CORE CONCEPT

Aircraft Load Control and Weight and Balance Course: Load Sheets, Trim and CLC Errors

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Introduction:

Aircraft load control and weight and balance, covering load sheets, trim and CLC errors, is a 1-week course for load planners, loadsheet agents, centralised load control staff and station supervisors that ends with a Load Control Procedure and Error-Prevention Plan for a case organisation. Airlines and ground handlers carry safety exposure when dry operating data, passenger figures, hold loading and last-minute changes reach the loadsheet late or wrong. Nominees already prepare or check mass and balance documents and learn through a modelling build of trim sheets, loadsheets and error logs. CoreConcept Training Center delivers this aircraft load control course.

Course Objectives:

- Calculate aircraft mass, moments and centre of gravity as %MAC from basic empty weight, dry operating weight and dry operating index
- Apply structural weight limits, underload and compartment limits to plan a payload that keeps every phase of flight inside the CG envelope
- Prepare a loading instruction report, loadsheet and NOTOC that match the hold positions, ULD contours and special loads actually loaded
- Process last-minute changes and run the release, transmission and acknowledgement steps of a centralised load control unit
- Investigate load control errors, classify their causes and set barriers, checks and reporting routines within a safety management system
- Produce a Load Control Procedure and Error-Prevention Plan with roles, checklists and performance indicators for a case organisation

Target Audience:

- Load planning staff responsible for building loading instructions, hold distribution and trim for departing flights
- Loadsheet staff responsible for issuing, amending and signing mass and balance documents at the station or remotely
- Centralised load control staff responsible for planning several stations from one unit and handing documents to the flight deck
- Station and ground handling supervisors responsible for checking that hold loading matches the loading instruction
- Airline ground operations and safety staff responsible for load control procedures, audits and occurrence reports

Course Outline:

Day 1: Mass and Balance Principles and the Load Control Baseline

- Reference Datum, Arm and Moment Calculation for Aircraft Mass
- Centre of Gravity Expressed as Percentage of Mean Aerodynamic Chord
- Basic Empty Weight, Dry Operating Weight and Dry Operating Index
- Maximum Zero Fuel, Take-Off and Landing Weight Limits
- Load Control Responsibility Chain From Booking Data to Flight Deck

Day 2: Weight and Balance Manual, Handling Standards and Load Messages

- Aircraft Weight and Balance Manual Charts, Tables and Index Formulae
- IATA Airport Handling Manual Load Control Procedures and Forms
- IATA Ground Operations Manual Load Control Roles and Sign-Off
- Load Distribution Message and Container Pallet Message Structure
- ISAGO Load Control Audit Questions and Evidence Records

Day 3: Load Planning, Loading Instruction Report, Loadsheet and NOTOC

- Allowed Traffic Load and Underload Calculation Before Planning
- Hold Compartment, Running Load and Cumulative Load Limit Checks
- ULD Position Assignment and Bulk Hold Distribution Planning
- Loading Instruction Report Issue and Loaded Versus Planned Reconciliation
- Manual Loadsheet, Balance Chart and NOTOC Preparation Steps

Day 4: Trim Control, Last-Minute Changes, CLC Operations and Load Errors

- Stabiliser Trim Setting Derived From Take-Off CG Position
- Last-Minute Change Limits for Passengers, Bags and Fuel
- Centralised Load Control Workflow Across Remote Stations
- Load Error Taxonomy From Wrong Data to Wrong Hold
- Safety Management System Barriers and Occurrence Reporting for Load Control

Day 5: Modelling Build of the Load Control Procedure and Error-Prevention Plan

- Case Flight Trim Sheet and Loadsheet Build From Raw Data
- Case Last-Minute Change Recalculation and Revised Document Release
- Case Load Error Root Cause Review Using an Occurrence File
- CLC Station Handover Checklist and Load Control KPI Dashboard
- Load Control Procedure and Error-Prevention Plan Completion and Peer Review

Skills You Will Gain:

- Centre of Gravity Calculation
- Dry Operating Index Use
- Payload Limit Analysis
- Hold Distribution Planning
- Loadsheet and NOTOC Preparation
- Trim Setting Verification
- Load Error Investigation
- Load Control Audit Readiness

Why Attend This Course:

- Deliver a Load Control Procedure and Error-Prevention Plan to the head of ground operations, the load control manager and the safety manager
- Decide whether a loadsheet can be released, must be amended or needs a new trim after late passenger, baggage or fuel figures
- Avoid out-of-limit departures, offloads and delays caused by unchecked dry operating data, hold mismatches or late NOTOC entries
- Coach loadsheet and loading colleagues with the trim sheet model, handover checklist and error log built during the course

Conclusion:

Back at work, the participant presents the Load Control Procedure and Error-Prevention Plan to the head of ground operations, the load control manager and the safety manager. They use it to set who prepares, checks and releases each loadsheet, which limits trigger a recalculation, how centralised and station staff hand over documents and which load errors are reported. After the first full schedule season under the plan, the unit should review load error reports, last-minute change volumes, release times and audit findings, then update its checklists and limits.

Frequently Asked Questions FAQ:

What should participants know before an aircraft load control and weight and balance course?

Participants should already prepare, check or supervise loadsheets, loading instructions or hold loading for at least one aircraft type. Basic arithmetic is enough for the calculations. Bringing an anonymised loadsheet, loading instruction report or load error report helps them apply the modelling build to their own operation.

How does an aircraft load control and weight and balance course differ from a ramp handling or flight dispatch course?

It concentrates on the mass and balance calculation and its documents: dry operating data, limits, trim, loadsheet, NOTOC and centralised load control. Ramp handling courses cover equipment and turnaround tasks, and flight dispatch courses cover flight planning, fuel and crew decisions.

Why does centre of gravity matter in aircraft load control and weight and balance?

Centre of gravity decides how the aircraft handles. A forward position reduces elevator authority, while an aft position reduces pitch stability. Load control keeps the centre of gravity inside the certified envelope for take-off, flight and landing and supplies the trim setting the crew needs.

What do participants take back from the aircraft load control and weight and balance course?

Participants take back a Load Control Procedure and Error-Prevention Plan for a case organisation, with a trim sheet model, a last-minute change worksheet, a CLC handover checklist, a load error log and a KPI dashboard they can adapt to their own fleet.