

DCA22MA009

OPERATIONAL FACTORS/HUMAN PERFORMANCE

Group Chair's Factual Report - Attachment 22

Boeing Email on Payload

October 26, 2022

Etcher Shawn

From: Marcotte (US), Daniel H [REDACTED] >
Sent: Wednesday, November 3, 2021 1:05 PM
To: Goodwill (US), Sam; Etcher Shawn
Cc: Talay (US), James E; Sieglinger Jr (US), Harold K
Subject: RE: [EXTERNAL] RE: Payload

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Gentlemen,

The below information was provided by Boeing's Weights Group:

The amount of payload that can be carried on any given aircraft is a function of its maximum operating weights (MZFW, MTOW, etc.), Center of Gravity (CG) limits, empty weight and CG, fuel capacity/range, main deck passenger layout, and structural capability.

In the Weight and Balance Manual (WBM), the term "Payload" is defined as the weight of the passengers, cargo, and baggage. These may be revenue and/or nonrevenue. Further, the term "Maximum Payload" is defined as the amount of payload calculated by subtracting the airplane empty weight from Maximum Zero Fuel Weight (MZFW). This amount of payload can be further limited by the fwd/aft CG limits.

Different airplanes will have different payload capabilities since they will have different empty weights and CGs, different weight limitations, or different range requirements, so (as noted in earlier emails below) "payload" is not a limitation but the result of other limitations, some of which are structural (how much can the airplane hold) while others are practical/operational (how far does the airplane need to go for this specific flight).

For the MD-87, the maximum cargo capability that can be carried is 15,950 lb and a maximum passenger capacity of 139 people.

Thanks
Dan

Dan Marcotte
[REDACTED]



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From: Goodwill (US), Sam
Sent: Tuesday, November 2, 2021 2:12 PM

To: Etcher Shawn [REDACTED]
Cc: Talay (US), James E [REDACTED]; Marcotte (US), Daniel H [REDACTED];
Sieglinger Jr (US), Harold K [REDACTED] >
Subject: Re: [EXTERNAL] RE: Payload

Shawn,

Forwarding to our Boeing party reps (Jim/Dan) for awareness and our MD technical pilot (Chip) who will be doing CVR.

I don't think "payload" is a term we typically use in our books. Personally, your math / interpretation makes sense in that the aircraft is capable of carrying more than 6000 "payload" (pax and/or cargo combined).

Jim / Dan / Chip, please feel free to add or correct my interpretation.

Captain Sam Goodwill
Senior Safety Pilot
Boeing Flight Technical and Safety

[REDACTED]
[REDACTED]

Sent from my Boeing iPhone XR

On Nov 2, 2021, at 14:40, Etcher Shawn [REDACTED] wrote:

EXT email: be mindful of links/attachments.

Sam

Wanted to follow up on this, here is a snip from FAR 125:

§ 125.1 Applicability.

(a) Except as provided in paragraphs (b), (c) and (d) of this section, this part prescribes rules governing the operations of U.S.-registered civil [airplanes](#) which have a seating configuration of 20 or more passengers or a [maximum payload capacity](#) of 6,000 pounds or more when common carriage is not involved.

So I assume you all had away to determine max payload capacity but I am not sure. I would guess and that is all it would be is a guess would be to take MTOW of 141,000 and subtract either maximum or minimum fuel which would result in a payload calculation but not sure.

Also what was the weight limits for each of the cargo holds? That might put it at greater than 6000?

Although there is question on how many passengers were on board and how many seatbelts there were available, I imagine this airplane had a max payload capacity of greater than 6000 lbs.