floors or surfaces.

You can be infected by breathing in the virus if you are within close proximity of someone who has Covid-19, or by touching a contaminated surface and then your eyes, nose or mouth.
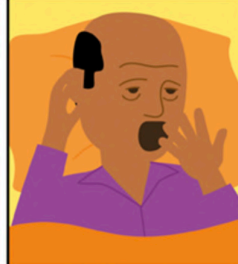
The **most common symptoms** of Covid-19 are fever, dry cough, and tiredness. Other symptoms that are less common and may affect some patients include aches and pains, nasal congestion, headache, conjunctivitis, sore throat, diarrhea, loss of taste or smell or a rash on skin or discoloration of fingers or toes. These symptoms are usually mild and begin gradually. Some people become infected but only have very mild symptoms.

Most people (about 80%) recover from the disease without needing hospital treatment. Around 1 out of every 5 people who gets Covid-19 becomes seriously ill and develops difficulty breathing. Older people, and those with underlying medical problems like high blood pressure, heart and lung problems, diabetes, or cancer, are at higher risk of developing serious illness. However, anyone can catch Covid-19 and become seriously ill.

Source: WHO [1]

Source list at end of this document, after Checklists.

What are the common symptoms of COVID-19?

A dry and continuous cough. | Fever, where your chest or back feels hot. | Tiredness. | Other flu-like symptoms (sore throat, aches, runny nose).

Precautions

Off duty crew and staff

Working in aviation, your risk is elevated. But when at home, you must also protect yourself and colleagues - you can reduce your chances of being infected or spreading Covid-19 by taking some simple precautions:

Regularly and thoroughly **clean your hands** with an alcohol-based hand rub or wash them with soap and water. Washing your hands with soap and water or using alcohol-based hand rub kills viruses that may be on your hands.

Maintain at least 2 metres (6 feet) **distance** between yourself and others. When someone coughs, sneezes, or speaks they spray small liquid droplets from their nose or mouth which may contain virus. If you are too close, you can breathe in the droplets, including the Covid-19 virus if the person has the disease.

Avoid going to crowded places. Where people come together in crowds, you are more likely to come into close contact with someone that has Covid-19 and it is more difficult to maintain a physical distance of 2 metres (6 feet).

Avoid touching eyes, nose and mouth. Hands touch many surfaces and can pick up viruses. Once contaminated, hands can transfer the virus to your eyes, nose or mouth. From there, the virus can enter your body and infect you.

Make sure you, and the people around you, follow good respiratory hygiene. This means **covering your mouth and nose with your bent elbow or tissue when you cough or sneeze**. Then dispose of the used tissue immediately and wash your hands.

Stay home and self-isolate even with minor symptoms such as cough, headache, mild fever, until you recover. Have someone bring you supplies. If you need to leave your house, wear a mask to avoid infecting others. Avoiding contact with others will protect them from possible Covid-19 and other viruses.

If you have a fever, cough and difficulty breathing, seek medical attention, but call by **telephone in advance** if possible and follow the directions of your local health authority. National and local authorities will have the most up to date information on the situation in your area. When you can, **report your illness to the Flight Operations department**.

Keep up to date on the latest information from trusted sources, such as WHO or your local and national health authorities, and your Flight Operations department. If you are sick, **do not travel via jump seat**, deadheading, or as a regular passenger.

Source: WHO [1], distance increased to 2 metres based on most states advice of safe distance.
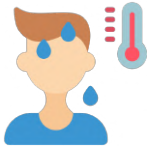
Going to work

Return to work from illness

Any employee who is sick, in quarantine, or has tested positive for Covid-19 will require company approval to return to work.

Check your health before going to work

If you notice any symptoms that might indicate a Covid-19 infection, pay close attention. If you can, take your temperature – readings above 38° C or 100.4° F indicate a fever, but coughing, any difficulty breathing, shortness of breath, tiredness are also indicators of a Covid-19 infection. In the 48 hours before a trip, or going to work, take twice daily temperature readings. For Flight Crew, see **Fit to Fly** guidelines further on.

Be honest with yourself. Err on the side of caution and do not come to work if you are feeling unwell in any way. Inform the Flight Operations department as soon as you can.

If you have had close contact with someone with Covid-19, you should not go into work. Think back over the last 14 days, consider any events, contacts, happenings. You may have Covid and not know it – many cases are asymptomatic.

Avoid public transport entirely. Travel to work or the airport only in private transport where you can, avoid Uber/Lift if possible.

US crews: If you are screened for Covid-19, standardized screening by a health care worker as part of normal operations would not constitute a reportable visit to a Health Care Professional on question 19 on the FAA medical application. Likewise, self-quarantine for failing a screening test is not a reportable event. If someone tests positive for Covid-19 and seeks treatment from a Health Care Professional, that would be a reportable event for the next FAA physical.

Source: CDC, WHO, FAA. Each person's fever temperature is a little different, but 38° C or 100.4° F is a useful threshold [2]

Source: US ALPA [5]

Illness at work

If you become ill at work, follow the normal procedures you would in ordinary circumstances. If you suspect the illness is Covid-19, inform your manager, go home, self-isolate, seek medical treatment and testing according to national guidance.

Flight Crew: see the Flying section for In-flight illnesses.

USA: Managers should be aware of the HIPAA privacy rules; the identity of any person with an illness at work should be protected and not shared with others. An individual's health status related to testing positive for Covid-19 is considered Personal Health Information.

Source: HIPAA [3]

Ground Staff: Dispatch and Flight Operations

For any staff that can, the preference is to **work from home**.

For staff required on site:

- Wipe down computer and accessories with disinfecting wipe before end of your shift, and once or twice during your shift.
- If there is no need to present a **handover** to incoming colleagues, and continuous presence at a position is not required, shifts should be scheduled with **no overlap**, to decrease the number of people present and prevent any possible transmission. For example, end one shift at 1.50pm and start next at 2pm.
- If you can give a handover by phone to the incoming person, do that instead of face to face contact.

Ensure common areas, break rooms, and lavatories are sanitized regularly. Make hand sanitizer available. Request people to disinfect their own table, counter etc. after each use. Add signage to remind about hand washing, etc.

Flight Crew: Pilots and Flight Attendants

Fit to fly

In additional to the normal "Fit to Fly" guidelines, this is a consideration for Covid-19.

If you answer **YES** to any of these questions, you are not "Fit to Fly":
- Do you have any respiratory illness symptoms, cough or fever over 38° C or 100.4° F?
- Have you experienced muscle aches or new loss of smell?
- Have you recently been exposed to anyone diagnosed with Covid-19?

License, Medical and Recency

It is each crew members responsibility to ensure licenses, medicals, and recency/currency requirements are up to date.

Aviation Authority Relief has been granted for many situations, and you should check how this relates to you.

Length of time since operating ("Getting back in the game")

Even if you meet all the recency requirements, you might still be "stale" after an extended period on the ground. Before returning to fly, bring yourself up to speed on aircraft and operating knowledge as best you can. Consider these areas and documents:
- Operating procedures
- Aircraft Performance specifications and limits
- Normal, abnormal, and emergency procedures
- Flight Manual

Keeping aircraft and crew current and ready for operation

Company aircraft shall be used for crew to comply with regulatory recent flight experience. Using actual aircraft will also enhance proficiency over usage of the simulator. Additionally, using company aircraft has the benefit of avoiding risk of exposure at simulator training facilities. The chief pilot and schedulers will work with maintenance to pair pilots approaching currency expirations with aircraft that need flight cycles.

Regardless, aircraft be flown every 8-10 days to keep the pilots current/proficient and the aircraft ready should a pop-up trip arise.

During proficiency/currency flights crews are encouraged to fly a full instrument procedure to maximize the instrument and landing proficiency.

For any aircraft that haven't flown, maintain flight ready status of fleet by scheduling 14-day ground runs, interval charges on battery systems, and maintaining database loads. The maintenance manager will work with the chief pilot and schedulers to schedule flights with pilots requiring landing currency.

Reduce the future down time of aircraft by completing early inspections and maintenance item compliance to alleviate down time when flight demand increases.

Training vendors, travel, and events will be scheduled to minimize unnecessary exposure. Distance learning will be considered to minimize exposure.

Wellbeing and Mental Health – We are all HUMANS!

There's one thing we can agree on universally: Covid-19 is challenging for all of us.

First, remember, **you are not in this alone**! Whatever you are feeling, we are too.

We know you may have anxiety associated with contracting the disease or transmitting the disease to members in your community or your family.
We know you may concerned for your livelihood.
We know you may have physical fatigue as a result of increased flight assignments, longer duty days and decreased rest periods; and increased mental fatigue associated with the continual monitoring of electronic news feeds and around-the-clock news programs.

How to find calm amongst the crisis: Covid Care tips for everyone

Sleep. Nothing is more critical than getting a good night's sleep. Some tips for helping with this:
- Gently put away your electronic devices 30 minutes to an hour before bedtime. Staring at a blue light-radiating device before you go to bed can serve as an alert stimulus that will frustrate your body's ability to go to sleep later. Don't sleep with your phone in your bedroom, find another part of the house to put it to bed.
- Keep your bedroom dark, quiet and cool
- Avoid caffeine after 2 p.m. Caffeine hinders our ability to fall asleep at night – so does alcohol.
- Take a hot bath with Epsom salts before bed to help calm your mind and body. Don't exercise too close to bedtime, ideally not after 6pm at all.
- Try reading a fiction book to fall asleep. Reading a story sends a signal to your brain to switch off the problem-solving mechanism.
- If there are things repeatedly worrying you, write them down in a notepad. This tells your brain you've done something about it, and consider them taken care of for now.

News Media. Take a break from watching the news. There's a fine line between staying informed and feeling overwhelmed by the news. Research has shown that as people's media exposure increases, so does their distress. Social Media can have the same effect.

Meditate. If you haven't done this before, now's a perfect time to start. Meditating is simply sitting quietly, and being aware of your breathing. Slowly, you'll start to feel your thinking quieten. If you do this in the morning when you get up, start with 5 minutes a day for a week, and then extend that to 10 minutes. That's all that's needed, and it will make a difference. The more we can stay in the present — not bogged down in thoughts or reactivity — the more we are able to take life in stride. Whether we're feeling challenged by circumstances or frazzled by tech, meditation can provide a reset for the mind through a graduated path of learning in both awareness and compassion. Start with an app like **Headspace** or **Calm**.

Exercise Even a ten minute walk can change your feelings and perspectives. Going for a run is even better.

Eat well Especially on the road, it can be tough to find good food. But this is another key factor in your wellbeing and health. Also, hydrate well.

Chief Pilots and Flight Crew Managers

Consider the potential for reduced performance due to loss of routine, fear, uncertainty, stress, pressures, distraction, complacency, and physiological and psychological reasons.

If you have a small team, **make a phone call** to members of your crew. Staff returning to work after a period away from the job will appreciate this, and it gives you a chance to discuss any human factor issues. Even your most seasoned professional crews will be feeling challenged in this environment.

No crewmember should be compelled to fly unless comfortable to do so.

Be Kind

Our Flight Operations team cares about you, your health, safety, and wellbeing. Even though we have to add all these new procedures because of Covid-19, we can apply them in a sensible, caring and thoughtful way. Your position comes with responsibility to take precautions, but to apply those precautions with humanity.

Treat everyone – colleagues, crew, and passengers with kindness, care and respect. Everyone is affected by this situation in some way, and many are worried or anxious. Everyone is likely to have a personal situation that you don't know about, concerns for relatives and loved ones. **See what you can do to brighten someone's day in all of this.**

Stressful situations may pop up during the flight. Take a moment, take a few deep breaths, relax, and remember that we really are all in this together.

You're doing great, keep going!

Be Kind: It's government advice.

Planning a flight

Check viability of the planned flight

As soon as a flight or trip is notified to dispatch, complete normal procedures for trip planning, but with the following considerations.

- The usual sources of information may be **outdated or unreliable**. Treat each piece of information with caution and verify any critical items.
- The best information on the current situation will come from the **FBO or Ground Handler** at the destination. Contact them early, email or phone, and check Airport opening hours, ATC availability, passenger and crew rules, and get confirmation that planned flight is likely to be able to operate.
- Check Notam's carefully, both for destination, alternates, and the encompassing FIR's, for any restrictions that might affect the flight.
- Review **safety and security** of the flight carefully. News media has covered Covid developments to the detriment of reporting other events. Security issues may be present. Review safeairspace.net for overflight risk.
- Usual **permit rules still apply** for international flights. Use the OPSGROUP Permit Helper (https://ops.group/permit) for full requirements and information.
- Conduct a thorough risk assessment as per normal protocols, but consider how Covid-19 may affect routine procedures.
- Review OPSGROUP alerts (Daily Brief) for important changes in airspace and equipment requirements. For example, North Atlantic: Non-datalink mandate compliant aircraft may flight plan and operate between FL290-410 until June 30, European ADS-B mandate postponed to December 2020.

Planning Considerations

In addition to the normal considerations at the planning stage, consider these as they relate to Covid-19:

- ATC facilities and Airports can close or reduce hours at **very** short notice, and may not be notified correctly by Notam. Note the extended night closures at US airports affecting business aviation.
- Usual **runways may be closed** or unavailable, due to parking of stored aircraft.
- **Delays** are more likely than normal, as each person in the supply chain is operating under unusual circumstances.

- Some locations and countries have strict **14 day quarantine rules** that also apply to aircrew. In most cases these are cancelled on departure, but ensure there are no rules that might cause a crew member to 'get stuck'.
- Plan sensible extra fuel to allow for possibility of reroutes, ATC zero events, and airport closures or delays.

Travel disruptions are occurring across the world due to the Covid-19 outbreak. Disruptions include countries restricting or suspending passenger flights, closing borders and ports, and suspending issuing visas. These measures range in scope, with some only applying to travelers who have been to certain countries, while others apply to all travelers. Countries are continually updating entry/exit restrictions, often times without notice.

Furthermore, airports across the world are experiencing flight disruptions due to protocols and issues from Covid-19. These disruptions are likely to continue in the near future and are subject to change as the situation is fluid, but include:

- Countries restricting or suspending passenger flights
- Closing borders and ports
- Suspending issuing visas
- Mandatory quarantines increasing
- International flights are still happening – but the complexity level is higher and it's changing daily.
- It's possible to come up with creative solutions depending on the mission.
- These measures range in scope, with some only applying to travelers who have been to certain countries, while others apply to all travelers.

See Appendix for Dispatch resources: Planning

Crew pairings and planning

All effort will be made to group crew members together (Pilots and Flight Attendants) assigned to multiple trips and type aircraft in an effort to limit the potential viral risk exposure of other crew members. Rotations of crews will be dependent on aircraft demand. Pilots and Cabin Crew are to be rostered as a constituted crew wherever practicable.

On shorter leg trips and when feasible, fly **without a Flight Attendant** to minimize crew/pax exposure. PIC will ensure a thorough passenger safety brief is given.

Dispatch should ensure there are adequate **standby** crewmembers available to relieve any crewmember in the event they are unable to fly.

Crew members that aren't willing to fly should not be forced to. Mental capacity should be available for operational decision making, not for worrying about Covid-19.

Aircraft Cleaning and Preparation before flight

Aircraft will be subjected to deep cleaning and disinfection at least once in 24 hrs, after the last flight of the day and before the first flight of the next day. This activity may be dispensed with on non-flying days.

Disinfection and deep cleaning will be carried out under the supervision of the maintenance agency only by using substances suitable for aviation use. Suitability of the substances will be checked against the aircrafts manufacturers documentation.

Clean the aircraft as per the guidelines in the "After Flight" section.

Risks relating to Hand Sanitizers

Hand Sanitizers – fire risk

In a documented case in May 2020, an individual suffered first and second degree burns when they made contact with a metal surface and a static discharge ignited the still wet hand sanitizer. Hand sanitizer gels contain large concentrations of alcohol. Once the hand sanitizer is applied, individuals must make sure the gel has suitable time to dry. Alcohol vapors can ignite if exposed to an ignition source, such as light switches or cigarette lighters. Crews should be made aware of this risk, especially in the aircraft operating environment.

Dangerous Goods exemption requirements

Source: IATA, guidance on Covid-19 Dangerous Goods [4]

Alcohol-based hand sanitizers are **classified as dangerous goods** and are not specifically permitted by the IATA Dangerous Goods Regulations and ICAO Technical Instructions for the Safe Transport of Dangerous goods by Air (DGR 2.5, ICAO Technical Instructions Part 1;2.2) .

Operators that wish to add alcohol-based hand sanitizer to the items **carried in galleys or installed in lavatories** will need to **request authorization** from their civil aviation authority (State of the Operator) in accordance with the provision that is set out in Part 1;2.2.1 a) of the ICAO Technical Instructions.

IATA recommends that the request for authorization addresses the following:

- The classification and UN number of the hand sanitizer. For example, UN 1987, Alcohols, n.o.s. (ethyl alcohol mixture), UN 1170, Ethanol solution. However, the safety data sheet from the manufacturer of the hand sanitizer should be checked for the classification;
- The quantity of hand sanitizer in each container and the number of containers to be carried on the aircraft;
- What steps will be taken to ensure that the hand sanitizer is kept away from sources of heat or ignition;
- Provision of information to crew members on the carriage of the hand sanitizer. For example, that crew members will be advised on the procedures through a bulletin or other appropriate method.

Crews can take hand sanitizers as carry on, each bottle max 0.5L, under the IATA Dangerous Goods regulations, total for toiletries is 2L.

Catering and Food preparation

There is **no evidence** that Covid-19 is transmitted through food. However, erring on the side of caution, these steps will reduce any potential risk, and limit contact with passengers and catering staff.

- **Flight Attendants** shall ensure that all catering for passenger and crew meals is sourced through an aviation caterer as these companies are continuously inspected by the FDA and well versed in safe food handling.
- Fruit bowls and shareable trays will not be offered. Passengers will be offered individually wrapped snack plates.
- Coordinate with caterer to minimize person to person contact, **arrange delivery direct to the aircraft** and avoid catering traveling through FBO if possible.
- Prior to receiving the catering FA's will put on PPE (if not already on) for acceptance and wipe down the exterior of the packaging with sanitizing wipes.
- **Pre-packaged meals** should be served on all flights (i.e. boxed lunches, plated salads, continental breakfast boxes) rather than hot meals unless pre-approved by dispatch. If possible, consider bringing all trip catering from home base.
- At outstations, where no aviation catering service is available, consider catering through your hotel, "room service to go", if available. Research your options thoroughly and have plan B. Options are quickly changing.
- Shopping service by caterers will be limited. **Avoid unnecessary grocery store shopping** (and crowds) yourself. If you have to, keep it minimal, stick to pre-packaged, no deli counters, no salad bars etc. If you must go to the store, plan ahead, wear a mask, minimize time in store and maintain social distancing.
- If you must buy produce, i.e. whole fruit, lemons, limes, please rinse well. Avoid washing procedures that could leave remnants of soap causing other gastrointestinal issues.
- Keep a **detailed record** of what came from where, if any questions arise. Avoid Uber/Lift/Uber Eats food delivery
- Minimize food preparation requirements. Spray and wipe down any grocery plastic wrapping, containers, canned goods, etc.
- Dishwashing as needed with **3 step sanitization process**; paper towels instead of dish towels for drying and/or dishwashers at home base or available services at FBO.
- Paper hand towels instead of hanging cloth towels will be provided in the **lavatory**.
- Service Items: Use **disposable** plates, cups and flatware when feasible
- Use aircraft iPads in lieu of physical newspapers as it will be easier to ensure a sterile news media. Crew will ensure subscribed newspapers are downloaded prior to each flight.

- If possible, avoid using any bedding as it may not be feasible to have linens dry cleaned.

Operations to an FBO or Executive Terminal

Call ahead

Call Departure, Arrival and Alternate FBOs to understand what will be available.

Useful questions to ask:
- What procedures do you have in place for the virus?
- What services do you have available, or services that are unavailable?
- Have there been any recent disruptions of service?
- Are there hotels/rental car available if needed?
- What are your operating hours, are they reduced because of Covid?
- Are our crew and pax required to wear masks during our visit?
- Are there any quarantine or other restrictions or requirements for passengers or crew arriving in location?
- How are your employees being checked for sickness?
- Who have you been using for catering?
- What nearby hotels are you recommending our crew stay at?

Advise:
- Ground Service is only to park the aircraft and then maintain distance.
- Ground Service is to not interact with passengers or baggage.
- The flight crew will handle all baggage.

From this, risk assess the FBO. If you get the impression that not much is being done, use another FBO.

At the FBO

- Avoid contact with FBO personnel, passing catering etc. **If you don't need to go inside, don't**. If you do, maintain distancing.
- When possible, billing and invoices should be pre-arranged with the FBO via phone. Invoices should be emailed directly to the crew and flight scheduler to limit crews exposure in and around FBO.
- Arrange for **ground transportation** come directly to the aircraft.
- Give instructions to FBO that no one is to board the aircraft but passengers and crew. Institute a Rope at bottom of stairs to deter unauthorized people from coming onboard

Passengers

Business Aviation

These questions are presented to the passengers 24 hours before flight. If the answer to any question is YES, then the passenger must be informed they are not "Fit to Fly", and told that in an effort to avoid potential transmission of illness they will be removed from manifest:

- Do you have any respiratory illness symptoms, cough or fever over 100.4?
- Have you experienced muscle aches or new loss of smell?
- Have you recently been exposed to anyone diagnosed with Covid-19? Sales department shall ensure these questions are presented to the passengers 24 hours in advance of flight.

Dispatch must ensure these questions have been asked to the passengers.

Where required, a Health Screening Form can be used.

Resources: See Appendix for Health Screening form

Passenger Locator Form

To assist in passenger contact tracing, a public health passenger locator card has been developed by the World Health Organization. This passenger locator card provides an appropriate method of rapidly collecting passenger contact information and is recommended to be used when public health authorities suspect the potential for disease transmission on board an aircraft and a subsequent need for contact tracing.

Passengers shall fill in the Passenger Locator Form. Sales are invited to send it to passengers in advance.

Crews need to ensure all Passenger Locator Forms are filled in properly. Forms need to be safely stored along with the Flight Pack. Crews are invited to have forms onboard in reasonable number for the upcoming flights.

Resources: See Appendix for Passenger Locator form

Communication to Passengers before flight

Passengers should be made aware before flight of the precautions we are taking, and the changes to normal procedures.

Flight Operations Covid-19 Guidelines & Protocol for Passengers to read (**sample**)

Dear passenger:

The health and well-being of you: our passenger and guest, remain our primary priority and as such, we would ask you to read, understand, and acknowledge the guidelines below.

If you have experienced a fever of 38°C /100.4 °F or higher, have been diagnosed with Covid-19, or have a combination of cough, chills, sore throat, shortness of breath, headache or other cold/flu-like symptoms indicative of Covid-19 within 48 hours of your flight, you should stay home; you will not be permitted to fly.

Temperature checks will be obtained upon arrival to the airport and before boarding the aircraft. If your temperature is at or above 38°C /100.4 °F, you will not be permitted to fly.

If you have traveled to any international destinations or US domestic 'hot spot' states within 14 days of your flight or had close contact with anyone who has traveled to these areas, you will not be permitted to fly.

If you had close contact with or cared for someone diagnosed with Covid-19 or flu-like symptoms within the last 14 days prior to flight, you will not be permitted to fly.

It is mandatory for all passengers to wear their own masks at all times, unless the pilot instructs otherwise for identification purposes. Flight Operations will not be issuing masks to passengers.

Please restrict your baggage to one carry on item and one piece of hold luggage per passenger. Contact us to enquire about additional luggage.

Please wait in your vehicle until 15 minutes before flight. Keep your luggage and/or carry on with you at all times prior to flight – you will place your luggage to the side of the aircraft stairs before boarding. Maintain 6 feet physical distancing from others at all times.

General Declaration

All flights shall have General Declaration filled in and signed. It should be stated that disinfection has been carried out against the Covid-19 infection.

Resource: See Appendix for blank General Declaration
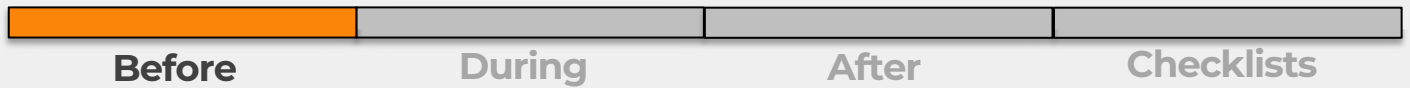
Arriving at work

On arrival, the first action should be to visit a bathroom to wash your hands thoroughly.

Each crew member should check their own temperature with the company-provided thermometer at report time. As above, readings above 38° C or 100.4° F indicate a fever.

Briefings

Pre-Flight Briefings are safety critical and should not be skipped or shortened. The dispatcher should inform the flight crew of any special Covid-19 related information or procedures, but only in the order of criticality amongst other essential information like weather, flight route, fuel planning etc.

Crews should include a quick review and discussion of Covid-19 protocols as part of their pre-flight briefing to ensure all questions and concerns have been addressed prior to flight.

Especially for longer trips, consider setting up a **WhatsApp group for your flight**. This will allow you easy contact with all crew members during the trip, at the destination and overnight if one is scheduled, and if also on board the aircraft if Wi-Fi is available.

During the flight

Pilots: Don't let Covid-19 be too distracting

There's a lot to consider with Covid, but the normal operation continues to present the same level of risks as before. A good mental approach is to forget about Covid for a moment, and think of your flight as a routine, normal flight: Weather, Aircraft Performance, Human Factors, Flight Planning, Alternate planning, Terrain, Fuel decisions, etc. all present risk regardless of any Covid considerations.

In short, don't let the risks related to Covid become out of balance. It must be remembered that the lethality of Covid-19 for healthy persons is relatively low, while that of the ground remains 100%.

In-flight operational considerations for Flight Crew

Specific areas where Covid-19 is impacting operational and flight decisions:

- Short notice **ATC** facility closures impacting airspace, approach units, and towers.
- Most **airport** opening hours are reduced, and information in Jeppesen manuals, company lists, and so on may be out of date or incorrect.
- **Delays** are more likely. The supply chain and airport process has many parts, and staff illness and unforeseen issues can pop up.
- **Diversions and U-turns** related to Covid-19 situations have been occurring worldwide. Increased awareness of enroute alternates, and double checking their status and availability is important. Many airports that are common diversion options have specifically requested not to be filed as an alternate.
- **If you do divert** there is a strong preference on returning to base, more than usual. Diverting to an enroute alternate presents additional risk and potential for an AOG situation.
- **Contingency fuel**: Err even further on the side of caution than normal. Plan a reasonable amount of extra fuel to allow for unforeseen reroutes, ATC zero events, and airport closures.

Aircraft Setup

No person other than essential crew, passengers and engineers are to be allowed on board the aircraft. Nobody is to enter the aircraft without the explicit permission of the Captain, or delegated authority through other Flight Crew members.

It is possible that the aircraft may have been in **extended storage** prior to flight. Cabin crew should conduct thorough pre-flight cabin checks and report any defects through the usual reporting processes for rectification. Where necessary, the Minimum Equipment Lists should be checked to identify whether a defective or missing item results in operational limitations.|

There is an added risk of defective emergency equipment if the aircraft has been used for **cargo operations** and is returning to passenger mode for the first time on this flight. Additionally, check the cabin for any damage especially to life vests, seat belts, tray tables, IFE components, arm rests, seat cushions.

The cabin air system should be set to allow maximum airflow and ventilation in flight, though consider the flow pattern as some aircraft may be better at a reduced rate. Pre and post flight, the aircraft doors should be left open for as long as possible outside and inside the hangar to allow the aircraft to ventilate.

On aircraft with multiple lavatories, **one lavatory will be blocked** and dedicated for crew use to ensure items remain available for hand washing, as well as limiting the possibility of contamination from infected persons.

Boarding

Health Checks   - Crew

The first action on boarding by the crew should be to wash your hands. If the lavatory is unavailable, use the on board hand sanitizer.

Crew will measure temperature on boarding as follows:

Use the infra-red forehead thermometer which is part of onboard supplies.

If a crew member registers a temperature of 38° C or 100.4° F or higher, retake the temperature after 10 minutes; if second reading is 38° C or 100.4° F or higher, the crew member is to be removed from duty. If second reading shows normal, crew can proceed on flight.

Health Checks   - Passengers

US Operators: Part 135 operations require screening from specific destinations as outlined in TSA D-1544-20-02.

Welcome on board, Identification and Passport Checks

Larger aircraft: Avoid cabin crew being in overwing exit stations during boarding to avoid close contact. The boarding process should be separated into smaller groups.

Business aviation:

- Only one crew member will be responsible to greet passengers and have direct contact during boarding.
- Captain or designee will check in passengers following social distancing protocol.
- ID check and Flight Briefing will be conducted prior to boarding aircraft.
- When passengers arrive at the aircraft, the flight attendant will greet the passenger in the cabin and direct them to their seats to keep appropriate social distancing.

Checking ID should be conducted using protective gloves. If gloves are not available, passengers can hold ID for crew member or flight operations team to visually review.

Source: TSA [6]

Part 135 and International travel require ID checks. Beginning March 17, 2020, TSA has approved the acceptance of any state-issued driver's license presented to an aircraft operator that **expires** on or after March 1, 2020. The acceptance of driver's licenses that are expired as of March 1, 2020 will continue for a year after expiration or sixty (60) days after the duration of this emergency, whichever is longer.

Passengers are to take seat(s) as instructed by the FA and will refrain from moving between seats during the entire flight phase. The only movements shall be going to/returning from toilets.

Passengers shall be instructed on the proper use of alcohol hand wash gel and face mask, and advised to use the air sickness bags if needed. Used air sickness bags shall be placed in a biohazard bag on board the aircraft. When sneezing or coughing, FAs should try to lower the head or turn away from passengers and crew members nearby, and cover the mouth and nose with tissue or flexed elbow.

Passenger Baggage

Business Aviation:

A cart will be provided for passengers upon their arrival to our facility for them to secure their own luggage. The handling of passenger luggage will be kept to a minimum with the intent to have them maintain responsibility of their own luggage and personal items. Flight Crew, Line Service or Maintenance personnel will be required to wear gloves while handling the baggage, as necessary.

Crewmembers should handle all baggage and place it in the aircraft first, prior to passengers boarding, to limit transfer contact with FBO employees. Wash hands or use hand sanitizer when complete.

Seating

Passenger numbers on board are being restricted to allow for distancing. Where passenger load and any weight/balance limitations allow, passengers should be encouraged to move to empty seats to increase physical distance between them.

Large cabin/ Airline aircraft
Double seat: Each passenger should occupy a double-seat, wherever practicable the occupant should sit in the outboard (window) seat. **Triple seat**: One at window, one in aisle.

Private Operations and Closed Charters

See seat spread example for Challenger 350 below. Exceptions to these limits can be made based on the composition of the traveling group. For example, family members traveling together.

Personal Protective Equipment

Respirator e.g. class 2 or 3 filtering face-piece (N95, FFP2/FFP3)		**Respiratory protection:** • Protects wearer against inhalation of droplets and small airborne contaminants, including aerosols • Requires fit-testing • Primarily used by health care workers, particularly during aerosol-generating procedures
Medical face mask Also known as **surgical mask**.		**Respiratory protection**: • Protects against exhaled droplets when worn by ill patient • Protects the user against potential large infective respiratory droplets in the environment • Does not require fit-testing
Disposable gloves		**Hand protection**: •Gloves come in different textures, materials, colors, qualities and thickness
Long-sleeved water-resistant gown		**Body protection**: • Prevents against clothes and body contamination
Goggles		**Eye protection**: • Prevents exposure of eye mucosa • Must fit contours of user's face and be compatible with the respirator if this last is worn

Wearing of PPE

As a precautionary measure

Cabin Crew – on board should wear only a **Medical Face** mask, at all times and replaced regularly at intervals not exceeding 4 hours. For flights exceeding 4 hours, proper disposal of disposable face masks must be applied.

When handling food and drinks, Cabin Crew should wear gloves.

During other phases of flight, gloves, goggles, and other PPE is not recommended.

Cockpit Crew – should wear only a **Medical Face mask** while outside the cockpit area. **PPE should not be worn in the cockpit**. See In-flight procedures for Cockpit Crew for further information.

Medical Face masks are not a substitution for physical distancing, nor is there any certainty of their effectiveness in preventing transmission of Covid-19 in asymptomatic persons. The most important and effective method of prevention is regular hand washing, avoiding touching face, and physical distancing.

PPE shall not be mandated when flight safety or human performance may be compromised.

Attending to a person with suspected Covid case

Minimum PPE:

Respiratory protection FFP2 or FFP3 respirator (valved or non-valved version). In case of shortage of respirators, the use of face masks (surgical or procedural masks) is recommended.
Eye protection Goggles (or face shield)
Body protection Long-sleeved water-resistant gown
Hand protection Gloves

HOW TO WEAR A MASK

1 Wear it with the **coloured side facing out**/white side facing in

2 **Ensure it covers** the nose & mouth **fully**

3 Tie/loop the straps around your head or over the ear

4 Use two fingers to **press the concealed metal wire down to fit the shape of the nose**

Source: Ministry of Health

Bernama Infographics

HOW TO DON GLOVES

1 Remove one glove from the package and inspect it to be sure no pinholes or tears are present.

2 If gloves are ambidextrous, they can be worn on either hand. If not, align the glove's fingers and thumb with the proper hand before donning.

3 Insert five fingers into the cuff and pull the cuff over the wrist.
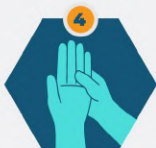
4 Check for a secure fit around the fingers and palm. The cuff should fit snuggly around the wrist.

HOW TO DOFF GLOVES

1 Grasp the outside edge of the glove near the wrist.

2 Peel the glove away from the hand, turning it inside out. Hold it in the opposite gloved hand.

3 Slide an ungloved finger under the wrist of the remaining glove, being careful not to touch the outside of the glove.

4 Peel the remaining glove off from the inside, creating a "bag" containing both gloves. Discard.

Additional Aircraft Equipment for Covid

Universal Precaution Kits

Each aircraft will now carry **three** Universal Precaution Kits (UPK's). The contents of the UPK include:

- Dry powder that can convert small liquid spill into a granulated gel
- Germicidal disinfectant for surface cleaning
- Skin wipes
- Face/eye mask (separate or combined)
- Gloves (disposable)
- Impermeable full length long sleeved gown that fastens at the back
- Large absorbent towel
- Pick-up scoop with scraper
- Bio-hazard disposal waste bag
- Instructions

Additional Universal Precaution Kits can be ordered from Medaire.

Additional items

The **Operations** department will ensure that the items in the table below are placed inside the aircraft before every departure. **Cabin Crew** will check each item and quantity is on board prior to departure. At outstations, restocking is allowed, but if less than the desired quantity is on board, this will not prevent departure.

Item	Image	Quantity	Location
Protective surgical masks for crew, and ill passengers. Protective masks can be replaced by any others, meeting at least surgical standards or higher.		2 per head and 10% reserve.	Galley wardrobe
Protective gloves		50 pairs	Galley wardrobe
Hand Sanitizing Gel Can be replaced by any others, containing 62%-71% ethanol alcohol, 0.5% hydrogen peroxide, or 0.1% sodium hypochlorite. [Reference [10]]		5	1 in forward lavatory 1 in aft lavatory 1 in each galley area 1 in cockpit
Disinfecting Wet Tissues Can be replaced by any others, containing 62%-71% ethanol alcohol, 0.5% hydrogen peroxide, or 0.1% sodium hypochlorite. [Reference [10]]		8 packs	2 in the cockpit 1 in galley wardrobe 1 in each galley 1 in each lavatory
Approved Aircraft Disinfecting Spray (Bacoban) Can be replaced by any others, containing 62%-71% ethanol alcohol, 0.5% hydrogen peroxide, or 0.1% sodium hypochlorite. [Reference [10]]		2	Galley wardrobe
Infra-red Thermometer (contactless) Infra-red Thermometer can be replaced for any other brand offering same contactless body temperature measurement.		2	Galley wardrobe
Universal Precaution Kit Contents: Contains protective accessories including the following items: 1x Disposable apron, 1x biohazard		3	Galley wardrobe

Item	Image	Quantity	Location
bag, 1x bio scoop with detachable scraper, 1x pair of shoe covers, 2x pair of non-latex gloves, 2x surgical gowns, 3x lavatory Do Not Use label, 1x face shield mask, 2x N95 mask, 2x surgical face mask, 1x odour eliminator for aircraft, 2x large dressing absorbent pad, 2x gauze pad 10cmx10cm, 1x fluid solidifying powder, 1x sharps container, 6x antiseptic towelette, 4x germicidal disinfectant wipe, 1 hand sanitizer, 1x instruction for use / content card.			
Passenger Locator Cards Pre-printed, obtain from Flight Operations		One for each seat installed.	Galley wardrobe

In Flight Crew procedures: Pilots

Cockpit crew should reduce their entry/exit of the cockpit and use the intercom system for communication whenever they can, to avoid close contact.

Ideally, crews should use personal individual headsets. If not provided, then cockpit headsets should be thoroughly wiped down before and after use.

Flight deck seat swapping will not occur during the day. Seat swapping is permitted on a multi-day trip.

PPE should not be used in the cockpit.

- Wearing of masks can interfere with clear communications with ATC and other crew members
- Masks can be a hindrance when quick donning of oxygen masks is required
- Masks can create an unsettling atmosphere in the cockpit and be distracting.
- There is no research yet carried out as to the safety impact of wearing PPE while operating.

If crew must use lavatory inflight, use mask when entering cabin, and wash hands thoroughly before returning to cockpit.

Use hand sanitizer to clean and disinfect hands before meals.

If carrying out any cockpit cleaning beyond simple use of Sani-Com or similar wet wipes, see the Aircraft Cleaning section for specifics of substances allowed to be used. Note that Clorox Wipes, Ethanol, and Sodium Hypochlorite must **not** be used.

Note: Although a small number of OPSGROUP members reported that their operations had mandated PPE in the cockpit, the overwhelming consensus was that PPE should not be worn in the cockpit.

In Flight Crew procedures: Flight Attendants

Safety Demonstration

When demonstrating the emergency use of oxygen masks, remind passengers to remove any protective facial masks before use. Do not place demo oxygen masks or life vest inflatable tubes to mouth during the demonstration.

Passenger Announcements

Additional PA's will be required to advise passengers of safety guidelines to prevent the spread of infection, coughing/sneezing into elbow, mask requirements, the safe and hygienic disposal of used tissues or disposable face masks, and to complete Passenger Locator Cards where required.

Sample announcement

"In order to manage the spread of Covid-19, public health authorities have put in place some new measures. When arriving at your destination, you may be subject to further measures taken by the government to prevent the spread of Covid-19.

As a reminder, no person should board a flight when they are feeling ill and could potentially put others at risk. Should symptoms such as a fever, cough or difficulty breathing develop while in flight, please notify the flight crew immediately. "

Emergency situations

All masks and face coverings should be removed during an emergency situation which requires the use of oxygen or protective breathing equipment for firefighting.

Source: IATA , Guidance Cabin operations post-pandemic, v2. [8]

Source: IATA , Guidance Cabin operations post-pandemic, v2. [8]

In-flight Service

Food preparation and Meals

FA's should notify other crew members prior to and at the conclusion of any food preparation in order to minimize congestion in the galley during this time.

Crewmembers should eat at separate times in order to limit exposure while not wearing a mask.

Meal and Beverage Service

Meal and beverage service will be adjusted according to route risk.

Reusable dishware poses the greatest risk, so the aircraft will be stocked with acceptable disposable cups, plates, napkins, and utensils for meal service to avoid the risk of transmission through reusable dishware.

Flight attendants should **use disposable gloves** in addition to masks throughout flight for all food service-related activities.

Crews should not purchase/supply newspapers for flights. Recommend passengers bring their own reading material, newspapers, magazines etc. For aircraft that have iPads with newspaper subscriptions for passenger use, newspapers should be pre-loaded.

Elimination of self-serve items onboard all aircraft – fruit basket, candy basket and snack basket. Some items will be stored in the galley and available per request.

Launder/dry clean linens/blankets following flights. Distribute blankets as needed versus displayed in the cabin.

Use of crew rest compartments

Where crew rest compartments are installed, and bedding items are provided for flight crew use, pillows and bedding should be changed after each person uses them.

Illness in Flight

A passenger or crew member exhibiting symptoms of Covid-19 inflight is a serious event that will result in crew and passenger quarantine measures and possible diversion.

Cabin Crew Actions

If a passenger develops symptoms of acute respiratory infection or shows signs or symptoms compatible with a communicable disease, including Covid-19, as documented in the Aircraft General Declaration (the IHR Annex 8, ICAO Annex 9, Appendix 1), efforts should be made to minimize contact of passengers and cabin crew with the ill person.

Flight attendant must notify Flight deck of any passengers or crewmembers exhibiting symptoms or indications of a communicable disease.

Then, follow these procedures:

- **Separate the ill person** from the other passengers by minimum of 1 meter (usually about two seats left empty in all directions, depending on the cabin design) from the seat occupied by the suspected case. Where possible this should be done by moving other passengers away.
- Ask the ill person to **wear a medical mask** and practice respiratory hygiene when coughing or sneezing. If the medical mask cannot be tolerated by the ill person, provide tissues to cover mouth; discard tissue immediately into a biohazard disposal waste bag carried in the Universal Precaution Kit. If no biohazard disposal waste bag is available, place it into an intact plastic bag, seal it, and consider it "biohazard" waste; wash hands with soap and water or alcohol-based hand rub.
- Designate **one crew member to serve the ill person**, preferably a crew member trained in infection prevention and control measures and not necessarily the crew member that has already been attending to this traveller.
- If possible, designate **one toilet** for use only by the ill person.
- When attending to an ill traveller coming from an area with local or community Covid-19 virus transmission who displays fever, persistent cough, or difficulty breathing, always **use personal protective equipment (PPE)** (provided in the Universal Precaution Kit), including mask, eye protection, gloves, and a gown.
- **Wear disposable gloves** when tending to an ill traveller or touching body fluids or potentially contaminated objects and surfaces. Remove gloves carefully to

avoid contaminating yourself, dispose of them and other disposable items that had contact with ill person in a biohazard bag and wash hands with soap and water or alcohol-based hand rub.
• Crew should make sure not to touch other service utensils or cutlery after tending to an ill traveller.
• Crew members should be provided with instructions for communicating with an ill person suspected of Covid-19 (see Annex 1). It is also important for crew members to be aware that it is ok to touch or comfort a suspected or a confirmed Covid-19 case on the condition that they are wearing appropriate PPE

Cockpit Crew actions

Once the cockpit crew becomes aware of an illness in flight that is suspected to be a Covid-19 case, follow the normal Flight Operations Manual procedures for notification of communicable disease, but take note of these additional points and reminders.

Pilot in Command must immediately notify :

1. **ATC** – advise departure, planned destination, ETA, POB, Number of cases, nature of health risk.
2. **Dispatch/OCC**, via Satcom if available, or relay message via ARINC or ATC.

US operators: ATC will notify the Domestic Events Network (DEN) of the report, using the code "...requests a CDC consult." The DEN will send the report to CDC's Emergency Operations Center (EOC) and the EOC will notify the CDC Quarantine Station with jurisdiction for the arrival airport.

In case of any doubt or comms issue, Dispatch or Crew can contact the **CDC EOC** on **+1 770 488 7100** who will then notify the appropriate CDC Quarantine Station.

ICAO Doc 4444 guidance - extract

16.6 NOTIFICATION OF SUSPECTED COMMUNICABLE DISEASES, OR OTHER PUBLIC HEALTH RISK, ON BOARD AN AIRCRAFT

16.6.1 The flight crew of an en-route aircraft shall, upon identifying a suspected case(s) of communicable disease, or other public health risk, on board the aircraft, promptly notify the ATS unit with which the pilot is communicating, the information listed below:
a) aircraft identification; b) departure aerodrome; c) destination aerodrome; d) estimated time of arrival; e) number of persons on board; f) number of suspected case(s) on board; and g) nature of the public health risk, if known.

16.6.2 The ATS unit, upon receipt of information from a pilot regarding suspected case(s) of communicable disease, or other public health risk, on board the aircraft, shall forward a message as soon as possible to the ATS unit serving the destination/departure, unless procedures exist to notify the appropriate authority designated by the State and the aircraft operator or its designated representative.

The flight crew shall follow the directions of ATC, and if operating to/within the US airspace, proceed to the ATC identified quarantine station. There are 18 such stations in the US.

Further actions

1. The Captain should consider an immediate return to base (if possible, considering quarantine stations) or diversion.
2. The appropriate Passenger Location Forms and a Gen Dec should be completed if applicable.
3. If the aircraft has a medical subscription (eg. MedAire), make a call and discuss the situation.

See "After the flight" section for more information on contact tracing and actions to take with suspected and confirmed cases for Flight Crew.

Dispatch/OCC actions

1. Advise: Flight Operations Manager, Safety Manager, Scheduling and Maintenance.
2. Assist: Give whatever help is requested by the crew.
3. Consider ongoing effects of crew and aircraft quarantine and alternative options for crew and aircraft.
4. Aircraft may have to divert depending on the country it is in. Consider fuel situation, run a plan to new destination if required.
5. Inform arrival airport FBO/ground handling that aircraft will be quarantined on arrival (if not diverting).
6. If the illness is a crew member, begin contact tracing (crew flights and contacts in last 14 days as far as known). Advise scheduling.

Resource: Map and list of US CDC Quarantine stations:
https://www.cdc.gov/quarantine/quarantinestationcontactlistfull.html

CDC Quarantine Stations and Their Jurisdictions
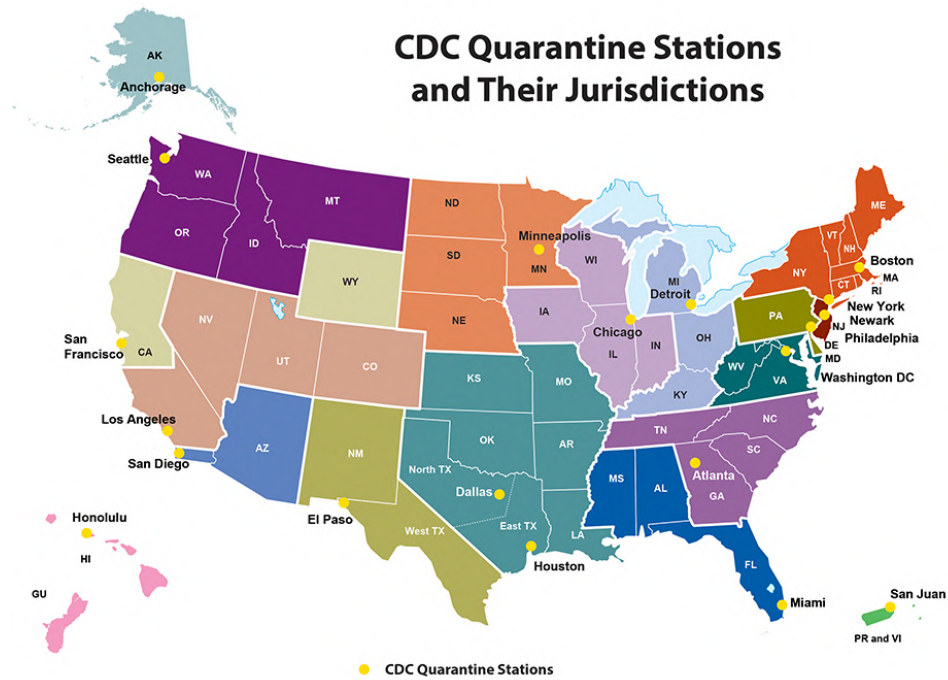
Disembarkation of suspected case

- Symptomatic travellers should disembark the aircraft according to instructions from the airport health authority to minimise the risk of contaminating other passengers, crew members, and ground personnel.
- Symptomatic travellers will be assessed for their condition and exposure at the designated facility of the airport and, if they fulfil the definition of a suspected case, will be transferred to a designated health care facility.
- Management of contacts will take place in accordance with instructions from the local public health authority.
- The airport health authority should rapidly update the airline on the outcome of examinations and if further actions must be taken

Source: WHO, Operational considerations for managing Covid-19 cases or outbreak in aviation [11]

Procedure for immediate aircraft cleaning on board

In the event that the aircraft cabin becomes contaminated with bodily fluids, it should be disinfected as soon as possible. If a member of cabin crew performs this cleaning during flight, this procedure should be followed:

1. Wear personal protective equipment (PPE). Put on medical masks, glasses, medical rubber gloves and impermeable aprons. Prepare disinfectant.
2.   Place a tablet for surface disinfection into 250-500ml clean water.
3. Cover the respiratory secretions, blood, vomit, diarrhea and other contaminants evenly with absorbent disinfectant for 3-5 min to enable them to be solidified.
4. Use portable pickup shovel to shovel the solidified contaminants into the biohazard waste bags.
5. Use absorbent tissues (towels) soaked in the disinfectant to wipe the contaminated objects and surfaces for 5 minutes and then clean by water.
6. Finally put the tissues, towels, and other used disinfection materials into biohazard waste bags.
7. Take off gloves and aprons, scrub hands with skin disinfection wipes, take off glasses and masks, and scrub hands again and other parts of bodies that are likely to touch contaminants.
8. Place all contaminated items inside a biohazard bag, tie the bag, stick tag of biohazard waste on the seal.
9. Keep the tied biohazard waste bag in a proper place temporarily to prevent it from missing, being damaged or contaminating meals on board.
10. Inform the destination ground department to take over.

After the flight

Disembarking

Once brakes are set, confirm that permission is in place to open the aircraft door. Especially internationally, there may be local procedures and it's best to ensure passengers remain seated until this is confirmed. **Do not open the aircraft door** until positive signal from ground staff.

Once disembarkation has been approved, it is important to avoid the usual "everyone up at once" scenario. Use this announcement:

PA/Cabin announcement: "*Please remain in your seats until we have received clearance to open the aircraft doors, at which point I will make another announcement. We will be disembarking in sections, row by row, starting at the front of the aircraft. Please wait until the row in front of you is fully empty before standing up to retrieve your luggage. Thank you.*"

As passengers exit the aircraft, they should place all used gloves and masks in the designated biohazard bag and use a hand wash/sanitizer. The flight crew will exit the aircraft after all passengers have deplaned, they will remove their gloves and discard them in biohazard bags and wash their hands with soap and water.

The luggage of passengers will be handled by the loaders. FAs will remove all beverages, eatables and other items discarded by the passengers from the aircraft and thereafter dispose of their gloves in similar manner.

Disposable items (hand towels, gloves, masks tissues) should be put in the biohazard bags and disposed of. Trash bins will be cleaned and biohazard bags removed from the aircraft.

Tech Stops and Turnarounds

Long-wait Turnarounds

If aircraft turnaround time is less than 3 hours, leave APU running and crew remain on aircraft. Any extended day trips will be discussed and analyzed on a case by case basis with Operations, Chief Pilot and assigned flight crew to determine a safe and agreeable course of action.

For longer turnarounds where crew are leaving the aircraft or airport, follow the protocols in RON/Overnights.

Interim Aircraft Cleaning

Source: Gulfstream MOL-2020-0006

At interim destinations away from home base crew shall don PPE and conduct light cleaning of the aircraft with 70/30 isopropyl solution. This cleaning should include a wipe down of all galley surfaces, paying attention to galley latches and door handles. A wipe down of seats, seated areas, and tables at all seat stations. Crewmembers shall wipe down the visible surfaces in the lavatory. Crewmembers shall wipe down cockpit (to include yokes, CCD's, Audio Control Panels, Overhead panel, FMS CDU's, Thrust levers, and MCP). It is recommended to split duties between cockpit and cabin. All used gloves and cleaning cloths are to be discarded.

Walkaround

Only one flight or technical crew member should be allowed to disembark the aircraft for an external inspection, refueling, etc. In such case direct contact with the ground crew of an airport situated in a high risk area should be avoided. To the greatest extent possible, no ground personnel should be allowed to embark the aircraft except for remediation of technical problems or other ground staff whose presence on board is essential for performing their tasks. When such personnel are on board they will be required to wear appropriate personal protective equipment (PPE) such as masks and gloves before they enter. Flight Attendants should sanitize their hands at the entrance of the aircraft. Additionally, crew members should take all measures to minimize direct contact including wearing PPE such as face mask and gloves.

Arrival at Destination – away from home base

The PIC should **fuel on arrival** to an appropriate level in order to allow for immediate departure should the need arise.

Flight crews shall remove and disinfect all personal property from the aircraft after duty has ended, including headsets if remaining overnight.

Appropriate waste disposal

Properly dispose of gloves and other disposable items that came in contact with the ill person or body fluids in biohazard bag (located in UPK) or a secured plastic bag labelled as "biohazard".

Disposable items (hand towels, gloves, tissues) should be double bagged. They will be sent to incineration or similar final disposal, according to the States Parties guidelines for infectious waste management.

Reusable items, that can be washed and treated / disinfected (gowns or linens) must be tagged and sent to a facility for washing and treatment, as recommended according to infection control procedures, depending on the type of contamination / infectious agent, if known.

Cleaning - outstation

The aircraft will be cleaned and disinfected, trash bins will be cleaned and disinfected and used PPE disposed of in biohazard bags when the aircraft is secured at the end of the day. Operations department will coordinate the cleaning and disinfection of aircraft during outstation halts with the maintenance agency or the outstation handler/service provider.

Overnight / Layover / RON (Remain Over Night)

Dispatch considerations:

Where possible, avoid overnight layovers. Aircraft should be flown back to base as an empty leg.

Private ground transport should be arranged to transfer crews to hotels, that allows crews to maintain the recommended 6 feet (2 metre) distance from others.

Crews should be booked into hotels that are in close proximity to the airport. Ensure that the hotel rooms are sanitized in advance of the crews' arrival.

Crews should be provided sufficient quantities of alcohol-based hand sanitizer containing at least 60% alcohol to crewmembers for their personal use.

Crew PPE kits for overnight shall include:
1. Hand sanitizer
2. Alcohol disinfectant spray
3. Gloves
4. Mask

Ground transportation vendors should be queried on their sterilization procedures for their vehicles, and vendors who cannot provide this information should be avoided.

Ride share services (Uber, Lyft) and on-demand taxi services should be avoided. If vetted ground transportation is unavailable, the next preference is that flight crews use rental cars and disinfect (wipe down) vehicles prior to use.

Ensure crew and passenger hotels are full-service and have established CDC cleaning protocols. Hotel vendors should be queried on their cleaning and disinfecting procedures for their facilities, and vendors who cannot provide this information should be avoided. Locations with onsite restaurant or room service preferred.

Crews should:

In countries or locations where **widespread community transmission** of Covid-19 is present, crews should self-isolate in their hotel rooms, avoid any trips away from the hotel, dine in-room using the hotel room service, avoid congregating with other crew members during the stay, and use masks when traveling to and from the airport.

In countries or locations where there are only **small numbers** of Covid-19 cases, crews should still limit travel away from the hotel to one essential trip per day to obtain supermarket food or medicine, and one exercise excursion; remembering that the mitigations are both for crew safety and the safety of the local population considering that the crew themselves are a high-risk potential carrier of the virus.

Hotel selection considerations

Especially for stays involving more than one set of crew, the following considerations and questions will help Flight Operations in determining the best hotel for the crew to stay at:

- Can the hotel provide in-room meals including breakfast, lunch and dinner?
- Can the hotel meet individual dietary requirements?
- Does the hotel have an outdoor space where aircrew can exercise?
- Can the hotel provide a service to purchase essential items (if aircrew are not allowed to go to supermarkets)?
- Can the hotel provide a laundry service for aircrew, as well as laundering of linen and towels?
- Can the hotel provide Wi-fi to all aircrew rooms?
- Is the hotel reasonably close to a pharmacy or good access for collecting medication on behalf of the aircrew?
- Is the hotel within an hour of a hospital?

Crew Illness on Layover/Overnight

Follow normal company procedures for reporting illness to Flight Operations.

Make contact (by telephone) with the Captain, or another crew member on the layover.

If you believe you may have contracted Covid-19, do not travel to a local Medical Centre or Hospital unannounced. Ask the hotel reception for help, they will know the local procedures. There may be also be local quarantine and/or reporting infection to Health Authorities for tracing and tracking.

Crew must be relieved from duty immediately, and under no circumstances operate the return flight home.

The company will make arrangements for repatriation of the flight crew member.

AOG / Unplanned overnight

In the event that an aircraft encounters an AOG situation when away from home base, the following instructions apply:

- Contact Dispatch/OCC/Flight Operations immediately for any specific instructions
- Stay onboard unless specifically instructed to leave the aircraft
- Liaise with local FBO/Handler to get information about local (safe & secure) lodging, transport
- Set aside the overnight PPE kits for crew, and one UPK.
- Prepare to take along any catering you might reasonably need for the duration of the forced stay, when at destination all public and private services are in lockdown
- Follow the normal RON/Overnight protocols as above
- Arrange for aircraft disinfection prior departure when the AOG situation has been resolved
- Arrange for aircraft secure parking should you leave the aircraft behind when travelling by other means back to home base.

Arrival at Home Base

Aircraft Cleaning

Cleaning crew & Cleaning procedure for aircraft

The cleaning crew should protect themselves with appropriate personal protective equipment, such as gloves, face masks and protective clothing, according to standard operating procedure requirements. Face masks should be replaced regularly in accordance with the producers' indications (e.g. most surgical masks lose their efficiency after 4 hours of use).

- Use different cleaning utensils (e.g. the cloths and mops) used in each area, potentially using color coding, in order to reduce cross-contamination.
- Avoid any cleaning detrimental to aircraft components, rub the surfaces with disinfectant for adequate contact time (usually 3 minutes) and remove it immediately.
- Spray the floor from front to back before disinfection and then spray again in opposite direction.

Disinfect the key areas as noted below, begin at the top and proceed downward progressively working from clean to dirty areas:

Aisle Ceiling, overhead bins, reading lights, air outlets, sidewall panels, windows, seats (tray tables, armrests, passenger control units, and decorative panels), cabinets/lockers, bulkheads, magazine racks, cabin attendant seats.

Lavatory The disinfection in lavatory should be progressed from contaminated to clean areas, as follow: toilet bowls, waste bins, basins, lavatory sidewall, ceiling, door assembly (door surfaces, door handles, locking device, and, if installed, ashtrays).

Galley Ceiling, ovens, water boilers, coffee makers, galley facilities, lockers/drawers, waste bins.

Cockpit For aircraft where the cockpit is separated from the passenger cabin, preventive disinfection should be considered only when the flight crew had a longer layover resulting in the crew traveling outside of the airport restricted area (e.g. travel to the hotel for a rest period) in the high risk areas. Otherwise cockpit should be subject to routine cleaning. For aircraft where rigid separation between the cockpit and the passenger cabin is not available the frequency of preventive disinfection of the cockpit should be the same as for the passenger area.

Source: EASA, Interim guidance on Aircraft Cleaning and Disinfection
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For suspected cases, ensure affected seats and adjacent rows cleaning is immediately performed with appropriate disinfectant. For confirmed cases, ensure aircraft cabin deep cleaning is immediately performed with appropriate disinfectant. If no disinfectant available, affected seats and adjacent rows shall be isolated. Any contaminated material should be disposed into biohazard bags.

Ensure cabin airflow (APU) during pax offload, ventilate 5 min with door(s) open. Remove bleed air / ventilation, allow cabin air to settle, commence with cleaning.

Dispose of or quarantine items that cannot be cleaned,   blankets, pillows, emergency briefing cards.

Cockpit Cleaning: Specific Notes

To avoid the possibility of injury to persons or damage to sensitive equipment, the following should be noted and practiced when cleaning the aircraft cockpit.
- The aircraft must be electrically de-energized prior to entering the cockpit.
- Extreme care must be practiced when working with knobs, switches, handles, glass display units, etc.
- Only the products listed as approved are to be used
- Avoid spraying cleaning products or disinfectant directly onto the surface to be cleaned. Instead, spray the product into the cleaning cloth.
- While cleaning, avoid rubbing surfaces, screens, etc. with excessive pressure
- Clean/disinfect any touch points such as control yokes, seat arm rests, seat adjustment knobs, track balls, etc.

Further cleaning considerations

Honeywell SIL A09-1100-004 details a number of cleaning products that are not recommended for use, due to paint degradation. Specifically, these are:

- Ethanol (70% Ethanol tested)
- Sodium Hypochlorite (0.1% Sodium Hypochlorite tested)
- Clorox Wipes

Crew exposure after passenger case of Covid-19

Identification of contacts

A contact in an aircraft can be identified as follows:
- Any person sitting within 2 metres of the suspected case
- Any travel companions or persons providing care who had close contact with the suspected case
- Any cabin crew member designated to look after the ill traveller(s), and crew members serving in the section of the aircraft where the suspected case(s) was seated.
- Cockpit crew are not concerned if they have not circulated into the cabin and come close to the ill traveller(s).

If the severity of the symptoms or numerous movements of the case(s) indicate more extensive exposure, passengers seated in the entire section or, depending on aircraft design and assessment on arrival by airport health authorities, all passengers on the aircraft may be considered contacts. Refer to the full WHO guidance for further.

Where possible, after return to home base, but no later than 48 hours from the first contact with the suspected passenger, the respective crew member(s) should be asked to take appropriate self-isolation measures pending the result of the passenger's test.

If the test is positive, the respective crew member(s) should be placed in quarantine for 14 days from the last contact with the confirmed positive passenger, unless otherwise specified by the local public health authorities. If the test is negative, they may resume flying duties.

Who to contact for questions

If you have questions related to any new Covid procedures, please contact:

Flight Operations Duty Officer
Tel:
Email:

Chief Pilot
Tel:
Email:

OCC/Flight Dispatch
Tel:
Email:
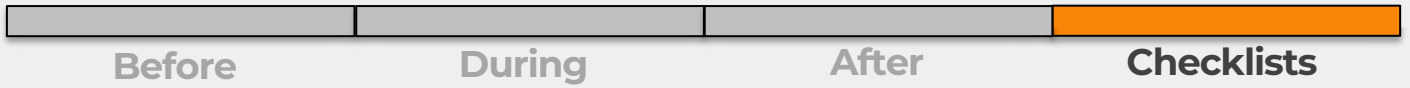
Checklists and tools

Checklist: Trip planning for Covid-19

Item	Considerations	Notes	Action	
Airport Check for each airport planned to. Some of these are routine and not Covid specific, but they are included as a reminder.				
Airport	Check availability, status, restrictions, local Covid-19 cases. Read news media from that country to get a feel for current situation. Review Notams.			
Opening Hours	Daylight hours only? Runway lights? Any restrictions for GA? Any Covid-19 changes to hours?			
Customs	International flight requires customs – is it an Airport of Entry? In rare cases, customs can be positioned to domestic airports. Worth considering? Check customs hours changes for Covid-19			
Visas	Do crew need a visa for tech stop? Destination? Pax visas?			
Health	Any Covid quarantine rules on arrival?			
ATC	Check ATC hours of availability, availability of instrument approaches, any procedure changes.			
Runway Length	Consider that some runways may be unavailable due to being used for aircraft storage. Check aircraft performance vs. length avail.			
Fuel Price	Compare handler to contract fuel price.			
Fuel Availability	Any recent supply issues?			
Runway/Apron Strength	PCN vs. ACN. Can usually be exceeded with Airport permission but not by much.			
Suitability	Is this the right airport for the city? Domestic/Intl, not military, is there a GA dedicated airport? How busy is it?			
Weather	Any local factors eg. Wind/regular fog. Winter ops			
Handling	Is there a reliable ground handler? For BA, is there an FBO? Is handling mandatory?			
Maintenance	Availability If aircraft goes tech.			

Item	Considerations	Notes	Action	
Passenger processing	Customs desks avail for larger aircraft? Check-in desks avail ? Passenger terminal? VIP terminal?			
Noise restrictions	Curfew hours, APU start procedures, aircraft types banned?			
Security	Any risks? Crime, political instability, terrorism, kidnap			
Fire and Rescue	Compare RFF category to your requirements. Check Notams for any Covid-19 downgrades.			
GH Equipment	Any need for airstairs, JCPL, cargo offload, belt conveyors. GPU required? Check avail.			
Prior reports	Check company reports, OPSGROUP Airport Spy (https://ops.group/spy). Any comments that may cause concern?			
Regulatory requirements	Can we land here? Eg. USA: Border overflight rules, Mexico: Cozumel/Tapachula first etc.			

Enroute
Check for each FIR enroute

Item	Considerations	Notes	Action	
Airspace	Entry requirements: HLA (North Atlantic), RVSM, etc.			
Comms	HF, CPDLC, VHF 8.33, Datalink			
Navigation	RNP, RNAV requirements			
Surveillance	ADS-B, ADS-C, Mode S			
Permits	Complexity, lead time, any Covid-19 additional documents required?			
Risk	Shootdown risk? Check SafeAirspace.net			
Closures	Any specific recent or potential airspace closures due to Covid-19?			
Engine failure	Consider whether we want to be in this airspace in an emergency situation requiring a divert – engine fail, medical, depressurization.			
Nav fees	Expensive? Better route close by?			
Aircraft type, registration	Some countries will not allow Israeli manufactured or registered aircraft to enter the FIR or land. Bahrain registered aircraft banned from many FIR's (political).			

Item	Considerations	Notes	Action	
Regulatory	USA: TSA Waiver. Check AIP GEN 1.2 for any Entry issues.			

Permits
Check for each country planned to be overflown or landed in.

Item	Considerations	Notes	Action	
Type of flight	Commercial (scheduled or charter) or private (owner on board)? Different requirements.			
Countries	Check all countries planned to be overflown			
Lead times	Check lead times, consider alternative route if any especially long (eg. Indonesia)			
Permit Helper	Check latest country requirements in OPSGROUP Permit Helper (https://ops.group/permit). See also AIP GEN 1.2			
Documents	Check all docs are ready to go. C of R, C of A, AOC (if commercial), Crew docs (License and Medical), Insurance. If Aircraft does not have full C of A, Special Permit is required from Dept. of Transportation of that country.			
Special Docs	Check if any required (Specific country insurance, charter contract, ELT data etc.). Check if any specific Covid-19 docs are required before flight.			

Regulatory and documents
Check for each country planned to be overflown or landed in.

Item	Considerations	Notes	Action	
Routine docs	Gen Dec, Passenger Manifest, Cargo Manifest, Customs forms			
Covid-19 docs	Check requirement for Passenger Locator Cards, entries or declarations on Gen Dec, Passenger Health Declarations.			

Item	Considerations	Notes	Action	
Country specific docs	USA: TSA Waiver, eAPIS Transmission (Pt. 91 or 135), CBP Decal, Border Overflight Permit. Mexico: Specific Insurance. Must land at Cozumel or Tapachula if from South or Central America or Caribbean Australia: Transport Security Program			
APIS	(Advance Passenger Information). Check requirements carefully, especially with regard to Covid-19. Is an **OK to board** required before departure? US: eAPIS Transmission Specific countries: CARICOM, EU/Schengen, Russia, Australia, New Zealand, check requirements.			
Cabotage	Cabotage (Commercial domestic flights): Are we attempting to pick up new passengers in a foreign country, and charge them? Check local cabotage rules, especially Europe, France, Russia.			
Import	Import: Is the aircraft being imported, or could it be considered to be? If so – need customs broker, coordination with customs, and documents – Invoice/Sale doc, ownership etc.			
Documents on board	Check any documents required to be physically on board the aircraft, **especially carefully** if aircraft has been **stored** for some time: **Certificate of Registration** **Certificate of Airworthiness** **Air Operators Certificate** **Operations Specifications (Ops Specs)** **Insurance Certificate** **Insurance Policy** **Noise Certificate** **Letter of Authorization (LOA) - RVSM** **LOA – HLA** **LOA – RNP** **LOA – P-RNAV** **IS-BAO Letter** **USA Customs Decal** Any others?			

Checklist: Aircraft supplies (Covid-19)

Item	Notes	Quantity	Checked	
On board – additional Covid-19 stock items				
Surgical Masks	For crew For passengers			
Gloves	For crew For passengers			
Goggles	UPK has some, if more required, load separately.			
Capes	UPK has some, if more required, load separately.			
Hand Sanitizing Gel				
Disinfecting Wet Tissues	Eg. Sani-Com			
Approved Aircraft Disinfecting Spray	Eg. Bacoban			
Infra-red Thermometer (contactless)				
Universal Precaution Kit (UPK)				
Biohazard Bags	Additional to those in the UPK for disposal of masks, gloves,			
Passenger Locator Cards				
Overnight PPE Kits	For crew downroute, containing: Each pack to contain: Masks (2), gloves (3), disinfecting wipes (10), spray (1)			
Crew cleaning kits	For rental vehicles, if planned to be used as crew transport downroute.			

COVID-19 PASSENGER HEALTH SCREENING

Safety is our first priority

The information you provide will be used by our health professionals to conduct screenings to determine if you're fit to travel by air.

All passengers are required to undergo a health screen and temperature check at airport check-in.

Completing this form:

- The COVID-19 pre-travel health screen form must be completed at least 48 hours before travel.
- One form per passenger must be completed.
- All sections of this form must be completed.
- The 'Passenger declaration' section must be completed by each passenger in full.

Your flight details

Booking reference*

Flight number*

Flight departure date*

Your medical details

First name (as per passport)*

Last name (as per passport)*

1. Are you diagnosed or suspected to have pneumonia or COVID-19 infection?*

☐ Yes   ☐ No

2. Have you been in contact with someone that is a suspected (being tested) or confirmed COVID-19 case in the past 14 days?*

☐ Yes   ☐ No

3. Have you been on a cruise ship or in a shared accommodation setting such as a hostel in the past 14 days?*

☐ Yes   ☐ No

Provide further details of cruise ship and/or shared accommodation arrangements

4. Do you currently, or have you recently, felt unwell with any of the following symptoms? (select all that apply)*

☐ Feverish, fatigued or aching

☐ Cold or flu like symptoms such as runny nose, cough or sore throat

☐ Shortness of breath

☐ None of the above

5. Do you require any special assistance such as mobility or other assistance associated with the flight?*

☐ Yes   ☐ No

Provide further details of assistance required

Passenger declaration

I declare that the information provided above is complete and accurate. I authorise you to use and release this information as required.

I consent to my temperature being taken and acknowledge that the outcome and any information provided will be used to determine my fitness to fly.

I acknowledge that you reserves the right to refuse travel, notwithstanding completion of this form, if the airline considers that it's not in my best interest or the interest of the airline for me to fly.

☐ Agree*

Passenger signed: Name*

Passenger signed: Date*

References and resources

References in this manual

1. WHO, Covid facts [link]
2. CDC, Fever definition [link]
3. HIPAA, National Law review [link]
4. IATA, Guidance on Dangerous Goods [link]
5. ALPA, Covid-19 and FAA Medical questions [link]
6. TSA, FAQ [link]
7. EU guidance on PPE [link]
8. IATA, Cabin operations guide (v2) [link]
9. ECDC, PPE Guidance [link]
10. USP, Hand sanitizer information [link]
11. WHO, Operational considerations in aviation [link]
12. FAA, SAFO 20009 (Health and safety guidance) [link]
13. EASA, Guidance on Aircraft Cleaning and Disinfection [link]

Dispatch resources

To check **Covid Status and Operational Impact**

CDC Travel warnings and map
Johns Hopkins Worldwide Covid Map
ICAO Global Airport Status (Covid Notams)
FAA ATC Zero map

To check **Travel Restrictions**

IATA Travel Restrictions
Travel Restrictions table (ACS)

Documents - Forms

Passenger Locator form
Blank General Declaration form

Our OPSGROUP Resources

Coronavirus Ops   Live updates – group alerts, travel alerts as they come in.
Permit Helper   What each country needs from you for an overflight or landing permit
Safe Airspace   Overflight risk assessments
Slack   Talk with other members, ask questions, get the latest group alerts