

Weight & Balance



- NOTES OF WEIGHT AND BALANCE -

1. Explanation loadsheet.
2. Load control IATA codes.
3. The Loading Instruction Report (LIR).
4. L.M.C. (Last Minute Changes).
5. Post – dispatch : operational messages.

L O A D S H E E T
ALL WEIGHTS IN KG
VUELING A320P
DATABASE MAR/10

CHECKED

APPROVED

EDNO
01



FROM/TO FLIGHT A/C-REG VERSION CREW DATE TIME
BCN-AMS VY5172 ECHQI Y180 2/05 04JUL10 1040

WEIGHT DISTRIBUTION
LOAD IN COMPARTMENTS 1794 3/624.4/1170
PASSENGER 12887 153/1/2 TTL 154 + 2 (152 + 2 AFTER LMC)
Y154 CAB
TOTAL TRAFFIC LOAD 14681
DRY OPERATING WEIGHT 43562 GRP: MOD
ZERO FUEL WEIGHT ACTUAL 58243 MAX 61000 L ADJ 58049 L
TAKE OFF FUEL 8200
TAKE OFF WEIGHT ACTUAL 66443 MAX 73500 ADJ 66249
TRIP FUEL 5900
LANDING WEIGHT ACTUAL 60543 MAX 64500 ADJ 60349

BALANCE AND SEATING CONDITIONS LAST MINUTE CHANGES
BI 51.87 DOI 53.57 DEST SPEC CL/CPT + - WEIGHT
LIZFW 76.56 MACZFW 34.16 AMS 02 PAX Y/C (OB) - 168
LITOW 73.3 MACTOW 32.05 AMS 02 BAGS H/4 - 26
LILAW 74.02 MACLAW 32.98

STAB TO 0.77 NOSE DOWN ALL FLAPS

* TRIM BY CABIN AREA
A32.B41.C41.D40

UNDERLOAD BEFORE L.M.C. 2757 LMC TOTAL + (-) 194

LOADMESSAGE AND CAPTAINS INFORMATION BEFORE L.M.C.
VY5172/04.ECHQI.A320P.Y180.2/05
-AMS.153/1/2.T1794.3/624.4/1170.PAX/154.PRF/0.DHC/0.B138/1794
.CO.MO.E0

* LIZFW LIMITS : 37.33 / 92.42 - MACZFW LIMITS : 20.69 / 39.61 - Now 34.16
* LITOW LIMITS : 32.55 / 94.28 - MACTOW LIMITS : 19.78 / 38.37 - Now 32.05

* STANDARD WEIGHTS USED FOR PAX : 84 / 84 / 35 / 0
* STANDARD WEIGHT USED FOR BAGS : 13
* 4 ULD'S INCLUDED IN DOW & DOI

SI :

1. EXPLANATION LOADSHEET.-

- **CHECKED** : Loadsheets agent's signature.
- **APPROVED** : Captain's signature accepting all the loadsheet data.
- **DATABASE** month/year : Version of the loadsheet program.
- **EDNO** : Loadsheets edition number.
- **FROM/TO** : Departure station and first destination of the flight.
- **FLIGHT** : Flight number.
- **VERSION** : Flight configuration.

- **CREW** : Number crew : in cockpit / in cabin, excluding crew travelling as passengers.
- **DATE** : Date of issue.
- **TIME** : Local time of issue.
- **LOAD IN COMPARTMENTS** : Total WEIGHT in compartments (baggage weight, cargo, E.I.C. and mail), excluding all items included in the DRY OPERATING WEIGHT, followed by their DISTRIBUTION per compartment.
- **PASSENGER** : In the WEIGHT field, the total passenger weight calculated according to company procedures. In the DISTRIBUTION field, their distribution by gender : total number of males/females/children/infants. Some company procedures request only information about total number of adults/children/infants. Just below, the passenger distribution per class (Bussines / economic, etc.) excluding infants not occupying seats.
- **TTL** : Total number of passengers + infants.
- **CAB** : Weight of personal belongings carried in the cabin when were not included in PASSENGER WEIGHT.
- **TOTAL TRAFFIC LOAD** : Total weight of passengers, baggage, cargo, mail and E.I.C. (any equipment in compartment) not included in the DRY OPERATING WEIGHT.
- **DRY OPERATING WEIGHT (D.O.W.)** : Weight of the aircraft ready to flight prior to load the traffic load and fuel. The Dry Operating Weight is the Basic Weight plus any operational item : crew, crew bags, flight equipment, pantry (catering equipment, food, beverages, etc.).
- **GRP** : Code of the pantry to be used in the flight. NOTE : GRP : MOD means a D.O.W. or a D.O.I. modified and normally not in use. The reason of that must be reflected at the end of the loadsheet in the supplementary information for crew and operations knowledge.
- **ZERO FUEL WEIGHT ACTUAL** : Weight of the aircraft without fuel. Summary of Dry Operating Weight and total Traffic Load.
- **TAKE-OFF FUEL** : Fuel at Take-Off. Amount of fuel on board less the fuel consumed before Take-Off. Taxi fuel is not included.
- **TAKE-OFF WEIGHT ACTUAL** : Actual weight at take-off. Taxi fuel has been burned and it is not included.

- **TRIP FUEL** : The estimated fuel consumption between take-off and intended landing.
- **LANDING WEIGHT ACTUAL** : The estimated weight at the time of landing. Actual Take-Off Weight less the Trip Fuel.
- **MAX** : Maximum structural weights permitted at : Zero Fuel Weight, Take-Off Weight and Landing Weight.
- **ADJ** : Actual weights adjusted after L.M.C. (Last Minute Changes).
- **L** : Indicator showing which of the maximum weight values is limiting the allowed traffic load.
- **UNDERLOAD** : Margin of remaining load. Difference between maximum and actual gross weight indicated by **L**.
- **BI** = Basic Index. Moment index corresponding to the Basic Weight of the aircraft.
- **DOI** = Dry Operating Index. Moment index to a given D.O.W.
- **DLI** = Dead Loaded Index. Summary of DOI and the moment index of the load in holds.
- **LIZFW** = Loaded Index at Zero Fuel Weight. Index referring to the actual Zero Fuel Weight.
- **LITOW** = Loaded Index at Take - Off Weight. Index referring to the actual Take - Off Weight.
- **LILAW** = Loaded Index at Landing Weight. Index referring to the actual Landing Weight.
- **MACTOW** = Center of gravity at take-off in % MAC.
- **MACLAW** = Center of gravity at landing in % MAC.
- **MACZFW** = Center of gravity at zero fuel in % MAC.
- **STAB TO** = Stabilizer trim setting at take-off.
- **MACTOW LIMITS** = Balance limits at TOW in % MAC.
- **LIZFW LIMITS** = Balance limits at ZFW in index units.
- **TRIM BY CABIN AREA** = Passengers trimmed by cabin area according to the information provided by Check-in department (actual seating distribution).

- **FREE SEATING** = Passengers trimmed according to a proportional distribution by cabin area. Crew must be notified. To be use in the case of no seat assignment at Check-in.

- **SPECIAL PAX DISTRIBUTION** = Passengers trimmed in accordance with a special distribution to help bring the center of gravity of the aircraft to the desired point. Cabin attendants will direct the passengers to their seats according to the distribution on the loadsheet.

- **LOADMESSAGE AND CAPTAINS INFORMATION BEFORE L.M.C.** :
Message to be transmitted by departure station no later than 15 minutes after take-off including Last Minute Changes.

- **SI** = Supplementary Information such as EET (Flight time), WCHS, fuel ballast, etc.

2. LOAD CONTROL IATA CODES.-

All specials and special load, such as AVI, HUM, AOG has to be indicated with the respective IATA code.

- **AOG** : Spare parts required for aircraft on ground followed by loading position and weight. Example : AOG/1/150

- **AVIH** : Live animals loaded in hold.

- **BAL** : Ballast loaded in hold.

- **BED** : Stretcher installed in cabin followed by the number of seats occupied.

- **BCW** : Crew bags.

- **CAO** : Cargo aircaft only. Dangerous goods loaded in a compartment with access visitable in flight. Not permitted with passengers on board.

- **CAT** : Cargo Attendant.

- **COM** : Comail. Company mail followed by loading position and weight.

- **CSU** : Catering equipment loaded in holds not used on flight.

- **DAA** : Delivery at aircraft. Example : baby strollers.

- **DHC** : Dead head crew. Crew positioning to / from duty occupying passenger seats travelling with free ticket. Also a PRF, but not PAD.

- **EIC** : Equipment in compartment, not included in DOW/DOI followed by loading position and weight.
- **EXP** : Expedite (rush bags) followed by loading position and pieces.
- **FKT** : Flight kit.
- **HUM** : Human remains in coffin.
- **NIL** : No items loaded.
- **PAN** : Pantry.
- **PER** : Perishable cargo.
- **PAD** : Passenger Available for Disembarkation. Industry staff travelling with free ticket or reduced fare.
- **PRF** : Industry staff travelling with free ticket or reduced fare.
- **VAL** : Valuable cargo.

3. Loading Instruction Report (LIR).-

The Loading Instruction Report (LIR) must be issued for each departing flight and performed only by the trained load control personnel. Signature is required.

The Loading Instruction is handed over to the person responsible for supervising loading in holds. Load must be distributed in the compartments in accordance with the Loading Instruction. Deviations from the loading instruction must be previously approved by the load controller.

When loading is finished the person supervising the loading process will note in the report section the quantity and weight or number of pieces of each load that has been loaded in each hold. For empty holds a "NIL" remark must be written down.

"ALL", "REST" and blank cells are not acceptable in the report section.

Before the acceptance of the loadsheets, the signed LIR shall be handed over to the crew to contrast if the actual cargo load and their weight distribution showed on the loadsheet is correct or not.

The original form remains with the station file (min. 3 months), one copy with the head loader and one copy with the commander.

*** FINAL LOADING INSTRUCTIONS REPORT ***
(F O R M A D E C A R G A F I N A L)

VY5172/04.ECHQI.BCN-AMS

Prepared by :



AIRBUS A320P

Time = 11:49

===== Bodegas delanteras =====

-11/N (Peso máx. 1134 Kgs.)

N I L

-12/N (Peso máx. 1225 Kgs.)

-13/N (Peso máx. 1134 Kgs.)

===== Bodegas traseras =====

-31/AKH/AMS/392/B (Peso máx. 1134 Kgs.) **24 BAGS = 312 Kgs**

-32/AKH/AMS/392/B (Peso máx. 1134 Kgs.) **24 BAGS = 312 Kgs**

-41/AKH/AMS/665/B (Peso máx. 1134 Kgs.) **45 BAGS = 585 Kgs**

-42/AKH/AMS/665/B (Peso máx. 1134 Kgs.) **45 BAGS = 585 Kgs**

===== Bulk =====

-5/N (Peso máx. 1497 Kgs.)

N I L

Expected cargo load :

Remarks / Observaciones : **TOTAL = 138 BAGS = 1794 Kgs**

Hold's and uld's have been checked and NO anomalous objects have been found.
This aircraft has been loaded in accordance with these instructions.
The load has been secured in accordance with Company regulations.

Bodegas y contenedores inspeccionados NO habiéndose encontrado nada anormal.
Este avión ha sido cargado conforme a este LIR. Se incluye cualquier
modificación. La carga ha sido asegurada conforme a las normas de la Cía.

Loadmaster signature / Firmado por :



Time / Hora = **14:10**

Juan Gómez. Lic. 41627

4. L.M.C. (Last Minute Changes).-

The loadsheet has to reflect the actual loading stat of the aircraft prior to departure. Any small discrepancy can be corrected by personnel with experienced in load control checking the tolerances given by the underload, balance conditions and the L.M.C. Company procedures. Otherwise the issue of a new loadsheet is mandatory.

5. POST – DISPATCH.-

- Operational load messages : LDM, CPM and UCM.

- All flight documents has to be stored at the departure station a minimum of three months.

Operational load messages must be dispatched, no later than 15 minutes after take-off using standard IATA format.

5.1. LDM message (Load Distribution Message).-

Example :

```
XG AMSAPXH BCNOWVY
.BCNAPXH
LDM
VY5172/04.ECHQI.A320P.Y180.2/05
-AMS.153/1/2.T1794.3/624.4/1170.PAX/154.PRF/0.DHC/0.B138/1794
.CO.MO.E0
```

Explanation :

It's a Load/Distribution message for VY5172 issued in Barcelona on 4th month. Aircraft registration EC-HQI. Aircraft type A320P (A320 palletized). Seating configuration of Y180 where "Y" denoting economy class. 2/05 is the crew configuration : 2 flight deck member and 5 cabin crew.

Destined for Amsterdam, there are 153 adults, 1 child and 2 infants.

In the holds, there is a total of 1794 kgs : 624 kgs in hold 3 and 1170 kgs in hold 4.

There are 154 passengers on board (excluding infants). 0 PRF. 0 DHC. Bags 138 and their weight = 1794 kgs. Cargo 0 kgs. Mail 0 kgs. EIC 0 kgs.

5.2. CPM message (Containers / Pallets Message).-

Only for flights operated by palletized aircraft to inform about the uld's (unit load devices), position, destination, gross weight and content.

Example :

XG AMSAPXH BCNOWVY
.BCNAPXH
CPM
VY5172/04.ECHQI.A320P.BCN
-11/N
-12/N
-13/N
-31/AKH12341VY/AMS/392/B
-32/AKH12342VY/AMS/392/B
-41/AKH/12343VYAMS/665/B
-42/AKH12344VY/AMS/665/B
-5/N

5.3. UCM message (Uld Control Message).-

Only for flights operated by palletized aircraft to inform about the uld's (unit load devices) arriving and departing from station in order to control the stock of uld's.

Example :

XG AMSAPXH BCNOWVY
.BCNAPXH
UCM
VY5172/04.BCN
IN
.AKH12346VY.AKH12347VY
OUT
.AKH12341VY.AKH12342VY.AKH12343VY.AKH12344VY

<http://www.lobyc.com>

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