

FLYWARE Á ÍSLANDI EHF

Flyware Powerloader User Guide 6.6.15173

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Contents

ABOUT FLYWARE.....	4
ABOUT POWERLOADER	4
ABOUT ELOADSHEET	5
INSTALLATION AND CONFIGURATION	6
REGISTRATION OF POWERLOADER.....	6
REGISTRATION CODE	6
DEMO ACCOUNT.....	6
HOME SCREEN.....	8
CREATE FLIGHT.....	8
RECENT FLIGHTS.....	9
WEIGHT AND BALANCE SCREEN	10
WEIGHT AND BALANCE SECTION	10
FUEL	11
PASSENGER	12
CARGO.....	12
LOAD CONTROL PANEL	12
FLIGHT DETAILS	13
MAXIMUM WEIGHTS	14
LOADSHEET TEXT	15
USING POWERLOADER.....	17
KEYBOARD SHORTCUTS	17
FINALIZING FLIGHTS	17
TEXT FIELDS AND VALIDATIONS.....	17
SYNCHRONIZATION SERVICE.....	18
ENVELOPE POINTS AND LINES	19
WARNINGS AND ADVISORIES	19

FIGURES IN THIS DOCUMENT

FIGURE 1 – CREATE FLIGHT 8

FIGURE 2 – RECENT FLIGHTS LIST 9

FIGURE 3 – WEIGHT AND BALANCE SCREEN 10

FIGURE 4 – POWERLOADER ACTION BUTTONS 11

FIGURE 5 – MAIN MENU BAR 11

FIGURE 6 – POWERLOADER LOAD CONTROL PANEL 13

FIGURE 7 – FLIGHT DETAIL 14

FIGURE 8 – MAXIMUM WEIGHT 15

FIGURE 9 – LOADSHEET TEXT 16

About Flyware

Flyware is a privately owned company that offers software and solutions to the airline industry. Flyware offers a complete weight and balance solution to meet demanding requirements of regional, low-cost and business operator, commuter airlines and ground service handlers. In addition to world class software, Flyware provides professional services, consultancy, and training.

Flyware's weight and balance solution consists of **eLoadsheet** and **Powerloader**. All products are commercial off the shelf systems to manage aircraft load control and weight and balance. **eLoadsheet** was originally based on the **Powerloader** weight and balance application which was created in 1994. **eLoadsheet** is an online application first launched in 2001 and is today serving more than 500 aircraft from over 30 airlines and handling agents all over the world.

Flyware has been a **Jeppesen** partner since 2003 and offers a **Jeppesen** branded versions of **eLoadsheet** and **Powerloader**. **Jeppesen** is recognized as the world's foremost provider of integrated aviation information solutions and the partnership has been very successful.

Flyware support email address: support@flyware.net
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About Powerloader

Powerloader is an on/offline desktop weight and balance solution. Powerloader uses a local database for all aircraft data manipulation and calculation. The database automatically synchronizes with a master aircraft database via the internet. All information is displayed in an easy-to-read manner on the screen so that users do not need to navigate between many dialog boxes to perform all tasks. Powerloader is especially practical for cargo operators; it can be used in the cockpit by the pilots themselves, thus eliminating the need for a special loadmaster.

Powerloader can be used in conjunction with eLoadsheet. Since it does not require a constant internet connection it can be used in off-line situations, such as on board the airplane or in rural areas where internet connections are not reliable. eLoadsheet and Powerloader share the same aircraft database and the same user repository making the systems completely integrated.

Powerloader is a Microsoft .Net 4.0 client and uses SQL Compact as a mobile database to store data. Powerloader supports W7, Windows Vista and Windows XP - x86 and x64 where applicable. Minimum requirements are 500mb in internal memory, decent CPU and very moderate hard disk space.

About eLoadsheet

eLoadsheet is a modular system with several deployment variations available. **eLoadsheet** in essence consists of the core weight and balance functionality and the user interface and it is fully compliant with IATA AHM 560/565 standards. **eLoadsheet** is designed to increase productivity, efficiency and flexibility when it comes to load control.

eLoadsheet fully supports centralized load control and provides has capabilities to integrate with legacy systems. Manual loading through visual drag and drop with intuitive auto load algorithm provides users with the optimal load for the aircraft resulting in more efficient distribution of weight and gain of optimal center of gravity (CG). Auto load algorithm calculates the optimal location and distribution based on individual or accumulative limits and constraints for bays, holds and compartments. Dynamic limits can also be added to define further any limitation of a section or sections.

eLoadsheet and **Powerloader** support various trim options and both Arm and Index configured aircraft. Both **eLoadsheet** and **Powerloader** have extensive capabilities for passenger management, cargo management both for commercial and military use.

For further information on Flyware and Flyware's products please visit our website, <http://www.flyware.net>.

Installation and Configuration

Registration of Powerloader

To register Powerloader, a valid eLoadsheet username and password, and a valid Registration code are needed. The registration steps are as follow:

1. Acquire a valid **eLoadsheet** user name and password AND a valid registration key.
2. Launch **Powerloader**.
3. Type in the **Registration code**, user name and password and click enter.
4. **Powerloader** will authenticate the user credentials and authorize with **eLoadsheet**.
5. If registration is successful, **Powerloader** will download aircraft and configuration from **eLoadsheet**.
6. Start using **Powerloader**.

Access for demo purposes is also available for both eLoadsheet and Powerloader; please see Demo account below for further information.

Registration code

A unique Registration code and a valid username and password are required to use Powerloader. The Registration code is used to link Powerloader with a specific user and airline in eLoadsheet. The username and password are required to authenticate the user against eLoadsheet and to authorize the Registration code.

The Registration code can be found in the Registration code section in eLoadsheet. To find it, log into eLoadsheet and click on the Registration Management main menu item. That will display the section from where a key can be generated or retrieved. A supervisor is able to create keys for other users in the eLoadsheet Registration code section.

Demo account

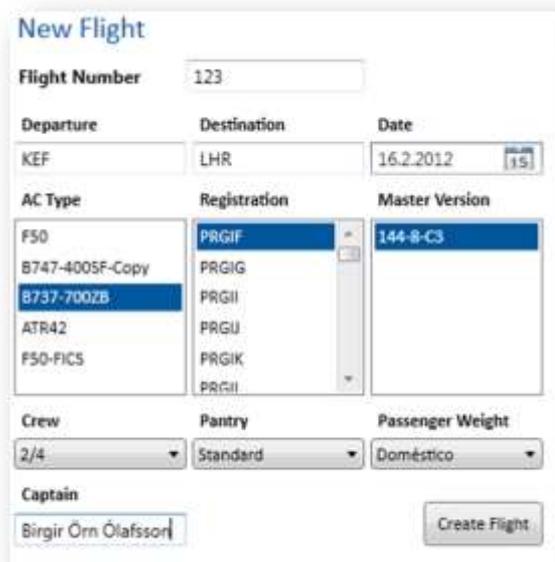
Demo account user can use Powerloader with the Registration code they get when signing up for a demo account in eLoadsheet. The key is included in the email that

includes the user name and password. Once registered with the user name, password and Registration code, Powerloader is linked to the Demo setup of eLoadsheets.

After installation, the registration page is displayed and on it is a link to the demo signup account in eLoadsheets. The demo account provides access to Powerloader and eLoadsheets. Demo users can try out these two products using i.e. A340, B737-800 and a B747 freighter.

Home Screen

Create flight



New Flight		
Flight Number	123	
Departure	Destination	Date
KEF	LHR	16.2.2012 [15]
AC Type	Registration	Master Version
F50 B747-400SF-Copy B737-700ZB ATR42 F50-FICS	PRGIF PRGIG PRGII PRGIU PRGIK PRGIL	144-8-C3
Crew	Pantry	Passenger Weight
2/4	Standard	Doméstico
Captain		Create Flight
Birgir Örn Ólafsson		

Figure 1 – Create Flight

To create a flight, select the Home main menu item and the flight creation page will be displayed. Specify the following to create a flight:

- Enter the flight number in the **Flight Number** text box.
- Specify the IATA or ICAO code for the **Departure** station and the **Destination**.
- Select the departure date in the date field selecting from the drop down date picker.
- Select the **Aircraft Type** in the list that will display the **Tail number** and the **Master version** available for the selected aircraft type. The default tail number and master version will be selected; selecting different ones is possible by clicking on them.
- Specify the **Crew Code** (default crew code is pre-selected if configured, grayed out if not available).
- Specify the **Pantry Code** (default pantry code is pre-selected if configured, grayed out if not available).

- Specify the **Passenger Weight** setting (default setting is pre-selected if configured, grayed out if not available).
- Optionally, specify the Commander's name.
- Click on **Create Flight** button.

Once created, the weight and balance screen will be displayed and the process can continue to the Weight and Balance section.

Trying to create or open a flight with another flight open (and not finalized) will display a dialogue box asking the user to confirm he wants start working on a flight and discard the currently open flight.

Recent flights

The Recent Flights in the Home Screen lists flights that have previously been worked on. The flight status will indicate whether or not the load control process has been completed or not. An Open status will indicate if the flight is still open and Finalized status will indicate the flight has been finalized.

Selecting a flight in the Recent Flight list will display the documents that have been generated for the flight on the right side. Clicking on the document icons will open the document and allow the user to print or save the document.

Flights that have been finalized will eventually be uploaded to eLoadsheet and removed from Powerloader and therefore no longer in the list of recent flights.

Recent Flights							
Flight Number	Departure	Destination	Date	Aircraft Type	Registration	Flight Status	
132	132	132	3/28/2012	A340-313 Demo	_A31	Preliminary	Open
123	222	333	3/28/2012	Testo	PRGIE	Finalized	
123	KEF	LHR	3/28/2012	A340-313 Demo	_A31	Finalized	
123	111	222	3/28/2012	Testo	PRGIE	Finalized	
123	123	132	3/28/2012	Testo	PRGIE	Finalized	

 Load Message
3/28/2012
EDNO:1

 Loading Instruction/Report
3/28/2012
EDNO:1

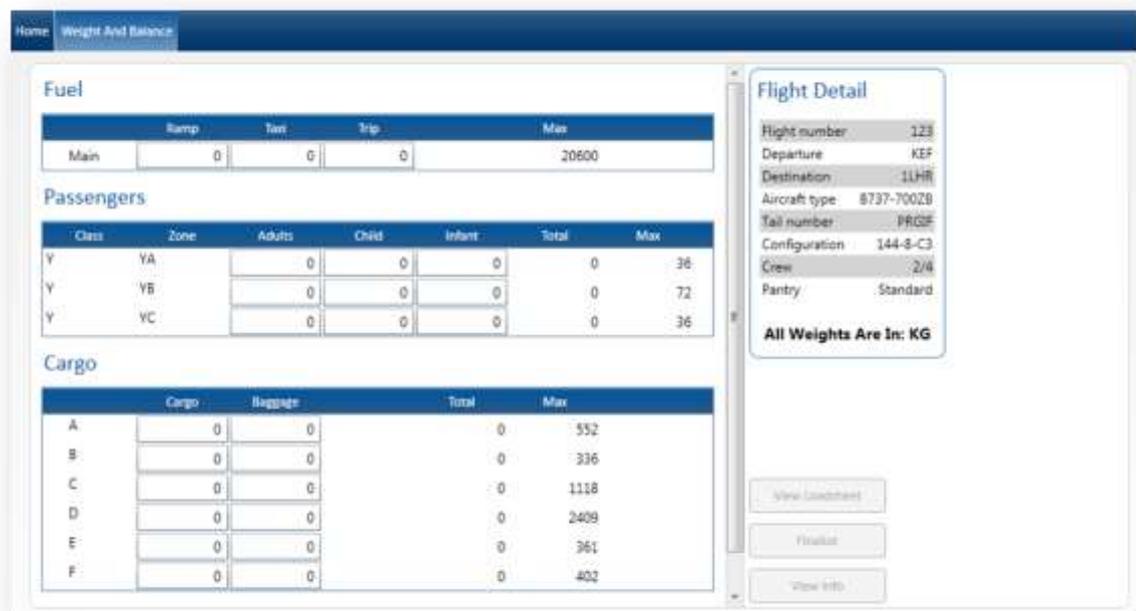
 Loadsheet
3/28/2012
EDNO:1

Figure 2 – Recent flights list

Weight and Balance Screen

Weight and Balance Section

The weight and balance screen is where the flight is configured for Fuel, Passengers and Cargo. The section also displays the Flight details and the Load Control Panel.



The screenshot shows the 'Weight And Balance' screen with the following data:

Fuel				
	Ramp	Taxi	Trip	Max
Main	0	0	0	20600

Passengers						
Class	Zone	Adults	Child	Infant	Total	Max
Y	YA	0	0	0	0	36
Y	YB	0	0	0	0	72
Y	YC	0	0	0	0	36

Cargo				
	Cargo	Baggage	Total	Max
A	0	0	0	552
B	0	0	0	336
C	0	0	0	1138
D	0	0	0	2409
E	0	0	0	361
F	0	0	0	402

Flight Detail	
Flight number	123
Departure	KEF
Destination	11HR
Aircraft type	8737-700Z0
Tail number	PRCCE
Configuration	144-8-C3
Crew	2/4
Pantry	Standard

All Weights Are In: KG

Buttons: View Loadsheet, Finalize, View Info

Figure 3 – Weight and Balance Screen

Beneath the Flight Details are 3 buttons:



Figure 4 – Powerloader action buttons

- **View Loadsheet** - displays the loadsheet for the current information, status of loadsheet is "Preliminary".
- **Finalize** - finalizes the flight, produces the loadsheet with the status "Finalized". See Finalizing flight for more details.
- **View Info** - displays a version of the loadsheet with a limited amount of information in a specific format.

The top of the screen on the far right shows the user registered for Powerloader. Additionally, the help icon that will display the help file (the one you are reading). The name of the Airline is displayed in the middle of the top of the screen.



Figure 5 – Main menu bar

Powerloader has many features to ease the navigation, please see Keyboard shortcuts for further details.

Fuel

The fuel tank/s is displayed in the fuel section in the Weight and Balance screen. If multiple fuel tanks exist, they will all be displayed.

The Ramp Fuel, Taxi and Trip fuel need to be set for the flight. The Max displays the maximum fuel capacity.

Passenger

The Passenger section displays the passenger information for the flight based on the default trim option (zone trim, row trim etc.) specified for the aircraft. Trim options, Gender split option (use gender split or Adults) and the Passenger Weight settings are configured in the aircraft database in eLoadsheets.

However, a different Passenger Weight setting can be specified in the Home screen in the drop down menu for Passenger Weights.

The maximum number of passengers for the row/zone/class is displayed on the far right under the Max heading. The total number of passengers is displayed under the Total heading.

Cargo

The Cargo section shows the available cargo bay/compartments of the aircraft with the names as they have been specified. The bays/compartments are listed with the possibility of specifying the number of kilograms for either cargo or baggage that goes into each bay/compartment.

The Total field displays the total amount of cargo and baggage that can be assigned to the bay/compartment. The Max displays the maximum amount of cargo and baggage that can be assigned to the bay/compartment. If the maximum number is exceeded, a red box will be displayed where the maximum is exceeded and the flight will not be valid, cannot be finalized and therefore no load-sheet can be produced.

Load Control Panel

The Load Control Panel towards the bottom displays various information relevant to the flight:

- The weight for DOW (Dry Operating Weight), TOF (Take-off fuel), RF (Ramp Fuel) and TF (Trip fuel).
- The weights for MZFW (Maximum Zero Fuel Weight), MTOW (Maximum Take Off Weight), MRW (Maximum Ramp Weight) and MLDW (Maximum Landing Weight).

- The Weight, Index and MAC are displayed for ZFW (Zero Fuel Weight), TOW (Take Off Weight), RW (Ramp Weight) and LDW (Landing Weight).
- ATL (Allowed Traffic Load), Loadsheet valid? (True/False) and Underload are also displayed in the Load Control Panel.

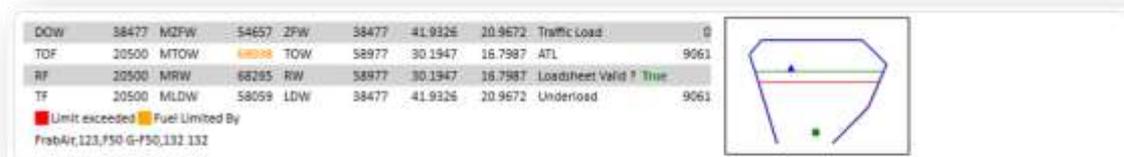


Figure 6 – Powerloader load control panel

The envelope is always visible in the Load Control Panel and will reflect loading and fuel figures. See Envelope points and lines for further information.

Warnings and Advisories are messages that are displayed right next to the envelope that will alert the dispatcher of a condition that prevents the flight from being finalized (Warning) or is a suggestion of a discrepancy that does not prevent the flight from being finalized (Advisory). See Warnings and Advisories for further information.

Flight Details

The Flight Details section displays the relevant flight information. It displays the Flight number, Departure and Destination, Aircraft information, Crew information, Pantry information and the Passenger weight settings.

Flight Detail displays the weight units that the load sheet is represented and calculated in (KG,LBS).

Flight Detail	
Flight number	123
Departure	KEF
Destination	1LHR
Aircraft type	B737-700ZB
Tail number	PRGIF
Configuration	144-8-C3
Crew	2/4
Pantry	Standard

All Weights Are In: KG

Figure 7 – Flight detail

Maximum Weights

The Max weights section offers the possibility of modifying maximum weights for MRW, MTOW, MLW, and MZFW. The default values can be overridden.

Each tail number has structural weight limitations that cannot be exceeded. The active maximum weight limitations can be lowered using the maximum weights, but they cannot exceed the structural limitation of the aircraft.

The max weights section has two buttons. Override will allow the user to override the values. Use Structural will revert back to the structural maximum weights.

Maximum Weights 🔒

Weight	Max Weight	Structual Max
MRW	<input type="text" value="18600"/>	68265
MTOW	<input type="text" value="20820"/>	68038
MLDW	<input type="text" value="19730"/>	58059
M2FW	<input type="text" value="18600"/>	54657

Figure 8 – Maximum weight

The Max weights section is by default collapsed. Clicking on the arrow on the Max weights will expand the section and allow for the modification of maximum weights. In the header of the maximum weights section a lock indicates the status of the maximum weights. If it is locked, then the default, structural maximum weights are used. If it is unlocked, than the modified maximum weights (reduced) are being used for the flight.

Loadsheet Text

The Loadsheet Text area presents the user with an option of inserting information on the loadsheet. The information is entered and is saved instantly. Deleting the text will remove it from the loadsheet.

The Loadsheet Text section is by default collapsed. Clicking on the arrow on the Loadsheet Text will expand the section and allow for the addition, modification or removal of the text on the loadsheet.

Loadsheet Text

The following text will be displayed on the loadsheet:

Enter text in this box and it will be saved instantly and displayed on the loadsheet. To remove the text from the loadsheet, simply delete it from here.

Figure 9 – Loadsheet Text

Using Powerloader

Keyboard Shortcuts

Powerloader is designed for ease of use with straight forward single screen entry for flight creation and for the weight and balance process. In addition to that, many features are available to make navigation easier and straight forward. Features like the following:

- Using the Tab button provides easy navigation to the next input field or the next input section.
- Using Shift+Tab will navigate to the previous input field and section. Where possible, using Tab will put focus on the text immediately.
- Using the Arrow keys (up and down) will increment the selected text.
- Using the Space bar will put focus on the item selection in a list (like aircraft type in aircraft selection on the Home Page).
- Collapsible sections (like Max weight) can be expanded/collapsed using the Tab to navigate and the Space bar to collapse/expand the section.
- Pressing F1 will open up the help file.

Finalizing flights

Finalizing a flight is an important part of the load control process in Powerloader. After the entire flight configuration has been completed (and the flight is valid) - finalizing the flight will complete the process, close the flight and produce the loadsheet and navigate to the Home screen to start the process again.

The loadsheet can be viewed at all times by clicking on the View Loadsheet button under the Flight Details. That will display the loadsheet from where it can be printed or saved to a folder. While the flight is open, the status of the flight is Preliminary and will be indicated as such on the loadsheet. Once finalized, the status will change to Finalized on the loadsheet.

Text fields and validations.

Text fields are limited to what type of text can be inserted. All the text fields are validated for i.e. text type and if they need to be filled out. If an entry is missing where needed or if an inserted text is not legal, the text field will be highlighted with

a red frame. Flights cannot be finalized unless all entry is legal. The following list describes this in further detail:

- Flight number can be any letter, number or a combination of the two.
- City codes are standard 3 letter (IATA) or 4 letter codes (ICAO).
- The following text areas can only be numbers: Fuel figures, Passenger number, Cargo weight.
- Commander name is optional and is a free text entry field.

Synchronization Service

The synchronization service ensures that the Powerloader aircraft database is in sync with the eLoadsheet database. Changes made to the aircraft in the eLoadsheet aircraft database will therefore automatically be accounted for in Powerloader.

Powerloader must be running to be able to synchronize. Powerloader can be running on the screen or minimized to the Windows taskbar tray in the bottom right corner. When minimized, synchronization notifications are displayed automatically when available.

The synchronization service attempts sync with eLoadsheet every two minutes. If the eLoadsheet aircraft database has changed, the synchronization service will update the Powerloader aircraft database and will display a message to the user that the database has changed with information on the aircraft/s in question and how they were changed (updated, archived and/or added).

On the bottom far left there is an icon indicating the status of the synchronization service, hovering over the icon will display a tooltip with the status. The status can be as follows:

- A clock icon will show that Powerloader is planning to start the synchronization service.
- A green flag will indicate that synchronization service was successful.
- A red cross will indicate that the update was not successful, continued problems may indicate a problem with the update service in eLoadsheet or Powerloader.
- An "Icon" indicates that there are problems with the synchronization service (in which case, restarting Powerloader may resolve that).

Continued connection problems may indicate a problem with the update service in eLoadsheet or Powerloader and further assistance will therefore be needed. Please contact your help desk for assistance.

Envelope points and Lines

The envelope is always visible in the Load Control Panel and will reflect actual center of gravity limitations and the weight and balance influences. The envelope shows the following information:

- Black Line - Represents the Ideal Index (if available).
- Green Line - Represents the landing CG envelope.
- Red line - Represents the Zero Fuel CG envelope.
- Blue line – Represents the Take Off CG envelope.
- Blue triangle - Represents the Take Off balance influences.
- Green rectangle – Represents the Landing balance influences.
- Red diamond – Represents the Zero Fuel balance influences.

Warnings and Advisories

Warnings and advisories are messages that are displayed right next to the envelope that will alert the dispatcher of a condition that prevents the flight from being finalized (Warning) or is a suggestion of a discrepancy that does not prevent the flight from being finalized (Advisory) but may need attention.

Warnings are displayed if a flight is not valid, a Warning is displayed indication the reason for why the flight is not valid - for example a maximum weight has been exceeded. The warning will disappear once the discrepancy has been corrected.

Advisories are suggestions or notification of issues that do not prevent the finalization of the flight.

-End of User Guide