

Cargo Fail: How not to convert your pax aircraft

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A good number of airlines are working through the process of quickly converting passenger aircraft to cargo (and a few are making a mess of it).

Here's a simple guide to help you in the process.

Cargo Conversion Guide



Um, that's basically it. Avoid picture three, and you're fine.

A few more details ...

It's not hugely complex, and there is some good official guidance on it. Based on the EASA rules (document below in the footnotes), here's a good summary from one of our member operators:

Setting up the cargo

- * The mass of the cargo shall not exceed the structural loading limits of the floor
- * Aisles & exits **MUST** remain clear to allow for emergency action
- * Loads on seats must not exceed 77kg
- * Underseat stowage is only permitted if the cargo is **FULLY** under the seat. The weight for underseat cargo

shall not exceed 9kg

- * All cargo packaging must be able to handle the Delta Pressure
- * The vertical CG of the cargo must be equal or lower than the during all flight phases passenger CG provided by the seat supplier
- * Cargo carried in overhead bins must not exceed the weight stated
- * Dangerous Goods MUST be carried in the hold ONLY.

During the flight

- * There must be ONE empty row in-between crew in the passenger compartment and cargo
- * The only persons permitted on board the aircraft are employees of the company acting in their role. Any other persons would be classed as passengers and the flight would not be operated in accordance with the exemptions
- * On board crew MUST occupy Cabin Crew seats. Crew cannot share a row with cargo
- * Any fire/smoke in the passenger compartment must be easily
 - investigated by the crew on board and must be able to be
 - extinguished by the onboard equipment.
 - All smoke/fire detection equipment shall be maintained in accordance with EASA regulations

Loadsheet and monitoring

- * Load Sheet to ACCURATELY reflect the position of cargo onboard
- * PIC must be informed of cargo contents by NOTAC - to be including in briefing pack
- * The CG of the aircraft must be operated within those for passenger flights
- * Cargo to be checked during flight phase. At the minimum:
 - Before Takeoff
 - Before Landing
 - During Cruise Phase
- * At any other time on the direction of the PIC
 - Avoiding making PA's to the cargo. Unlikely to be interested.

OK, we added that last point, but other than that, it's a good list. Now for the official stuff.

EASA Guidelines for Boxes on Seats

The approval, in Europe at least, stems from Article 71(1), so you can find those rules in full here: EASA Cargo in Pax Compartment . EASA updated this recently to allow operators to stick boxes on seats, but if you're planning a bigger conversion, then you'll need the info below.

EASA wider advice

(from this page)

In the context of the emergency situation created by the COVID-19 pandemic, EASA has committed to treating projects supporting the collective effort to transport medical supplies and other important goods as efficiently as possible. The following message is intended specifically for **Design Organisations and Operators**, and offers updated information on airworthiness and certification aspects.

We have developed further guidance on the design change classifications, certification aspects as well as use of Exemptions in accordance with Art. 71.1 of the Basic Regulation 2018/1139 for limited time periods.

In order to enable an early availability of a transport solution in the frame of the current COVID-19 situation, EASA supports the use of the provisioning of Article 71.1, also for on-going projects, through additional support to National Competent Authorities and operators as required.

For a permanent use, a design change approval is required.

Transport of medical supplies under a design change approval

Approved Design Organizations may reclassify such modification as “Minor Change” and approve these under their DOA-privileges, allowing for the use of cabin seats when related to the transportation of medical supplies (e.g. masks, gloves, clothing, etc.) provided they are not classified as dangerous goods. This has to be indicated in the approval documents and AFM Supplement.

Since this kind of installation is a change in the scope of operation of the aeroplane, and in the absence of dedicated operational requirements covering this kind of operation, the installation and the procedures for operation have to be addressed taking into account the specific configuration of each aeroplane model affected.

Transport of other cargo under a design change approval

For transport of cargo other than medical supplies as well as in case removal of seats are necessary to allow fixation of cargo onto the aircraft structure for cargo operation, a Major Change or STC application is required and will be processed by EASA with priority.

While preparing your documentation, please consider the following information:

- For the installation of Cargo Seat Bags the CM-CS-003
- The published Special Condition, can be used as appropriate guidance, also in the frame of Minor Changes.
- Already approved STC
- Guidelines published by the aircraft manufacturers Airbus (ref.: FOT-999-0028-20-00) and Boeing (ref.: MOM-MOM-20-0239) have been issued.

Aside from the advice issued by EASA, the **FAA** have also published a SAFO, and **IATA** have chipped in with some guidance of their own too.

In the US the FAA writes the aviation regulations in 14 CFR, but the Pipeline and Hazardous Materials Safety Administration (PHMSA) writes the Hazardous Materials Regulations (HMR) in 49 CFR Parts 171-180. The FAA's SAFO contains a nod to the hazardous materials/dangerous goods regulations, but PHMSA has published some information and relief documents that might be useful such as notices and issuance of guidance and Special Permits providing limited relief to some regulation.

For the hazardous materials regulations you should go to 49 CFR Part 175.

Both FAA and PHMSA have dedicated pages which should be checked often for the most current information. Those pages can be found here:

<https://www.faa.gov/coronavirus/>

<https://www.phmsa.dot.gov/news/assistance-public-during-covid-19>

Time to swap hats

Now that you've got your airplane converted, you need to get yourself across to the dark side as well.

Cargo pilot conversion tips:

- You'll need a **baseball cap**, preferably old with grease stains.

- You can make even longer than normal PA's, the boxes will probably pay more attention than the passengers used to. Just skip the 'Please remain in your seats ...' part on the taxi in, these are the most well behaved guests you've ever had.
- **Get better stories.** That one about the time you had to feather two props on an Electra out of Ostend with eight pallets of porcelain toilets. Cheat and get some good ones here.
- You can now wear your uniform for a week without changing it. Spill some coffee on it on Day 1.
- No need to deviate left or right, just plough through those CB's. And forget the turbulence reports, the boxes can take it and so can you.
- You'll need a **new type rating**: the coffee maker. Don't worry, you've got 8 hours to Shanghai to figure out how to make it work.
- Good news, you qualify for membership of the **Freight Dogs** forum on PPRuNe.

And finally ... a Cargo Pilot Ground course in 3 mins. Learn from the old masters: