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Air cargo export: from acceptance to aircraft loading

How is accepted cargo built up on pallets and containers, why is the height checked, how does bulk cargo reach the aircraft, and who supervises the loading?

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Online interactive version: **https://ozgurkonakci.com/en/guide/air-cargo-export-build-up-loading/**

SHORT ANSWER

In air cargo export, accepted cargo is either built up on pallets and containers (ULDs) or prepared for bulk loading; it is then taken to the aircraft and loaded under supervision. Each built-up unit must fit the contour limits of the aircraft it is going on: the contour drawings are given by aircraft type in the IATA ULD Regulations, and IATA's compliance document treats a unit exceeding the aircraft contour limitations as a non-compliance. Under EU rules, the person supervising the loading confirms by hand signature or equivalent that the load and its distribution are in accordance with the mass and balance documentation given to the commander. Between 1998 and 2000, working at an airport cargo terminal, we handled the apron side of this work in these steps: planning by aircraft type, pallet height checks, baggage carts for aircraft loaded in bulk, towing to the aircraft by tractor and loading supervision.

A short note first

This page gives a general account of the steps export air cargo goes through from acceptance until it is loaded on the aircraft; it does not name airlines. Sentences marked “between 1998 and 2000, working at an airport cargo terminal” or “the practice at the time” describe the author's experience in those years, not today's rules. Today's rules are given separately from IATA, ICAO and EASA sources, listed at the end of the page.

From acceptance to the aircraft: the steps

Handing the cargo over to the airline, the AWB, chargeable weight and the security controls before acceptance are covered in **Air cargo: the AWB and chargeable weight**. This page follows accepted export cargo from there until it is loaded on the aircraft.

Between 1998 and 2000, working at an airport cargo terminal, we handled the apron side of export shipments in these steps:

1. **Planning and build-up:** The pallets and containers to be loaded on the aircraft were planned according to the aircraft type and then loaded.
2. **Height check:** The height of the pallets was checked.
3. **Baggage carts:** For aircraft to be loaded in bulk, the goods were loaded onto what we called baggage carts.
4. **Dispatch to the aircraft:** Goods loaded on baggage carts, pallets or containers were towed by tractor to the aircraft.
5. **Loading supervision:** The loading of the goods onto the aircraft was supervised.

This list is the practice at the time. Below, today's rule for each step is given separately, with its source. Today, ULD build-up and break-down are covered in IATA's **ULD Regulations** (ULDR). In IATA's **Airport Handling Manual** (AHM), aircraft handling and loading is the subject of Chapter 4 and load control (weight and balance) of Chapter 5.

Planning by aircraft type and ULD build-up

ULD types and dimensions are covered in the ULDs: unit load devices section and are not repeated here. This section is about how cargo is built up on those units.

In the practice at the time, pallets and containers were planned and loaded according to the type of aircraft the cargo was going on. Today's sources show why the aircraft type matters: the IATA ULD Regulations contain dimensioned **contour drawings** of all the major aircraft types. Whether a unit fits an aircraft is therefore decided against the drawing for that aircraft type.

The handling section of the Regulations covers ULD storage, transport and movement, transfer, build-up and break-down. Which limits apply during build-up is shown by the compliance document for the **Bulk Unitization Program (BUP)** of the IATA Cargo Handling Council (ICHC). It lists compliance with these limits among the items to be checked on a built-up unit:

- area load and linear load limits,
- maximum gross weight,
- maximum allowable contour.

Contour and height checks

The **contour** is the outer profile a built-up ULD must fit within to go on the aircraft. Its limits are given with dimensions in the aircraft contour drawings of the IATA ULD Regulations; the appendixes of the Regulations also include the application for a ULD contour code. IATA's ONE Record data model also has a separate contour code property for ULDs, defined as “contour code as per IATA ULD Regulation”.

Exceeding the contour is a non-compliance. IATA's BUP compliance document lists a unit built up with the incorrect contour, exceeding the aircraft contour limitations, as an example of non-compliance.

In the practice at the time, checking the height of pallets was one of the steps of export loading.

This page does not give the contour codes or heights: their basis is the ULD Regulations, and the lists in secondary sources do not agree with one another. If your cargo is close to the height limit, ask the airline or the ground handling agent for the limit that applies to the aircraft type.

Bulk loading, baggage carts and tractors

In the practice at the time, not all cargo went on pallets or containers: for aircraft to be loaded in bulk, the goods were loaded onto what we called baggage carts. Goods loaded on baggage carts, pallets or containers were towed by tractor to the aircraft.

Today, ULD transport and movement fall within the handling section of the IATA ULD Regulations. Loading the aircraft is the subject of Chapter 4 of the IATA AHM (aircraft handling and loading). This page does not give today's details of bulk loading with baggage carts.

Loading supervision and mass and balance documentation

The last step is loading the aircraft under supervision. In the practice at the time, the loading of the goods onto the aircraft was supervised.

Under EU rules this step carries a signature. According to EASA, the person supervising the loading of the aircraft confirms by hand signature or equivalent that the load and its distribution are in accordance with the **mass and balance documentation** given to the commander. The person who prepared the mass and balance documentation must be named on it. This is an EU rule; elsewhere, check the rule of that country's aviation authority.

In the industry, weight and balance work is called **load control**: Chapter 5 of the IATA AHM is titled “Load control”, and IATA's weight and balance course is based on the “Automated Load Sheet”.

Special cargo: information to the pilot-in-command

In the practice at the time, when there were live animals, organs or dangerous goods, the forms needed to inform the pilot were prepared and signed by the responsible officials.

For dangerous goods, today's basis is this: Part 7;4.1 of the ICAO Technical Instructions requires the operator to give the pilot-in-command written information on dangerous goods carried as cargo; in the industry this information is known as the **NOTOC**. In the IATA Dangerous Goods Regulations (IATA DGR), provision of information to the pilot-in-command is in 9.5.1.1 of the 67th edition. Special cargo such as live animals, human remains and organs is covered in **Special cargo and the NOTOC in air cargo**.

Test yourself

1. A built-up pallet exceeds the contour limits of the aircraft it is going on. What is this under IATA's BUP compliance document? *(Answer: A non-compliance. The document lists a unit built up with the incorrect contour, exceeding the aircraft contour limitations, as an example of non-compliance.)*

2. Under EU rules, what does the person supervising the loading of the aircraft confirm? *(Answer: That the load and its distribution are in accordance with the mass and balance documentation given to the commander, by hand signature or equivalent.)*
3. What is the written information given to the pilot-in-command on dangerous goods called in the industry, and where is it regulated in the IATA DGR? *(Answer: The NOTOC; IATA DGR 9.5.1.1 in the 67th edition.)*

Frequently asked questions

What does contour mean in air cargo?

The contour is the outer profile a built-up ULD must fit within to go on the aircraft. Its limits are given with dimensions, by aircraft type, in the aircraft contour drawings of the IATA ULD Regulations. For contour codes and heights, confirm with the airline for the aircraft type.

Why are pallets built up according to the aircraft type?

Because the built-up unit must fit the contour limits of the aircraft it is going on, and the contour drawings in the IATA ULD Regulations are by aircraft type. IATA's BUP compliance document treats a unit exceeding the aircraft contour limitations as a non-compliance; area and linear load and maximum gross weight limits are also checked during build-up.

What does the loading supervisor sign?

According to EASA, under EU rules the person supervising the loading of the aircraft confirms by hand signature or equivalent that the load and its distribution are in accordance with the mass and balance documentation given to the commander. The person who prepared the documentation must be named on it.

What is a NOTOC?

It is the written information the operator gives the pilot-in-command on dangerous goods carried as cargo. Its basis is Part 7;4.1 of the ICAO Technical Instructions; in the 67th edition of the IATA Dangerous Goods Regulations it is in 9.5.1.1.

SOURCES

IATA — ULD Regulations (ULDR) publication page: aircraft contour drawings, ULD contour code, build-up and break-down — https://www.iata.org/en/publications/manuals/uld-regulations/
IATA — ONE Record data model ontology, 2026-07 standard (ULD contour code property) — https://github.com/IATA-Cargo/ONE-Record/blob/master/2026-07-standard/Data-Model/IATA-1R-DM-Ontology.ttl
IATA Cargo Handling Council (ICHC) — Standards Compliance: Bulk Unitization Program (BUP), 2026 version 0.2 — https://www.iata.org/contentassets/5db7bd93f76a45ae9ce5a47650f2a500/compliance-bup.pdf
EASA — FAQ n.19162: Are there any requirements for loadmasters? — https://www.easa.europa.eu/en/faq/19162
IATA — Airport Handling Manual (AHM) publication page — https://www.iata.org/ahm
IATA — Aircraft Weight and Balance course page — https://www.iata.org/en/training/courses/aircraft-weight-balance/talp01/en/
ICAO Dangerous Goods Panel — DGP-WG/16-WP/2: Allowance for the information to the pilot-in-command as data (29.08.2016) — https://www.icao.int/sites/default/files/DangerousGoods/DGP%20Meeting%20Documentation/WG16/DGPWG.16.WP.002.2.en.pdf
IATA — Dangerous Goods Regulations 67th edition, Addendum, 1 January 2026 — https://www.iata.org/contentassets/90f8038b0eea42069554b2f4530f49ea/dgr-67-addendum-1—-en—-01-january-2026.pdf

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