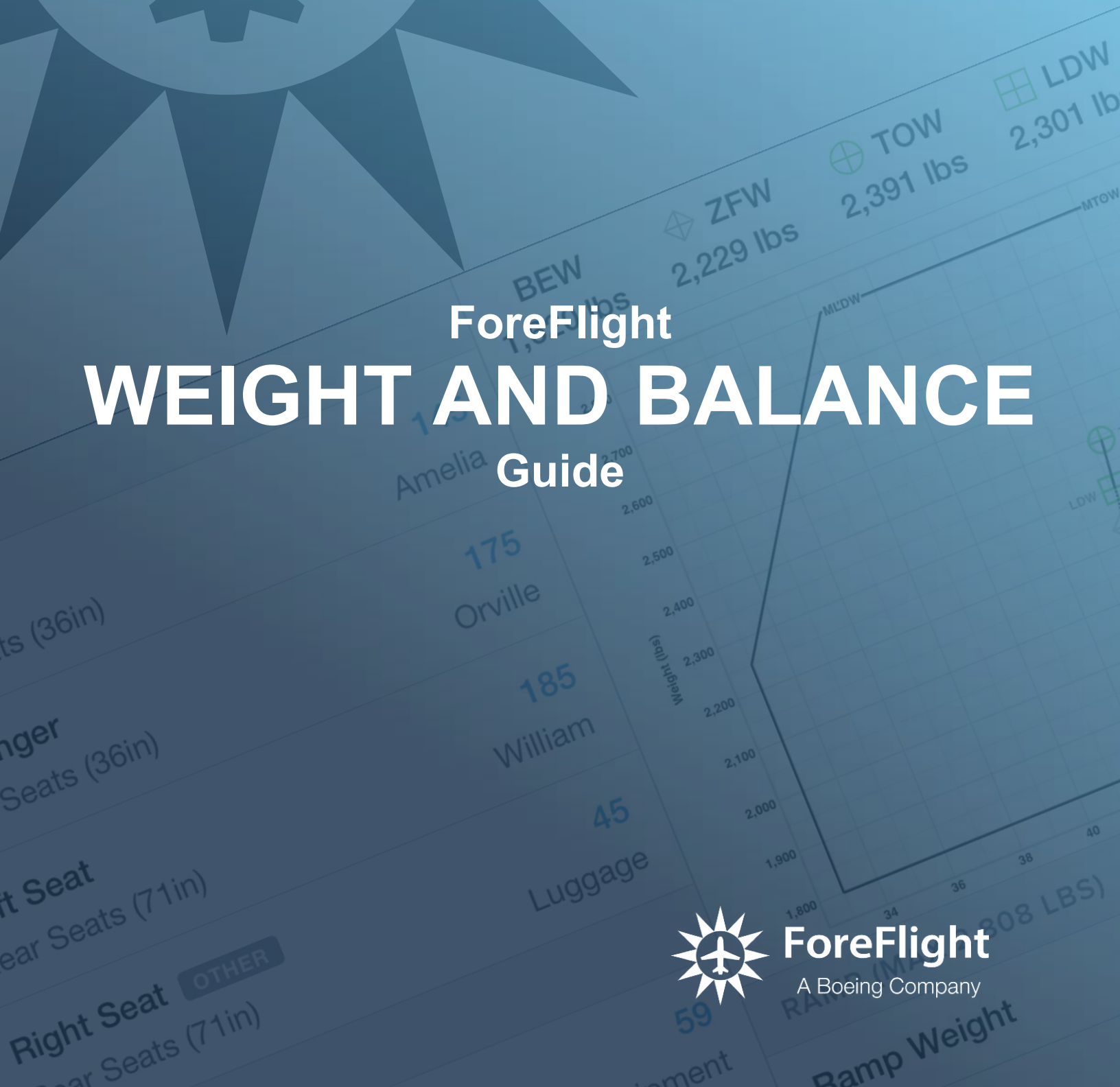




ForeFlight WEIGHT AND BALANCE Guide



ForeFlight
A Boeing Company

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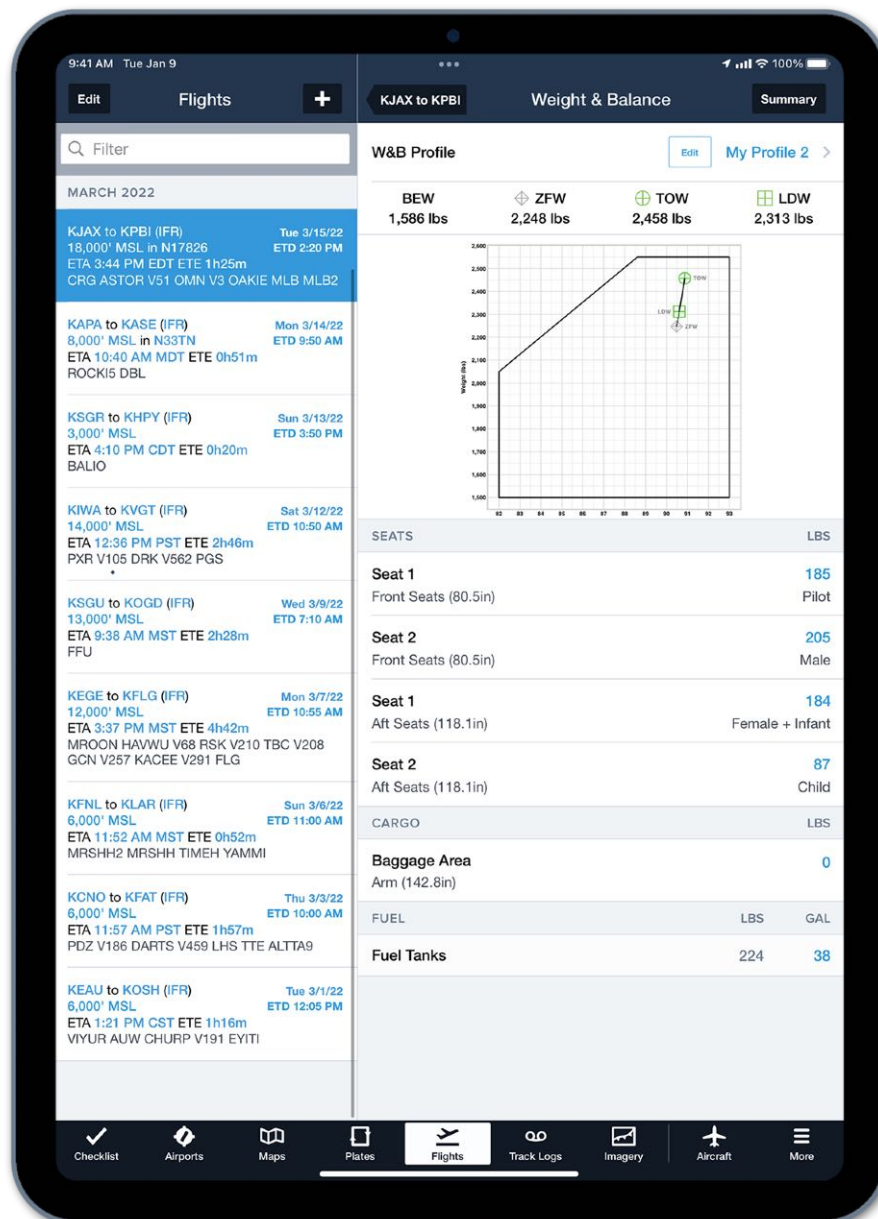
DEFINITIONS

Abbreviation	Definition
BEW	Basic Empty Weight
BOM	Basic Operating Mass
BOW	Basic Operating Weight
CG	Center of Gravity
FAA	Federal Aviation Administration
ICAO	International Civil Aviation Organization
KG	Kilogram
LBS	Pounds
LDW	Landing Weight
MAC	Mean Aerodynamic Chord
MLDW	Maximum Landing Weight
MRW	Maximum Ramp Weight
MTOW	Maximum Takeoff Weight
MZFW	Maximum Zero Fuel Weight
PDF	Portable Document Format
STC	Supplemental Type Certificate
TOW	Takeoff Weight
W&B	Weight and Balance
ZFW	Zero Fuel Weight

INTRODUCTION

ForeFlight Mobile's Weight and Balance (W&B) tool delivers real-time calculations to help ensure aircraft are loaded within operational limits. By using accurate and current data, the tool enables efficient flight planning.

This guide provides an overview of ForeFlight Mobile's Weight and Balance tool, including the available versions, usage instructions, and key features. For a visual walkthrough, visit the [ForeFlight Weight and Balance webpage](#).



ForeFlight Mobile Integrated Weight and Balance

1. INTRODUCTION

1.1 Weight and Balance Tools

ForeFlight Mobile includes multiple Weight and Balance tools tailored to user needs and subscription tiers.

1.1.1 Legacy Weight and Balance

Legacy Weight and Balance is the original, standalone Weight and Balance tool and is not integrated with other ForeFlight Mobile features. This tool is being phased out in favor of Enhanced Weight and Balance.

To access Legacy Weight and Balance:

- **Starter, Essential, and Premium customers:** Disable Enhanced Weight and Balance under **More > Accounts > ForeFlight Labs**.
- **Business and MFB customers:** Request access by emailing team@foreflight.com.

NOTE: Only one weight and balance tool can be active—either Legacy or Enhanced Weight and Balance.

1.1.2 Enhanced Weight and Balance

Enhanced Weight and Balance is the current standard for all ForeFlight Mobile customers. It is enabled by default for Business and MFB accounts. Starter, Essential, and Premium customers can enable Enhanced Weight and Balance under **More > Accounts > ForeFlight Labs**.

NOTE: Except where explicitly stated, all references to weight and balance in this guide refer to Enhanced Weight and Balance.

1. INTRODUCTION

1.1.3 Integrated Weight and Balance

Integrated Weight and Balance is available with Premium, Business Performance, MFB Performance, and MFB One subscriptions. Integrated Weight and Balance:

- Adds Enhanced Weight and Balance directly into the Flights view.
- Automatically copies payload and fuel data from the planned flight into the Weight & Balance tab.
- Streamlines the planning process.
- Preserves weight and balance data with each flight.

1.1.4 Graphical Weight and Balance

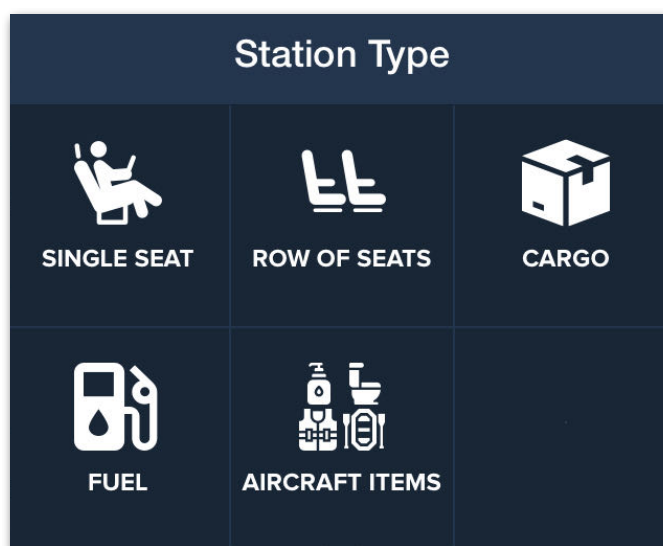
Graphical Weight and Balance, available with Premium, Business Performance, MFB Performance, and MFB One subscriptions, enhances usability through a dynamic visual interface. Users can manage aircraft loading by interacting with graphical station layouts.

1. INTRODUCTION

1.2 Key Differences: Enhanced Verses Legacy

Enhanced Weight and Balance introduces several improvements over Legacy Weight and Balance:

- **Aircraft Association** - Enhanced Weight and Balance profiles are integrated into the aircraft profile and can be configured via the **Aircraft** view. Legacy Weight and Balance profiles are standalone.
- **Station Type Support** - Enhanced Weight and Balance supports station type designation, which restricts allowable load types per station.



Enhanced Weight and Balance Station Types

- **Complex Configurations** - Enhanced Weight and Balance supports multiple fuel tanks, each with either a fixed or variable arm. Legacy Weight and Balance supports only one tank with a variable arm.
- **Flights Integration** - Enhanced Weight and Balance integrates with the Flights view for Premium, Business Performance, MFB Performance, and MFB One subscriptions. The integration reduces duplicate input of fuel and payload information and saves weight and balance data with the flight record.

1. INTRODUCTION

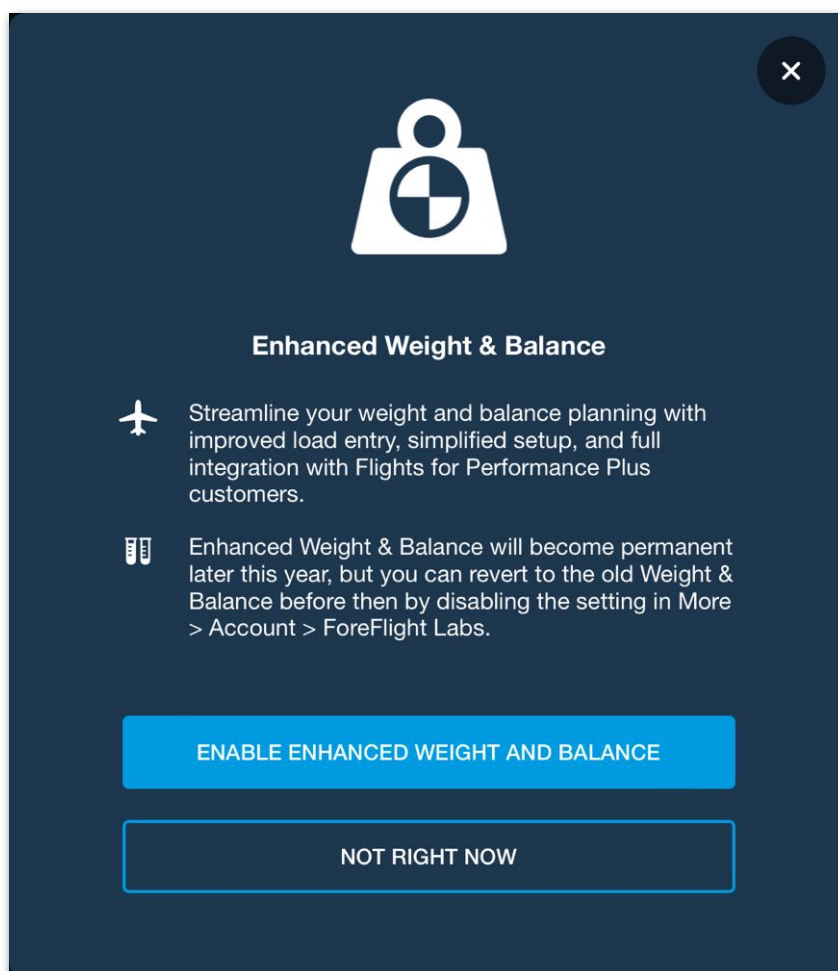
1.3 Transitioning from Legacy to Enhanced

When updating ForeFlight Mobile, a prompt appears to enable Enhanced Weight and Balance. To defer, select **Not Right Now**.

Starter, Essential, and Premium customers can enable Enhanced Weight and Balance under **More > Accounts > ForeFlight Labs > Enhanced Weight & Balance**.

Business and MFB users cannot disable Enhanced Weight and Balance.

Weight and balance profiles created in the Legacy format can be converted to Enhanced format using [Migration Assistant](#). If Enhanced Weight and Balance is disabled after being enabled, converted, or newly created, Enhanced profiles remain saved for future use.



Enhanced Weight & Balance Pop-up

WEIGHT AND BALANCE PROFILES

Weight and balance profiles are part of an aircraft profile and can be added through the Aircraft, Weight & Balance, or Flights views. Once created in any view, the profile is available across all other views.

Multiple weight and balance profiles may be configured for a single aircraft. Separate profiles should be used for different configurations or center of gravity (CG) envelopes (e.g., normal and utility).

The process to complete a profile follows these steps:

1. Gather **required information**: station details, basic empty weight, and forward and aft CG limits.
2. **Create an aircraft profile** (if not already created).
3. **Add a Weight and Balance profile** to the aircraft profile.
4. **Select a template**.
5. Complete **all sections of the selected template**.
 - If using a **prebuilt template**:
 - Input basic empty CG and weight
 - Verify prepopulated station and CG limit data
 - If using a **blank template**:
 - Manually complete all sections
 - If using a legacy template:
 - Convert with **Migration Assistant**.

4-Seat Arrangement	
Profile Name	4-Seat Arrangement
Basic Empty CG	133.2 in
Basic Empty Weight	2756 lbs
STATIONS	
Front Seats 2 Seats	80.5 in >
Rear Seats 2 Seats	118.1 in >
Tail Compartment Limit 200 lbs	142.8 in >
Main Tanks Limit 648 lbs	95 in >
Add Station	
FORWARD CG LIMITS	
89 in	3,800 lbs
85 in	3,400 lbs
84 in	2,800 lbs
84 in	2,300 lbs
Add Forward Limit	
AFT CG LIMITS	
93 in	2,300 lbs
93 in	3,800 lbs
Add Aft Limit	

**Complete Weight and Balance
Profile Aircraft View**

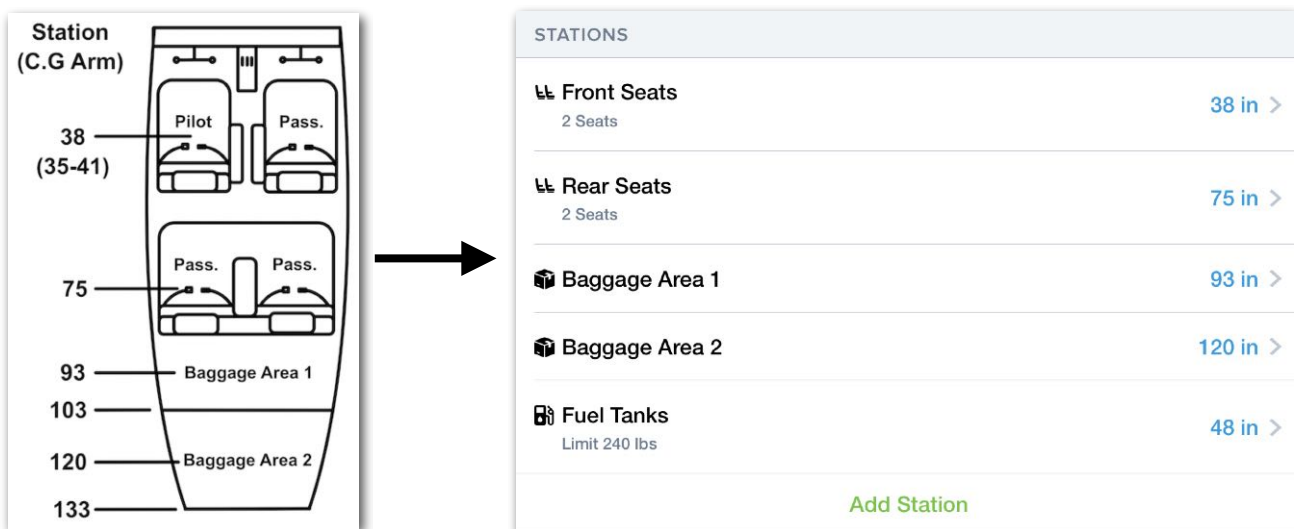
2. WEIGHT AND BALANCE PROFILES

2.1 Required Information for Weight and Balance Profiles

Information required to create a weight and balance profile is typically found in the Limitations or Weight and Balance sections of the aircraft flight manual and may be presented textually or graphically. Gather the following before creating a new profile:

- Basic Empty Weight and CG from the latest weighing
- Weight limits (e.g., baggage compartment limit)
- Forward and Aft CG Limits (often shown as a two-dimensional envelope)
- Station arms and weight limits.

The image below depicts a graphical station diagram and how that information is transferred to the weight and balance template.



2. WEIGHT AND BALANCE PROFILES

2.2 Creating an Aircraft Profile

A weight and balance profile requires an existing aircraft profile. To create one:

1. Select **More > Aircraft**.
2. Tap the add aircraft **[+]** button in the upper toolbar.
3. In the General section, enter the Tail Number and Type.
4. Verify and edit auto-populated data as needed.

Aircraft Type

208

CESSNA AIRCRAFT

208 Caravan Cargo Pod
PT6A-114A 208 Cargo Pod (675 SHP)
4 ForeFlight Performance Profiles
Supports Takeoff & Landing Performance
C208 ☐

208 Caravan No Pod
PT6A-114A 675SHP
6 ForeFlight Performance Profiles
Supports Takeoff & Landing Performance
W&B Template Available
C208 ☐

208 Caravan No Pod
PT6A-114A 675SHP TKS
4 ForeFlight Performance Profiles
Supports Takeoff & Landing Performance
C208 ☐

Selecting an Aircraft Type

NOTE: When selecting an aircraft type, a “**W&B Template Available**” notation is displayed when at least one **Prebuilt Template** exists for the aircraft type.

2. WEIGHT AND BALANCE PROFILES

2.2.1 Weights Section of Aircraft Profile

The Weights section of an aircraft profile contains manufacturer data integrated into the weight and balance profile. This data must be verified for accuracy based on the selected aircraft type, variant, and applicable certifications.

WEIGHTS	
Weight Units	Pounds
Basic Empty Weight	1,500
Max Zero Fuel Weight	2,450
Max Ramp Weight	2,455
Max Takeoff Weight	2,450
Max Landing Weight	2,450

Aircraft Weights Section

2.2.1.1 Weight Fields

Fields in the Weight section are:

- **Weight Units:** Select either pounds or kilograms.
- **Basic Empty Weight (BEW):** Auto-populated with a value that should be updated based on the most recent aircraft weighing. BEW includes the weight of the airframe, engine(s), unusable fuel, undrainable oil, and standard and optional equipment.
- **Max Zero Fuel Weight (MZFW):** Auto-populated with the maximum allowable weight of the aircraft loaded with passengers or cargo but without usable fuel. If the aircraft has no MZFW defined, set equal to the Max Takeoff Weight.
- **Max Ramp Weight (MRW):** The highest allowable aircraft weight, including all fuel. MRW typically exceeds the Max Takeoff Weight.
- **Max Takeoff Weight (MTOW):** The maximum allowable weight for takeoff.
- **Max Landing Weight (MLDW):** The maximum allowable weight at landing.

2. WEIGHT AND BALANCE PROFILES

2.3 Adding a Weight and Balance Profile

Weight and balance profiles can be added through the Aircraft, Weight & Balance, or Flights views. Profiles added with one view are accessible from the others.

2.3.1 Adding Profiles from the Aircraft View

To add a weight and balance profile from the Aircraft view:

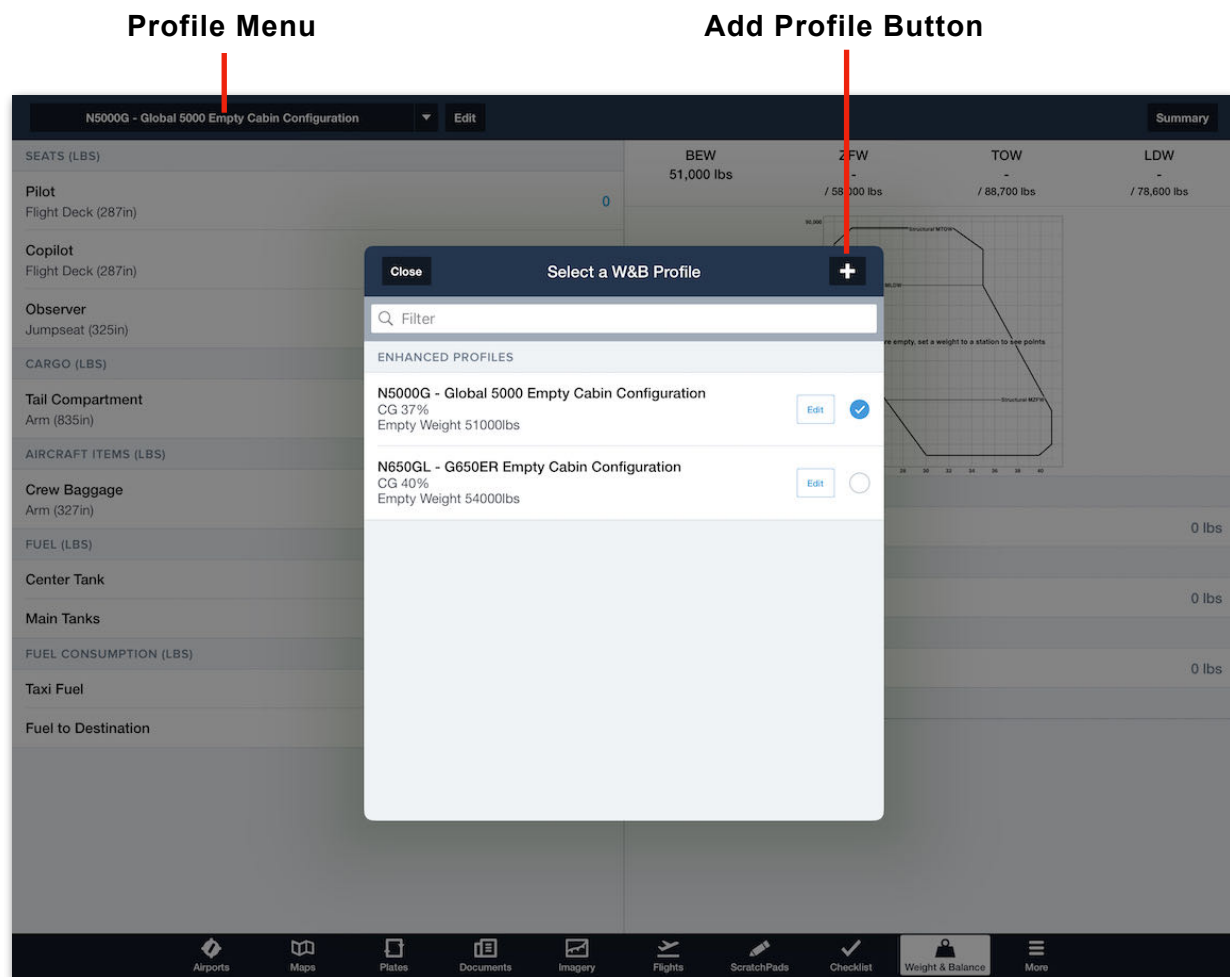
1. Tap **More > Aircraft**.
2. Select an existing aircraft profile.
3. Scroll to the Weight & Balance section.
4. Tap **Add W&B Profile**.
5. **Select a template**.

2. WEIGHT AND BALANCE PROFILES

2.3.2 Adding Profiles from the Weight and Balance View

To add a weight and balance profile from the Weight and Balance view:

1. Tap **More > Weight & Balance**.
2. Tap the profile menu in the upper toolbar (see image below).
3. Tap the Add Profile **[+]** button in the pop-up.
4. Select an aircraft.
5. **Select a template.**



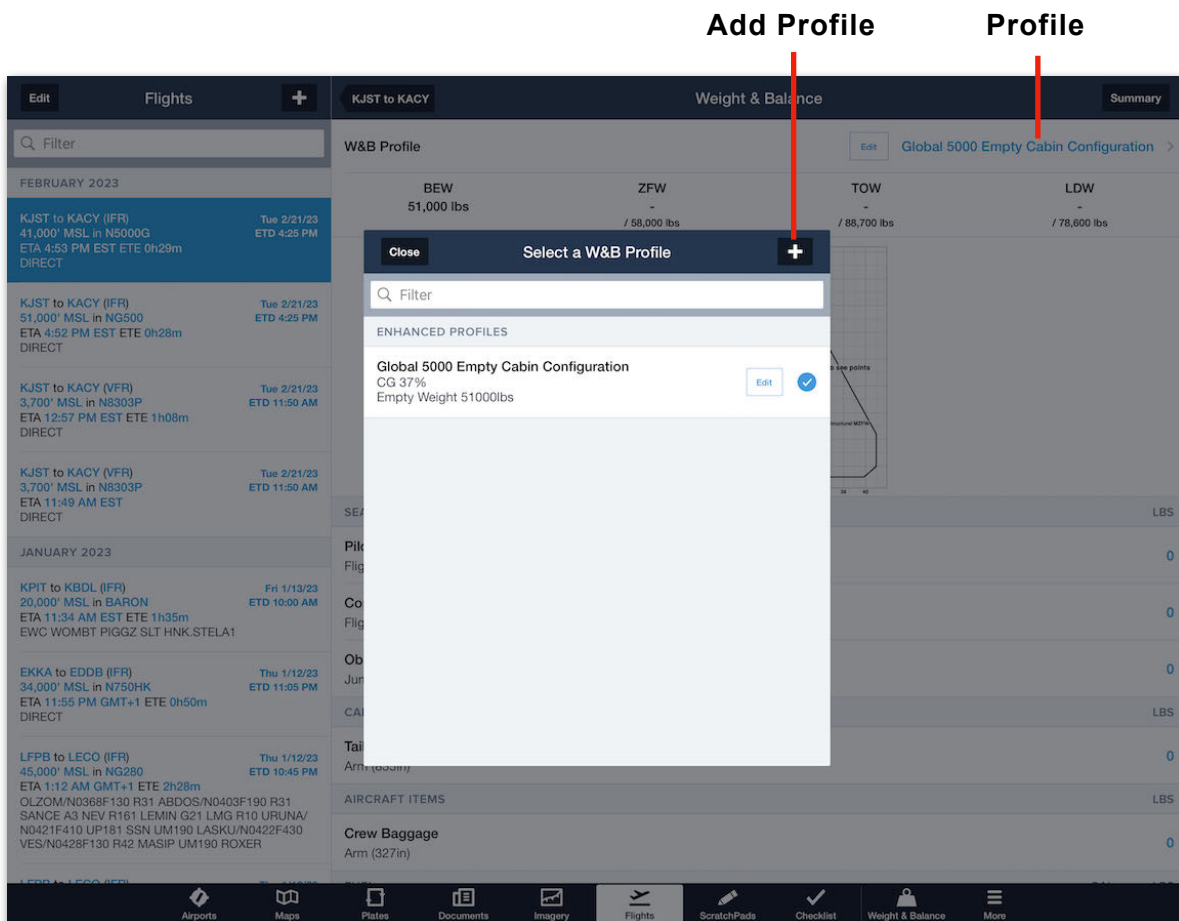
Adding Profiles with the Weight & Balance view

2. WEIGHT AND BALANCE PROFILES

2.3.3 Adding Profiles from the Flights View

To add a weight and balance profile from the Flights view (Premium, Business Performance, MFB Performance, and MFB One subscriptions):

1. Tap **More > Flights**.
2. Select a flight.
3. Scroll to the Payload section.
4. Tap **Weight and Balance**.
5. Do one of the following:
 - If no profile exists, tap the **Add Profile [+]** button in the pop-up.
 - If a profile already exists, tap the selected weight and balance profile at the top of the view, then tap the **Add Profile [+]** button.
6. **Select a template.**



NOTE: Adding profiles from Flights is not available on multi-pilot accounts.

2. WEIGHT AND BALANCE PROFILES

2.4 Templates Types

Templates are used to complete a weight and balance profile. Three template types are available for completing weight and balance profiles:

- **Prebuilt templates:** Pre-populated with manufacturer data. Only basic empty CG and weight are needed. See [Prebuilt Templates](#) for additional information.
- **Blank templates:** Fully manual entry of all data.
- **Legacy templates:** Created using [Legacy Weight and Balance](#). Convert with [Migration Assistant](#).

Back Step 2/2: Select Template

FROM TEMPLATES

Prebuilt Template — Pilatus Aircraft PC-12/45 (PT6A-67B, 4-Bladed Prop, Canadian Curtailed Envelope)
Executive EX-4S-STD-4S (CA) ☐

Blank Template — Blank Template
Create a custom cabin layout ☐

BY MIGRATING LEGACY PROFILE

Legacy Templates — Beechcraft F33A
Beech F33A #CE-4xx ☐

King Air C90GT
Raytheon Aircraft Company C90GT ☐

Piper Meridian
Piper PA-46-500TP ☐

8KCAB Normal Category
American Champion Super Decathlon (8KCAB) ☐

DHC-2
DeHavilland DHC-2 Mk. 1 #10xx ☐

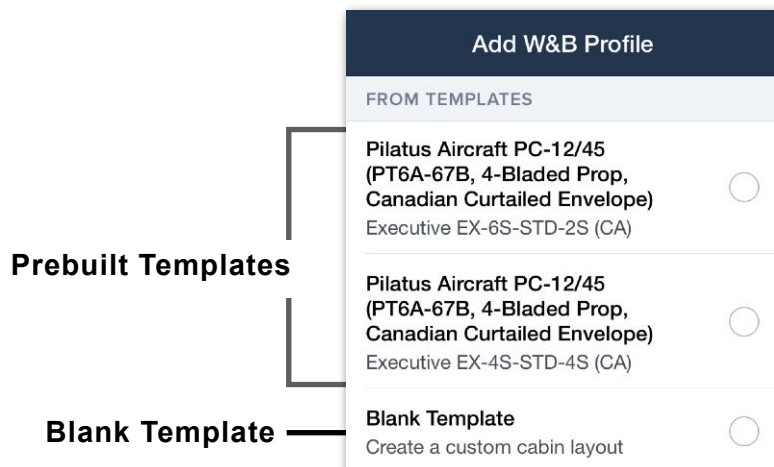
CE-177 ☐

2. WEIGHT AND BALANCE PROFILES

2.4.1 Prebuilt Templates

Prebuilt templates are available for hundreds of aircraft types. These templates include manufacturer-supplied center of gravity (CG) limits as well as stations, such as seats, fuel, and cargo.

When **adding a new weight and balance profile**, available prebuilt templates appear above the **Blank Template** option. If no templates are listed above the blank template, a prebuilt template is not available for the selected aircraft type.



2.4.1.1 Completing a Prebuilt Template

To complete a Prebuilt template:

- Enter the Basic Empty CG.
- Enter the Basic Empty Weight.
- Review stations for accuracy.
- Review CG limits for accuracy.

The image shows a screenshot of the 'Prebuilt Template - General Section' form. The form has a dark blue header with the text 'N8303P' on the left, '4 Seat Arrangement' in the center, and a share icon on the right. Below the header, there are three input fields. The first field is 'Profile Name' with the value '4 Seat Arrangement' displayed in blue. The second field is 'Basic Empty CG' with a 'Required' label to its right. The third field is 'Basic Empty Weight' with a 'USE 2756' button and a 'Required' label to its right.

Prebuilt Template - General Section

IMPORTANT: The **Use [basic empty weight]** button is for reference only. Enter the aircraft's actual basic empty weight in this field.

2. WEIGHT AND BALANCE PROFILES

2.4.2 Blank Templates

A Blank template can be used to set up any aircraft. Blank templates do not include pre-populated data.

PC12	My Profile	
Profile Name		My Profile
Basic Empty CG		Required
Basic Empty Weight		USE 5953 Required
STATIONS		
Cockpit	2 Seats	0 in >
Cargo Station 1		0 in >
Fuel Tanks		0 in >
Add Station		
FORWARD CG LIMITS		
0 in		0 lbs
Add Forward Limit		
AFT CG LIMITS		
0 in		0 lbs
Add Aft Limit		

Blank Template

2. WEIGHT AND BALANCE PROFILES

2.4.2.1 Completing Blank Templates

To complete a Blank template:

- Enter the Basic Empty CG.
- Enter the Basic Empty Weight.

Configure the stations to match the aircraft configuration. Each blank template starts with:

- One cockpit seating row
- One cargo station
- One fuel tank.

Tap **Add Station** to include additional seats, cargo compartments, fuel tanks, or other aircraft items.

Blank templates also start with:

- One forward CG limit
- One aft CG limit.

A minimum of two forward CG limits and two aft CG limits is required to define the aircraft's CG envelope. Tap **Add Forward Limit** or **Add Aft Limit** to enter additional CG limit data points.

Refer to the **Weight and Balance Template** section for additional information.

IMPORTANT: The **Use [basic empty weight]** button is for reference only. Enter the aircraft's actual basic empty weight in this field.

2. WEIGHT AND BALANCE PROFILES

2.4.3 Completing Legacy Templates

Legacy templates refer to weight and balance profiles created using the **Legacy Weight and Balance** system. These profiles can be converted to the current template format using the **Migration Assistant**.

When completing the migration process, verify the following:

- Basic Empty Weight
- Basic Empty CG
- Station locations
- CG limits.

Back

Migration Assistant
Step 3 of 4: Verify Station Arms

Confirm Stations

Please verify the information for each station is correct, including its type and its arm.

Edit

 Cockpit	40 in >
 Manuals	60 in >
 Forward Cabinet	68 in >
 Galley Provisions	85 in >
 Front Passengers Seats 1 and 2	115 in >
 Middle Passenger Seats 3 and 4	166 in >
 Aft Passenger Seats 5 and 6	215 in >
 Aft Closet	247 in >

NEXT: Verify Number of Seats

Migration Assistant

2. WEIGHT AND BALANCE PROFILES

2.5 Weight and Balance Template Design

The weight and balance template consists of four primary sections. After all sections are completed, the profile can be used to calculate weight and balance. Tap a section name in the image below for specific instructions on how to complete each section.

GENERAL

STATIONS

CG LIMITS

ENVELOPE PREVIEW

C182

Profile Name4-Seat Standard Arrangement

Basic Empty CGRequired

Basic Empty WeightUSE 1924 Required

STATIONS

Front Seats2 Seats37 in >

Rear Seats2 Seats74 in >

Cabin Compartment97 in >

Tail Compartment116 in >

Tail Compartment129 in >

Fuel TanksLimit 528 lbs46.5 in >

Add Station

FORWARD CG LIMITS

40.9 in3,100 lbs

33 in2,250 lbs

33 in1,800 lbs

Add Forward Limit

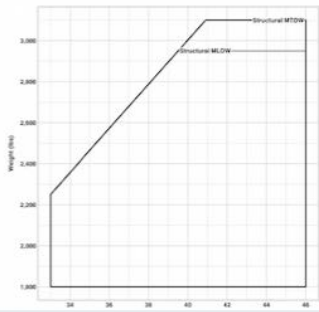
AFT CG LIMITS

46 in1,800 lbs

46 in3,100 lbs

Add Aft Limit

ENVELOPE PREVIEW

A line graph showing the weight and balance envelope. The Y-axis is labeled 'Weight (lbs)' and ranges from 1,800 to 3,000 in increments of 200. The X-axis ranges from 34 to 46 in increments of 2. The graph shows a trapezoidal shape representing the allowable weight and center of gravity range. The top horizontal line is labeled 'Structural MTOW' and the bottom horizontal line is labeled 'Structural MLOW'. The left vertical line is at 34 inches and the right vertical line is at 46 inches. The top horizontal line is at 3,100 lbs and the bottom horizontal line is at 1,800 lbs.

2. WEIGHT AND BALANCE PROFILES

2.5.1 General Section

The General section includes aircraft-identifying and aircraft-specific data: the profile name, basic empty center of gravity (CG), and basic empty weight (BEW).

Profile Name	My Profile
Basic Empty CG	Required
Basic Empty Weight	Required

General Section Fields

2.5.1.1 Profile Name

The Profile Name is used to describe and distinguish the weight and balance profile. It supports alphanumeric and special characters. Example names include:

Example profile names:

- Standard Configuration
- 4 Passenger with Aft Seats Removed
- N12345 - Normal
- N12345 - Aerobatic
- N12345 - Utility

2.5.1.2 Basic Empty CG

The Basic Empty CG field is used to enter the most recent basic empty CG measurement. Units such as inches, feet, meters, millimeters, or centimeters are displayed next to the field.

To change the unit of measure:

1. Go to the main **Aircraft** view and tap on the desired aircraft.
2. In the **General** section, select **Length Units**.
3. Choose the appropriate unit.

If a CG is entered and the unit of measure is later changed, the Basic Empty CG will be automatically converted to the new unit.

2. WEIGHT AND BALANCE PROFILES

2.5.1.3 Basic Empty Lateral CG (Helicopter Only)

The Basic Empty Lateral CG field is used to enter the most recent basic empty lateral CG measurement. Units such as inches, feet, meters, millimeters, or centimeters are displayed next to the field.

Profile Name	Test
Basic Empty Longitudinal CG	Required
Basic Empty Lateral CG	Required
Basic Empty Weight	USE 4409 Required

General Section Helicopter Fields

To change the unit of measure:

1. Go to the main **Aircraft** view and tap on the desired aircraft.
2. In the **General** section, select **Length Units**.
3. Choose the appropriate unit.

If a CG is entered and the unit of measure is later changed, the Basic Empty Lateral CG will be automatically converted to the new unit.

2.5.1.4 Basic Empty Weight

The Basic Empty Weight field is used to enter the BEW from the most recent aircraft weighing. Supported units are pounds (lbs) and kilograms (kg).

To change the unit of weight:

1. Go to the main **Aircraft** view and tap on the desired aircraft.
2. Select **Weight Units**.
3. Choose the appropriate unit.

2. WEIGHT AND BALANCE PROFILES

2.5.2 Stations Section

The Stations section is used to define all items along the aircraft's longitudinal axis that vary in weight per flight, such as seating, cargo, and fuel.

STATIONS	
 Front Seats 2 Seats	37 in >
 Rear Seats 2 Seats	74 in >
 Cabin Compartment	97 in >
 Tail Compartment	116 in >
 Tail Compartment	129 in >
 Fuel Tanks Limit 528 lbs	46.5 in >
Add Station	

Station Section

2.5.2.1 Using Prebuilt Templates

Stations are auto-filled with type, description, arm, and weight limits. These should be verified and updated if inconsistent with the aircraft flight manual.

2.5.2.2 Using Blank Templates

Defaults include cockpit seats, one cargo station, and one fuel tank. Tap Add Station to insert additional components as needed.

Refer to [Station Types](#) for further details.

2. WEIGHT AND BALANCE PROFILES

2.5.3 CG Limits Section

CG limits ensure the aircraft operates within certified parameters. Forward and aft CG limits are typically found in the Weight and Balance or Limitations section of the aircraft flight manual.

FORWARD CG LIMITS	
40.9 in	3,100 lbs
33 in	2,250 lbs
33 in	1,800 lbs
Add Forward Limit	
AFT CG LIMITS	
46 in	1,800 lbs
46 in	3,100 lbs
Add Aft Limit	

CG Limits Section

2.5.3.1 Basic CG Envelopes

To define a CG envelope, four total CG limit points are required: two forward and two aft at maximum and minimum weight. Tap **Add Forward Limit** and **Add Aft Limit** until the required points are entered. While the row order does not affect functionality, organizing by weight (maximum to minimum) improves visualization.

Aircraft without a graphical CG envelope may only provide a single forward and aft CG limit. In such cases, enter the CG values at both maximum and minimum weight. If a minimum weight is not defined, use the basic empty weight (BEW).

2. WEIGHT AND BALANCE PROFILES

2.5.3.2 Example Basic CG Envelope

The example below demonstrates a typical configuration for an aircraft that defines only one forward and one aft CG limit and its corresponding display in the app:

- Forward CG Limit: 78.3 in
- Aft CG Limit: 108.5 in
- Max Gross Weight: 3,200 lbs
- Basic Empty Weight 1,785.2 lbs.

FORWARD CG LIMITS	
78.3 in	3,200 lbs
78.3 in	1,800 lbs
Add Forward Limit	
AFT CG LIMITS	
108.5 in	3,200 lbs
108.5 in	1,800 lbs
Add Aft Limit	

Example Basic CG Envelope

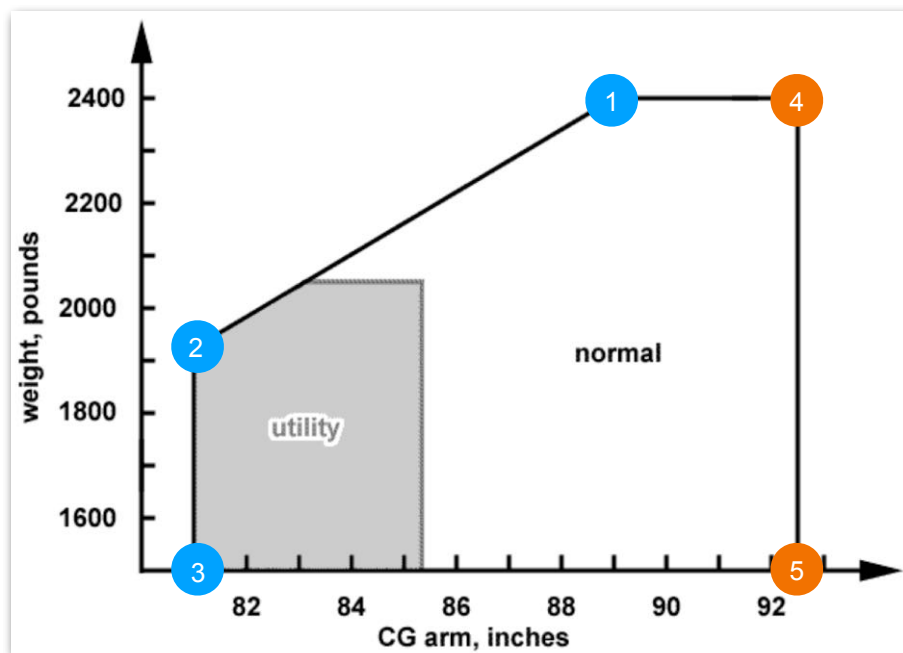
2. WEIGHT AND BALANCE PROFILES

2.5.3.3 Complex CG Envelopes

Complex CG envelopes are graphically depicted in many aircraft flight manuals, where CG limits vary depending on weight. Each bend in the envelope (shown with the colored numbers in the image below) defines a new point and must be entered into the CG limits section.

To input a complex CG envelope, enter the weight and corresponding arm at each bend. Forward CG limits are generally on the left side of the graph, while aft CG limits appear on the right.

Use **Add Forward Limit** and **Add Aft Limit** as needed to match the envelope depicted in the flight manual.



1	Max Gross Weight - FWD limit	89 in	2,400 lbs
2	Limit changes with weight (bend)	81 in	1,920 lbs
3	Min Gross Weight - FWD limit	81 in	1,500 lbs
Add Forward Limit			
AFT CG LIMITS			
4	Max Gross Weight - AFT limit	92.5 in	2,400 lbs
5	Min Gross Weight - AFT limit	92.5 in	1,500 lbs
Add Aft Limit			

2. WEIGHT AND BALANCE PROFILES

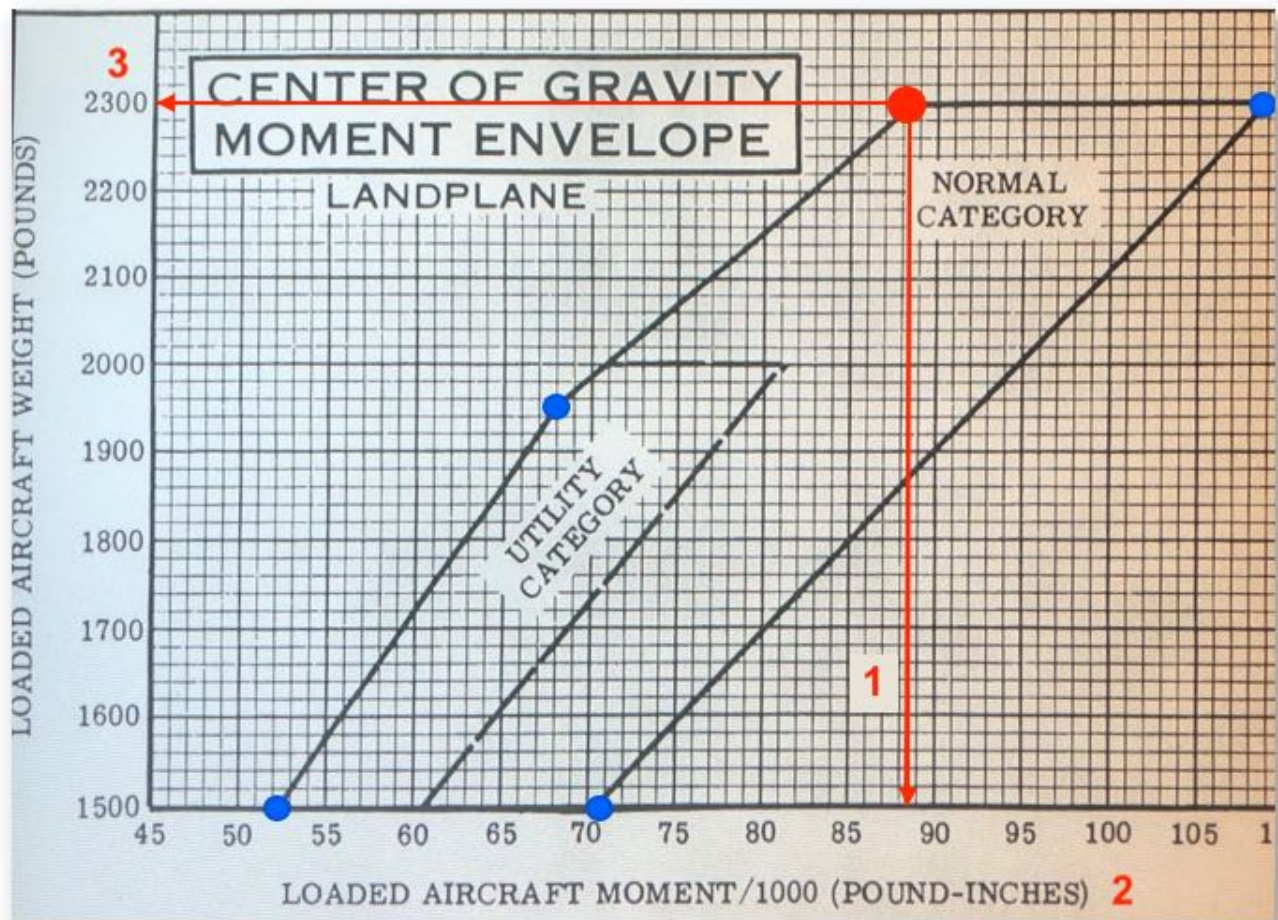
2.5.3.4 Converting Weight and Moment

Some CG envelopes define limits using Weight and Moment rather than Weight and Arm. To input these into ForeFlight, convert moment values to arm using the formula:

$$\text{Arm} = \text{Moment} / \text{Weight}$$

Follow the steps below to complete the conversion:

1. Identify the moment value (e.g., 88.2 pound-inches) and the corresponding weight (e.g., 2,300 pounds)
2. If the moment is divided by 1,000 (e.g., labeled as MOMENT/1000), multiply the listed value by 1,000 ($88.2 \times 1000 = 88,200$ pound-inches)
3. Divide the full moment by the corresponding weight to get the arm ($88,200 \div 2,300 = 38.35$ inches)
4. Repeat for each CG limit point in the envelope.



2. WEIGHT AND BALANCE PROFILES

2.5.4 Curtailment Options

The Curtailment Options section allows Military Flight Bag (MFB) and multi-pilot business account holders to set default states for the **Curtailment Tools** in a weight and balance profile. These defaults apply whenever the profile is selected for a flight. Refer to the **Curtailment Tools** section for further details.

CURTAILMENT OPTIONS	
Standard Weights	☐
Passenger Distribution	☐

Curtailment Options

NOTE: Disabling Curtailment Tools in the weight and balance profile does not restrict their availability during flight planning. Pilots can manually enable or disable these tools after selecting the profile.

2.5.4.1 Standard Weights

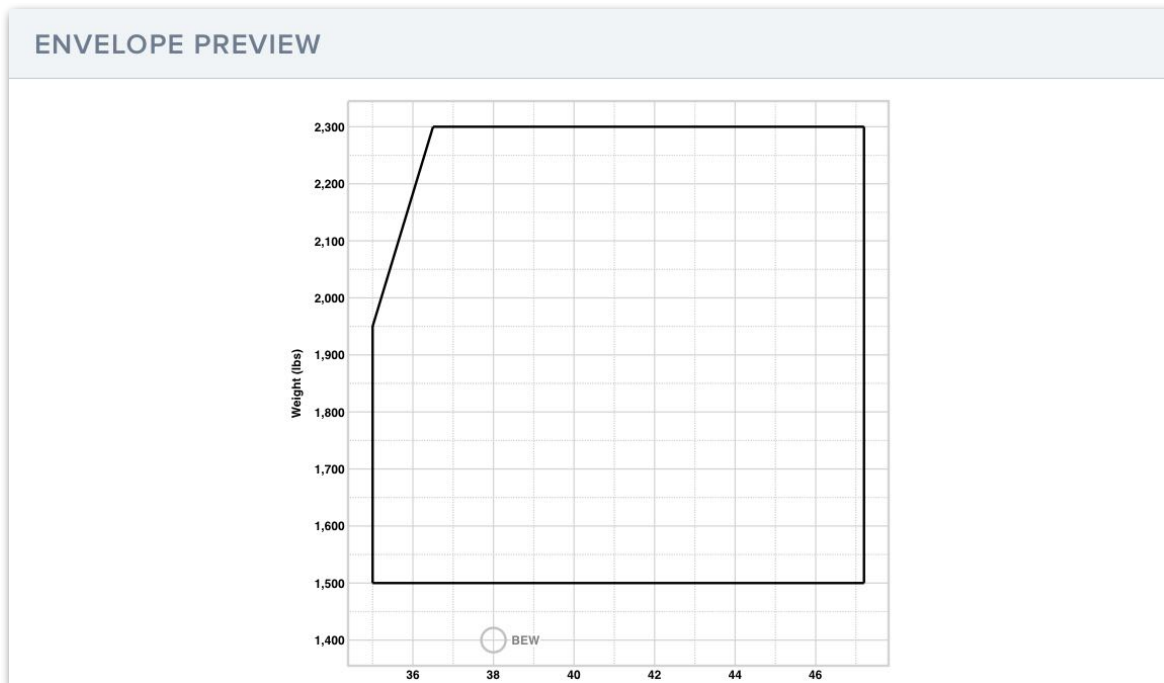
Enabling **Standard Weights** is helpful when passenger seating locations are known, but individual weights are not. If enabled in the profile template, it will be toggled on by default in flights using this profile.

2.5.4.2 Passenger Distribution

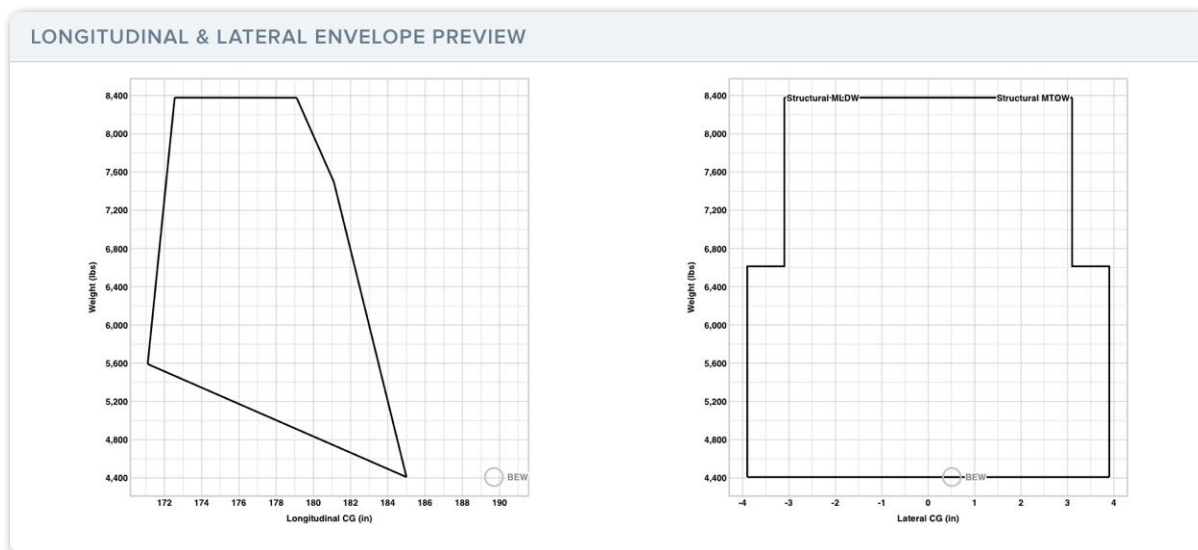
Enabling **Passenger Distribution** is useful when passenger seating locations are unknown. If enabled in the profile template, the setting defaults to on when the profile is selected for a flight.

2. WEIGHT AND BALANCE PROFILES

The Envelope Preview graphically displays the CG limits and basic empty weight (BEW) entered by the user. This preview should closely resemble the Arm-Weight CG envelope graph provided in the aircraft flight manual, if available.



Envelope Preview



Helicopter Longitudinal and Lateral Preview.

2. WEIGHT AND BALANCE PROFILES

2.5.6 Use %MAC

The **Use %MAC** option enables the ability to configure a weight and balance profile using percent mean aerodynamic chord (MAC).

When %MAC is enabled:

- Fields for Leading Edge Mean Aerodynamic Chord (LEMAC) and MAC become available
- CG limit values are automatically converted from station arm (inches) to percent MAC

This option supports aircraft that define CG limits using aerodynamic chord percentages rather than station arms.

Use %MAC	☒
LEMAC	38 in
MAC	42 in

Use %MAC

2. WEIGHT AND BALANCE PROFILES

2.5.7 Gear Retraction Moment Change

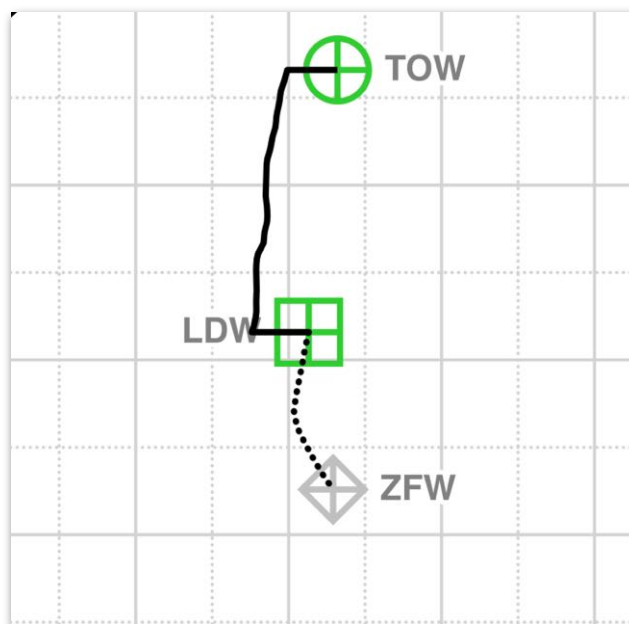
Aircraft with retractable landing gear may include data on how gear movement impacts aircraft CG. If this information is available, enter the **Gear Retraction Moment Change** in the weight and balance profile.

Use %MAC	☐
Gear Retraction Moment Change	-8,307 in-lbs

Gear Retraction Setting

The gear retraction moment reflects the CG shift caused by gear retraction or extension. In **weight and balance calculations**, the CG shift is shown as a short horizontal line adjacent to the takeoff and landing weight.

For example, aircraft with forward-swinging gear may show a forward CG shift upon gear retraction. This shift should be accounted for when creating or editing the weight and balance profile.

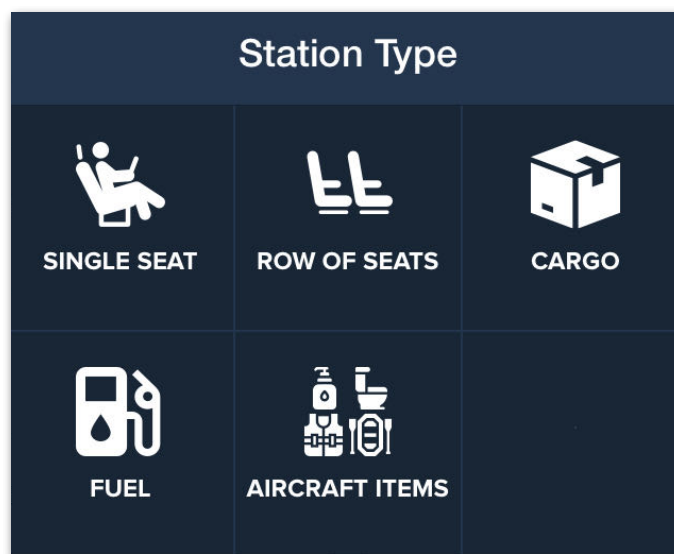


Shift in CG due to gear movement

2. WEIGHT AND BALANCE PROFILES

2.6 Types of Weight and Balance Stations

Each station added to a weight and balance profile must include a designated station type. The station type defines the permissible load types during weight and balance calculations.



Station Types

2.6.1 Single Seat Station

Use **Single Seat** for individual passenger or crew seats. For each seat, complete the following fields:

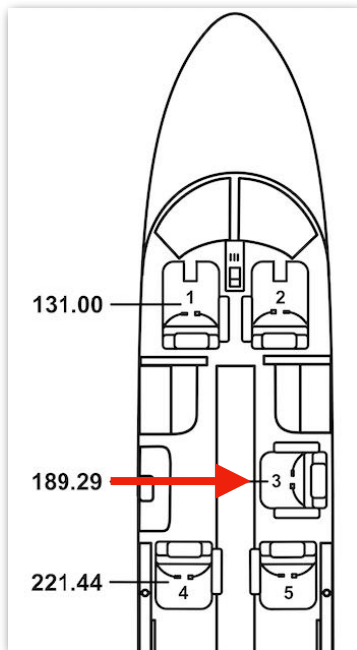
- **Name** - Enter a descriptive name for the item.
- **Arm** - Specify the arm length.
- **Include in BOW** - Enable this option if the item:
 - Remains on the aircraft at all times.
 - Is not already included in the basic operating weight (BOW).
- **Weight** - Enter the item's weight (if **Include in BOW** is enabled).
- **Weight Limits** - Specify weight limits, if applicable.
- **Notes** - See [Station Notes](#).

NOTE: If **Include in BOW** is enabled, The item becomes inactive during flight planning and the weight is added to the aircraft's BOW.

2. WEIGHT AND BALANCE PROFILES

Example single seat items include:

- Crew members
- Passengers
- Passengers with infants
- Cargo.



My Profile		Single Seat 1
Name	Single Seat 1	
Type	Single Seat >	
Arm	189.3 in	
Include in BOW	☐	
Weight Limit		

Example of a Single Seat

2. WEIGHT AND BALANCE PROFILES

2.6.2 Row of Seats Station

Use **Row of Seats** when two or more seats share a common arm.

Assign a descriptive name (e.g., *Back Seats*) and, if necessary, set a weight limit for the row.

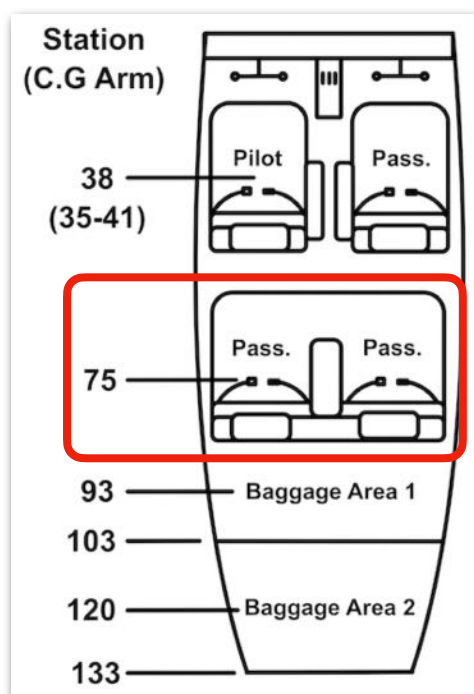
Example row of seat items include:

- Crew members
- Passengers
- Passengers with infants
- Cargo.

2.6.2.1 Modifying Seat Layout

To modify seat layout:

- Tap **Add Seat** to increase the number of seats.
- Swipe right to left across a seat to remove it.
- Assign descriptive names to each seat (e.g., *Left Seat*, *Right Seat*, or *Seat 1A*, *2A*, *3A*, *4A*).
- Add individual seat weight limits, if applicable.



My Profile	Back Seats	Edit
Row Name	Back Seats	
Row Arm	75 in	
Row Weight Limit	500 lbs	
SEATS IN THIS ROW		
Left Seat	>	
Limit 300 lbs		
Right Seat	>	
Limit 300 lbs		
Add Seat		

2. WEIGHT AND BALANCE PROFILES

2.6.3 Cargo Station

Use **Cargo** for each unique cargo compartment.

My Profile		Tail Compartment	
Name	Tail Compartment		
Type	Cargo >		
Arm	296 in		
Include in BOW	☐		
Weight Limit	325 lbs		

Cargo Station

For each cargo item, complete the following fields:

- **Name** - Enter a descriptive name for the item.
- **Arm** - Specify the arm length (typically to the center of the compartment).
- **Include in BOW** - Enable this option if the item:
 - Remains on the aircraft at all times.
 - Is not already included in the basic operating weight (BOW).
- **Weight** - Enter the item's weight (if **Include in BOW** is enabled).
- **Weight Limits** - Specify weight limits, if applicable.
- **Notes** - See [Station Notes](#).

NOTE: If **Include in BOW** is enabled, the item becomes inactive during flight planning and the weight is added to the aircraft's BOW.

2. WEIGHT AND BALANCE PROFILES

2.6.4 Fuel Tanks Station

ForeFlight supports aircraft with multiple fuel tanks and multiple fuel moment tables with variable arms. Fuel sequencing is only available in prebuilt ForeFlight templates.

2.6.4.1 Fuel with Fixed Arms

To add fuel tanks with fixed arms:

1. Select **Add Station**.
2. Select  **Fuel**.
3. Enter the tank's name, arm, and weight limit.
4. Repeat for each fixed-arm tank.

2.6.4.2 Fuel with Variable Arms

Use this option when fuel consumption is asymmetrical and a moment table is available in the flight manual (as depicted in the image below).

To add a fuel moment table:

1. Toggle **Variable Fuel Station** on.
2. Tap **Add Fuel Moment** to add rows.
3. Enter the corresponding weight and moment values for all rows in the flight manual's Moment Table.

Fuel weights and moments do not need to be sequential, but organizing them in order is recommended. Ensure units of measure (i.e., lbs, in) match the aircraft flight manual.

NOTE: Fuel scheduling is supported only in prebuilt templates. It is not available in custom templates created from blank profiles.

2. WEIGHT AND BALANCE PROFILES

FUEL LOADING WEIGHT AND MOMENT TABLE (U.S. UNITS)

WING TANK FUEL		WING TANK FUEL (CONTINUED)	
WEIGHT (POUNDS)	MOMENT/100 (INCH-POUNDS)	WEIGHT (POUNDS)	MOMENT/100 (INCH-POUNDS)
100	311.72	3100	9585.70
200	619.45	3200	9903.94
300	923.80	3300	10222.86
400	1226.16	3400	10542.51
500	1527.43	3500	10863.04
600	1828.57	3600	11184.55
700	2130.74	3700	11506.99
800	2433.92	3800	11830.34
900	2737.96	3900	12154.57
1000	3042.77	4000	12479.66
1100	3348.26	4100	12805.61
1200	3654.36	4200	13132.44
1300	3961.04	4300	13460.18
1400	4268.25	4400	13788.90
1500	4575.96	4500	14118.64
1600	4884.49	4600	14449.44
1700	5193.78	4700	14781.30
1800	5503.69	4800	15114.28
1900	5814.20	4900	15448.43
2000	6125.28	5000	15783.77
2100	6436.95	5100	16120.39
2200	6749.18	5200	16458.32
2300	7061.97	5300	16797.63
2400	7375.33	5400	17138.14
2500	7689.28	5500	17479.77
2600	8003.82	5600	17822.53
2700	8318.98	5700	18166.50
2800	8634.75	5800	18511.85
2900	8951.12	5828	18608.83
3000	9268.10		

[My Profile](#) [Main Tanks](#) [Edit](#)

Name

Main Tanks

Weight Limit

300 lbs

Variable Fuel Station

☒

FUEL MOMENT TABLE

100 lbs

31,172 in-lbs

200 lbs

61,945 in-lbs

300 lbs

92,380 in-lbs

0 lbs

0 in-lbs

Add Fuel Moment

Adding Fuel Moment information from the Flight Manual to ForeFlight Mobile

NOTE: When calculating weight and balance, ForeFlight automatically calculates fuel weight based on type:

- **Jet-A:** 6.75 pounds per gallon
- **Jet-A Prist:** 6.75 pounds per gallon
- **100LL:** 6.0 pounds per gallon
- **Other:** 6.0 pounds per gallon

Custom fuel densities are not supported. Fuel type and unit are set in the aircraft profile under **More > Aircraft**.

2. WEIGHT AND BALANCE PROFILES

2.6.5 Aircraft Items Station

Use **Aircraft Items** for components that do not carry fuel, cargo, or passengers.

My Profile		Supplemental Oxygen	
Name	Supplemental Oxygen		
Type	Aircraft Items >		
Arm	78.6 in		
Include in BOW	☐		
Weight Limit	50 lbs		

Aircraft Items

For each aircraft item, complete the following fields:

- **Name** - Enter a descriptive name for the item.
- **Arm** - Specify the arm length.
- **Include in BOW** - Enable this option if the item:
 - Remains on the aircraft at all times.
 - Is not already included in the basic operating weight (BOW).
- **Weight** - Enter the item's weight (if **Include in BOW** is enabled).
- **Weight Limits** - Specify weight limits, if applicable.
- **Notes** - See [Station Notes](#).

NOTE: If **Include in BOW** is enabled, The item becomes inactive during flight planning and the weight is added to the aircraft's BOW.

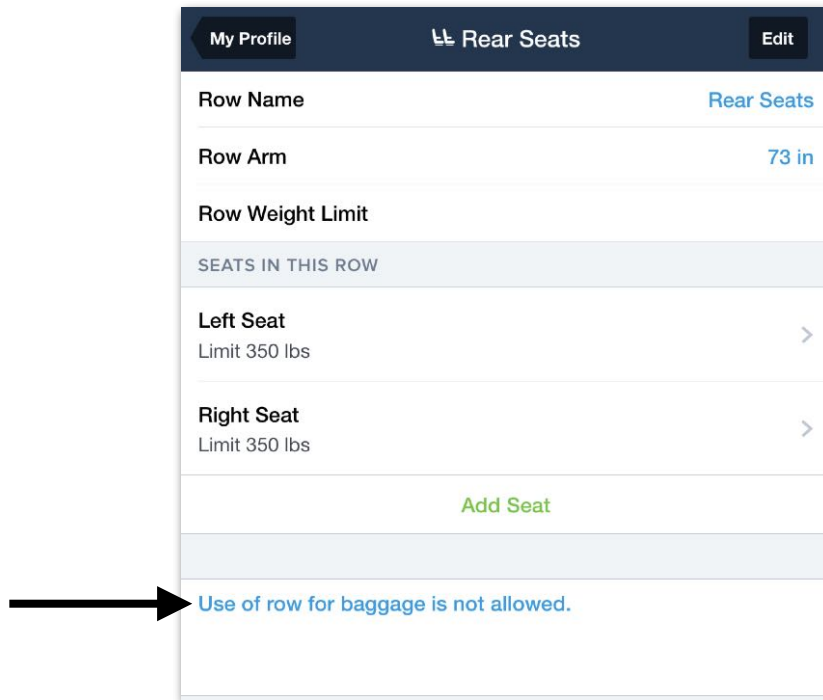
Example aircraft items include:

- Wardrobe Closets
- Galley Storage
- Navigational Chart Cases
- Cabinets

2. WEIGHT AND BALANCE PROFILES

2.6.6 Station Notes

Station notes provide guidance for completing the weight and balance profile.

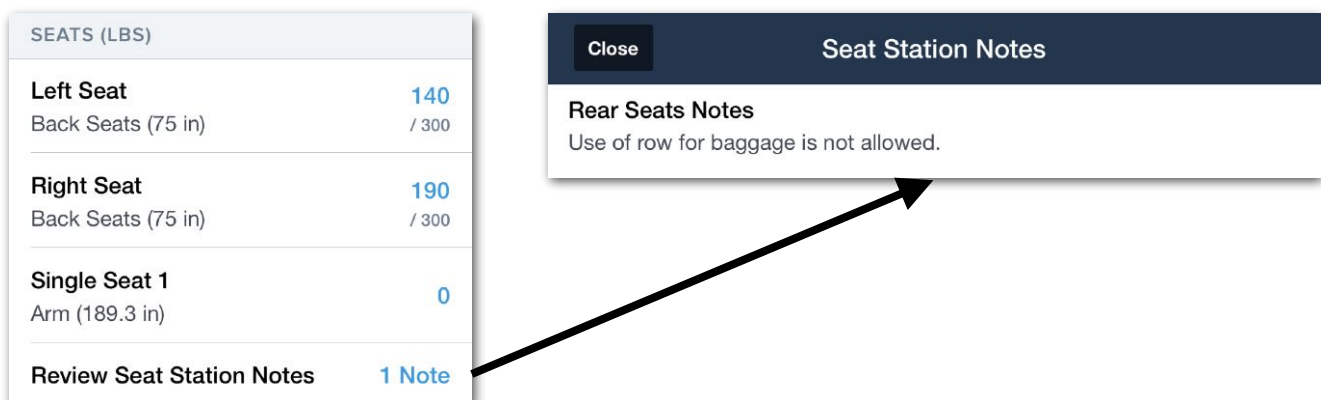


Adding a Note

Each station type other than the fuel station includes an option to add notes.

To add a note, tap the note section when editing or adding a station.

If notes exist, they appear at the bottom of the applicable station list (seats, cargo, or aircraft items). During weight and balance calculation, tap the note to view its contents.

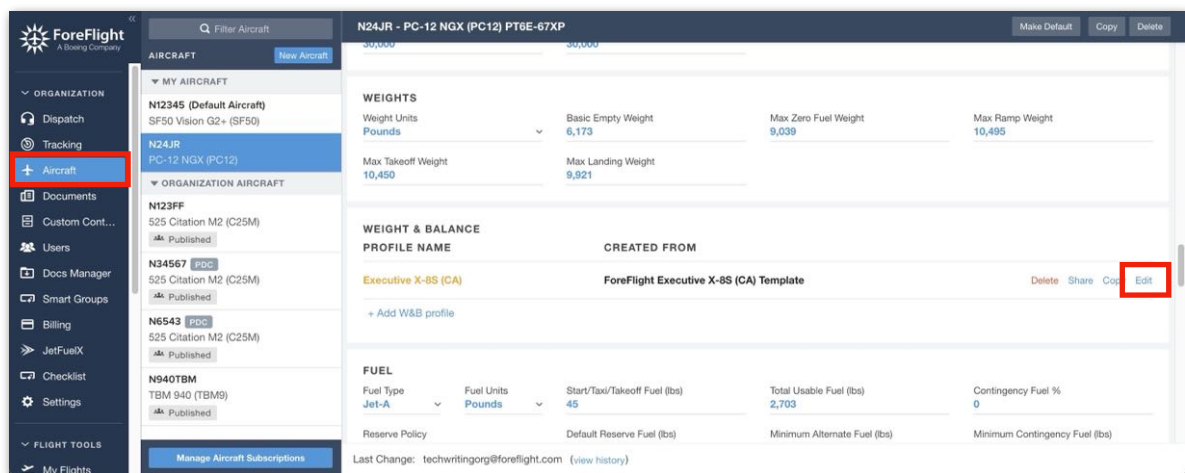


2. WEIGHT AND BALANCE PROFILES

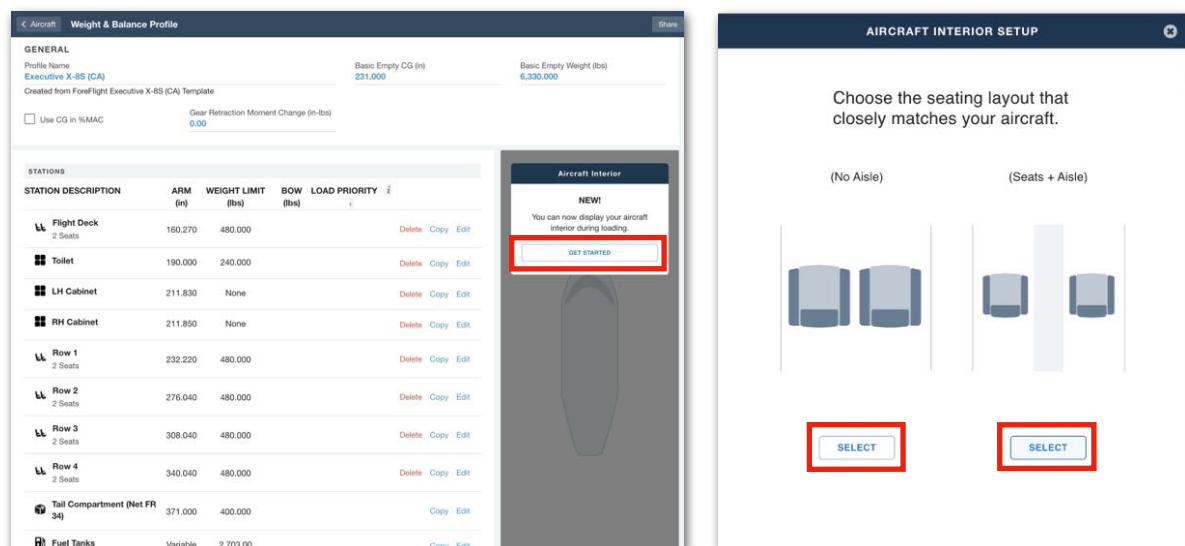
2.7 Graphical Weight and Balance

Graphical Weight and Balance is available exclusively with Premium, Business Performance, MFB Performance, and MFB One subscriptions. This feature can be enabled via the ForeFlight on the Web interface. To enable:

1. Go to plan.foreflight.com
2. Navigate to the **Aircraft** tab.
3. Select the appropriate aircraft.
4. Click **Edit** in the *Weight and Balance* section to access the Weight and Balance profile.



5. Click **Get Started** to open the Interior Setup menu.
6. Select the aircraft seating layout.

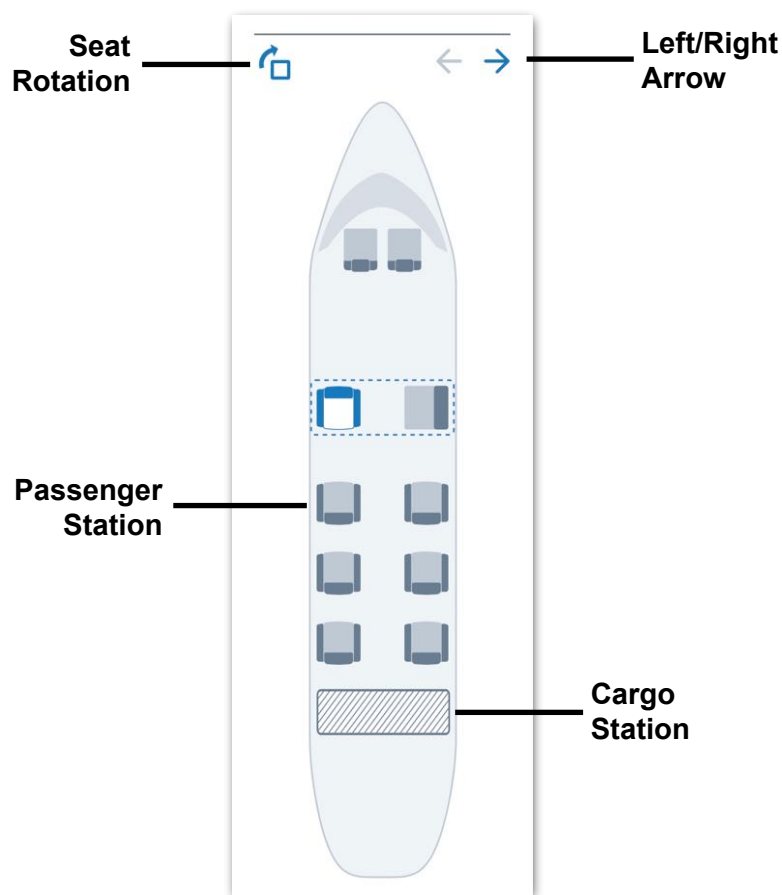


2. WEIGHT AND BALANCE PROFILES

2.7.1 Station Layout

A visual layout of aircraft stations is generated based on the stations defined in the profile.

- **Modifying Seats Laterally:** To move a seat laterally, select a seat and click the **left/right arrow**.
- **Modifying Seat Orientation:** To adjust the orientation, click the seat and select the **rotate** button until the seat aligns with the actual aircraft layout.
- **Adding or Removing Stations:** Any changes made to stations, as described in the Stations Section, are reflected automatically in the station layout diagram.



Station Layout

New stations may be added, as shown in the [Stations Section](#). Adding or removing stations will be reflected on the station layout diagram.

MIGRATION ASSISTANT

Legacy Weight and Balance profiles must be updated before use with **Enhanced Weight and Balance**. The **Migration Assistant**, available in ForeFlight Mobile (not ForeFlight on the Web), converts legacy profiles to the new format.

Aircraft load is within limits	
IDENTIFICATION	
Tail Number	F33A
Profile Name	Sample Only - Not For Flight Use
Make	Beech
Model	F33A #CE-4xx
UNITS	
Length	in
Weight	lb
%MAC	☐
STATIONS	
Additional Fuel Unit	gal
Fuel Type	100LL
Fuel Density	6 lb/gal
STATION LIMITS	
Front Seats	360 of 400 lb
Baggage Area	40 of 270 lb
Fuel Tanks	45 of 74 gal 100LL
RAMP (MAX 3,400 LB)	
Ramp Weight	2,901 lb
Ramp Fuel	45 gal 100LL
TAKEOFF (MAX 3,400 LB)	
Takeoff Weight	2,901 lb
CG (77.9 to 85.7)	81.8 in
Takeoff Fuel	45 gal 100LL
LANDING (MAX 3,400 LB)	
Landing Weight	2,901 lb
CG (77.9 to 85.7)	81.8 in
Fuel Remaining	45 gal 100LL
ZERO FUEL	
Zero Fuel Weight	2,631 lb
CG (77 to 85.7)	82.5 in
AUDIT MODE CONTROL	
Audit Mode	☐

Legacy Weight and Balance

Migration Assistant transfers weight, station, and limit data from a legacy profile into the Enhanced format. Station types are automatically determined by evaluating the legacy profile's station names. For instance:

- A station named *Aft Cabinet* is classified as an Aircraft Item.
- A station named *Front Aft-Facing Seats* is classified as a Row of Seats.

3. MIGRATION ASSISTANT

3.1 Converting a Legacy Profile

To convert a Legacy Weight and Balance profile using ForeFlight Mobile:

1. Add a new weight and balance profile from either the **Weight & Balance** or **Aircraft** view.
2. Select the appropriate legacy profile from the list.
3. Choose the corresponding aircraft (when using the Weight & Balance view).
4. If **discrepancies** exist, select the correct default weight and aircraft units.
5. Confirm that the Migration Assistant correctly identified the station types and arm values.
6. Verify the number of seats configured for each seating row.
7. Tap **Done** to finalize the migration.

Migration Assistant
Step 3 of 4: Verify Station Arms

Confirm Stations
Please verify the information for each station is correct, including its type and its arm.

[Edit](#)

Front Seats	37 in >
Aft Seats	73 in >
Baggage Area	95 in >
Fuel Tanks	48 in >

NEXT: Verify Number of Seats

Migration Assistant

3. MIGRATION ASSISTANT

3.2 Migration Assistant Discrepancies

During migration, the system evaluates weight limits and unit types. If inconsistencies are detected between the type certificate database and the legacy profile:

- Default values must be manually selected.
- Significant discrepancies may indicate that the selected aircraft is not compatible with the legacy profile being migrated.

Ensure the migrated data reflects the correct aircraft configuration before saving the new profile.

Back

Migration Assistant
Step 2 of 4: Select Defaults

Choose your defaults
Your Legacy Weight and Balance Profile's Weights and/or Units differ from the selected Aircraft. Please choose the Weights and Units you would like to continue with.

AIRCRAFT WEIGHT DEFAULTS

ForeFlight/User Generated Default Weights
MTOW: 2,575 lbs, MRW: 2,584 lbs
MZFW: 2,575 lbs, MLDW: 2,575 lbs

☒

Legacy Weight and Balance Profile Default Weights
MTOW: 2,300 lbs, MRW: 2,300 lbs
MZFW: 2,300 lbs, MLDW: 2,300 lbs

☐

AIRCRAFT UNITS

Weight Units

Pounds

Length Units

Inches

NEXT: Verify Station Arms

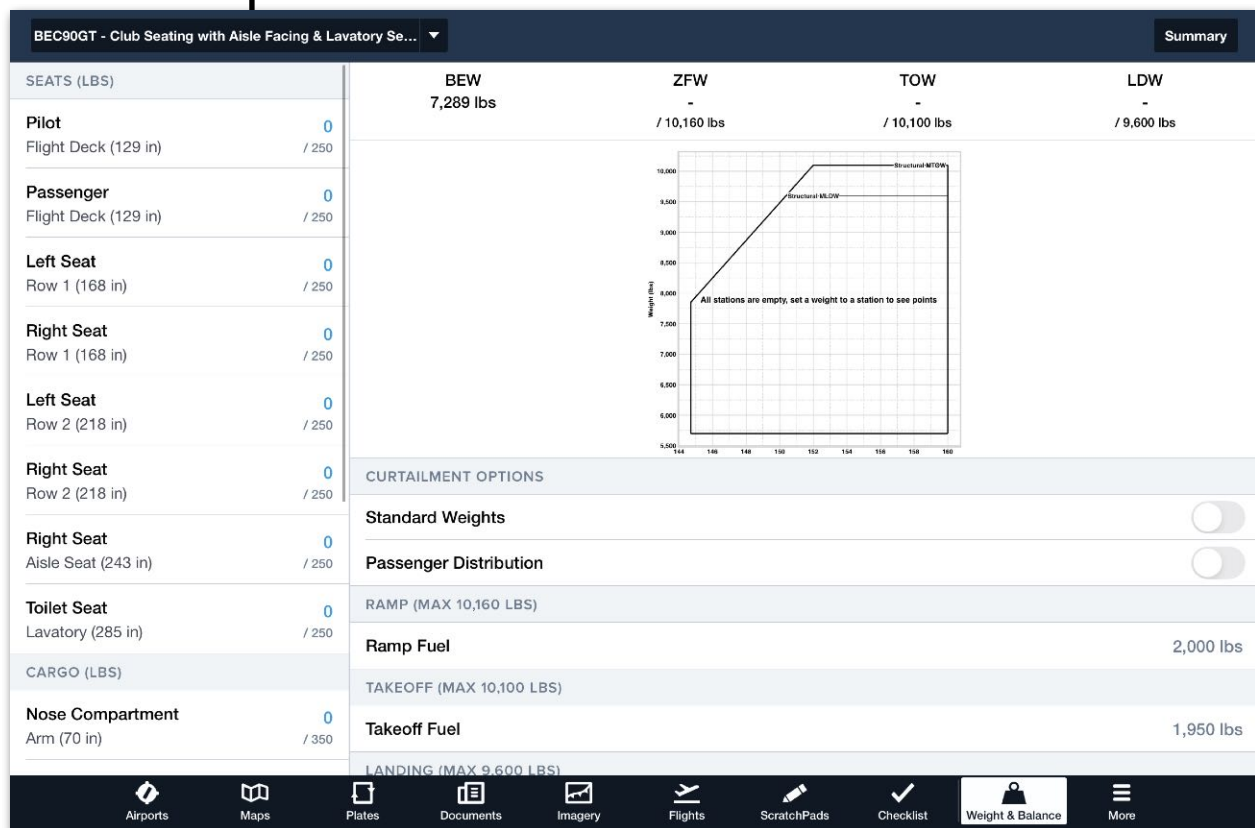
Migration Assistant Discrepancies

MANAGING WEIGHT AND BALANCE PROFILES

Weight and balance profiles are accessible from the **Aircraft**, **Weight & Balance**, and **Flights** (Premium, Business Performance, MFB Performance, and MFB One subscriptions) views. Profiles can be edited, copied, deleted, and shared. Profiles sync across all devices signed into the same ForeFlight Mobile account.

Multi-pilot accounts with published aircraft may only configure weight and balance profiles using an administrator account through ForeFlight on the Web.

Weight and Balance Profiles



Weight & Balance View

4. MANAGING WEIGHT AND BALANCE PROFILES

4.1 Aircraft with Multiple Weight and Balance Profiles

An aircraft can have multiple weight and balance profiles to support different configurations, such as cargo, passenger, or VIP layouts. It is recommended to create a profile, copy it, and then modify the copy for each specific configuration.

4.2 Copying, Editing, and Deleting Profiles

Copying a profile creates a duplicate of the original with a different name. Copying, editing, and deleting are supported in the **Aircraft**, **Weight & Balance**, and **Flights** (Premium, Business Performance, MFB Performance, and MFB One subscriptions) views. Copying and editing a profile is the recommended process for generating multiple configurations of the same aircraft.

4.2.1 Copying, Editing, and Deleting Using the Aircraft View

To copy, edit, or delete a weight and balance profile from the **Aircraft** view:

1. Select **More**.
2. Select **Aircraft**.
3. Scroll to the Weight and Balance section.
4. Tap an existing profile.
5. Edit the template or scroll to the bottom.
6. Tap **Copy Profile** or **Delete Profile**.

4. MANAGING WEIGHT AND BALANCE PROFILES

4.2.2 Copying, Editing, and Deleting Using the Weight & Balance View

To copy, edit, or delete a weight and balance profile from the Weight & Balance view:

1. Select **More**.
2. Select **Weight & Balance**.
3. Choose an existing profile from the toolbar menu.
4. Tap **Edit**.
5. Edit the template or scroll to the bottom.
6. Tap **Copy Profile** or **Delete Profile**.

4.2.3 Copying, Editing, and Deleting Using the Flights View

Pilots with Premium, Business Performance, MFB Performance, and MFB One subscriptions can copy, edit, and delete weight and balance profiles from the **Flights** view. If no weight and balance has been calculated for a flight:

1. Select the **Flights** view.
2. Open the flight.
3. Tap **Weight & Balance**.
4. Tap **Edit** next to the profile.
5. Edit the template or scroll to the bottom.
6. Tap **Copy Profile** or **Delete Profile**.

4. MANAGING WEIGHT AND BALANCE PROFILES

4.3 Sharing Weight and Balance Profiles

Weight and balance profiles can be shared from the **Aircraft**, **Weight & Balance**, or **Flights** (Premium, Business Performance, MFB Performance, and MFB One subscriptions) views. Shared profiles do not sync between accounts; changes made by the sender are not reflected in the recipient's profile.

NOTE: Weight and balance profiles for published aircraft in multi-pilot accounts cannot be shared directly. However, these profiles may be copied, and the copy can be shared.

4.3.1 Sharing Profiles Using the Aircraft View

To share a weight and balance profile from the Aircraft view:

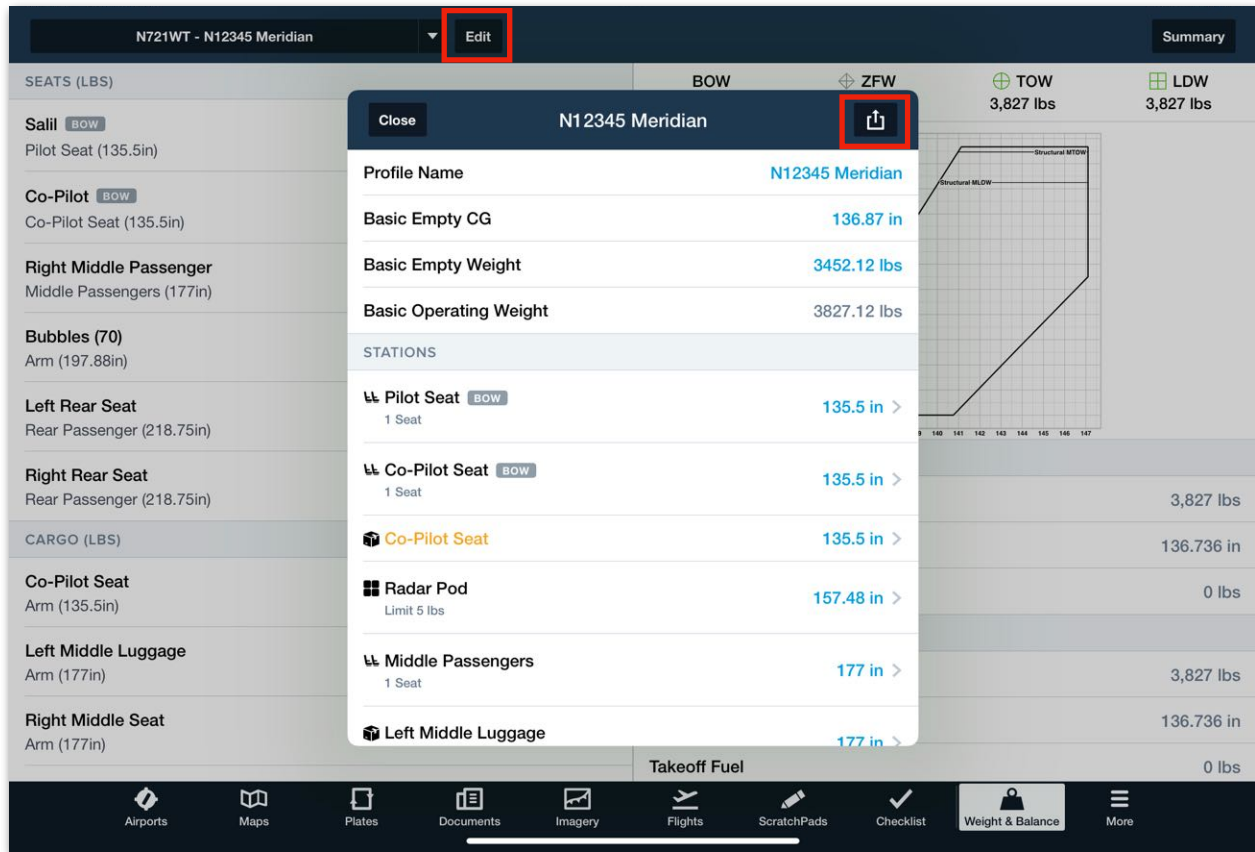
1. Select the **More** button.
2. Tap **Aircraft**.
3. Scroll to the Weight and Balance section.
4. Tap a profile.
5. Tap the **Send To** button in the upper toolbar.
6. Choose a sharing method from standard iOS options.

4.3.2 Sharing Profiles with the Weight & Balance View

To share a weight and balance profile from the Weight & Balance view:

1. Select the **More** button.
2. Tap **Weight & Balance**.
3. Select a profile using the toolbar menu.
4. Tap **Edit** in the upper toolbar.
5. Tap the **Send To** button in the pop-up.
6. Choose a sharing method from standard iOS options.

4. MANAGING WEIGHT AND BALANCE PROFILES



Sharing a weight and balance profile using the Weight & Balance view

4.3.3 Sharing Profiles Using the Flights View

If weight and balance has not yet been calculated for the flight, to share a profile (Premium, Business Performance, MFB Performance, and MFB One subscriptions) from the **Flights** view:

1. Open the **Flights** view.
2. Select a flight.
3. Tap **Weight & Balance**.
4. Tap **Edit** next to the profile.
5. Tap the **Send To** button in the upper toolbar of the pop-up.
6. Choose a sharing method from standard iOS options.

4. MANAGING WEIGHT AND BALANCE PROFILES

4.4 Importing a Shared Profile

Shared weight and balance profiles can be imported using an email or AirDrop.

4.4.1 Importing a Shared Profile via Email

To import a shared profile via email:

1. Open the **Mail** app.
2. Select the email titled *Shared W&B Profile*.
3. Tap the [Click](#) link to begin import. ForeFlight opens to the **Weight & Balance** view automatically.
4. Tap [Accept](#) when prompted.
5. Select the associated aircraft.
6. Verify the profile name, center of gravity, weights, and limits.
7. Tap [Profile Verified & Correct](#) to complete the import.

Imported profiles appear in the **Weight & Balance** view or in **More > Aircraft** under the associated aircraft. The import link may be used multiple times to create additional copies.

4.4.2 Importing a Shared Profile via Airdrop

When importing via AirDrop, ForeFlight opens automatically to the **Weight & Balance** view. Once the Weight & Balance view is shown:

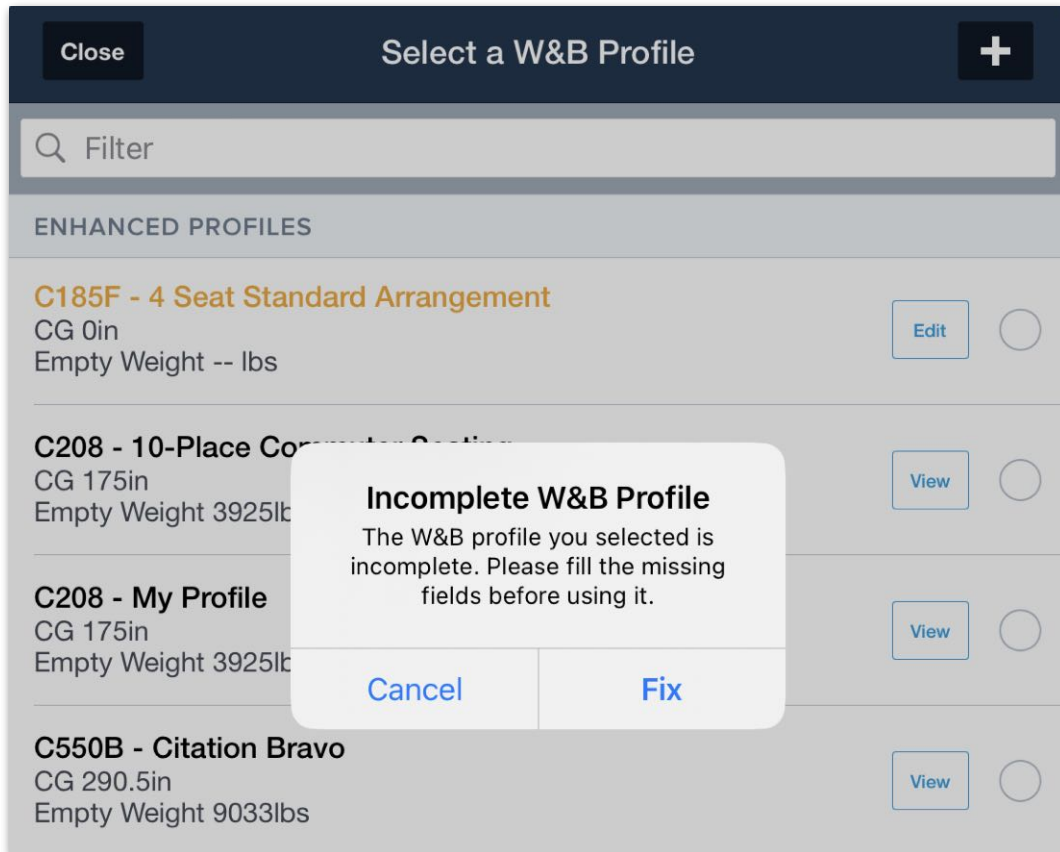
1. Tap [Accept](#) when prompted.
2. Select the associated aircraft.
3. Verify the profile name, center of gravity (CG), weights, and limits.
4. Tap [Profile Verified & Correct](#) to complete the import.

Imported profiles appear in the **Weight & Balance** view or **More > Aircraft** under the associated aircraft. The import link may be used multiple times to create additional copies.

4. MANAGING WEIGHT AND BALANCE PROFILES

4.5 Weight and Balance Profile Missing Details

If a weight and balance profile is incomplete, it will be visually **highlighted**. Attempting to calculate weight and balance using an incomplete profile triggers a pop-up with the option to fix the missing information. Select **Fix** to make corrections.



Incomplete Weight and Balance Profile

CALCULATING WEIGHT AND BALANCE

Weight and balance can be calculated using the **Weight & Balance** view. These calculations are independent of planned flights.

Pilots with Premium, Business Performance, MFB Performance, and MFB One subscriptions can also calculate weight and balance in the **Flights** view, where calculations are integrated with flight plans and persist as long as the flight exists. See [Integrated Weight and Balance](#).

Weight and balance calculations are not available on ForeFlight on the Web. However, customers with a Dispatch license can calculate weight and balance using the **Dispatch Flight Editor**. For more information, visit www.foreflight.com/dispatch-guide.

5.1 Calculating Weight and Balance

To calculate weight and balance using the **Weight & Balance** view:

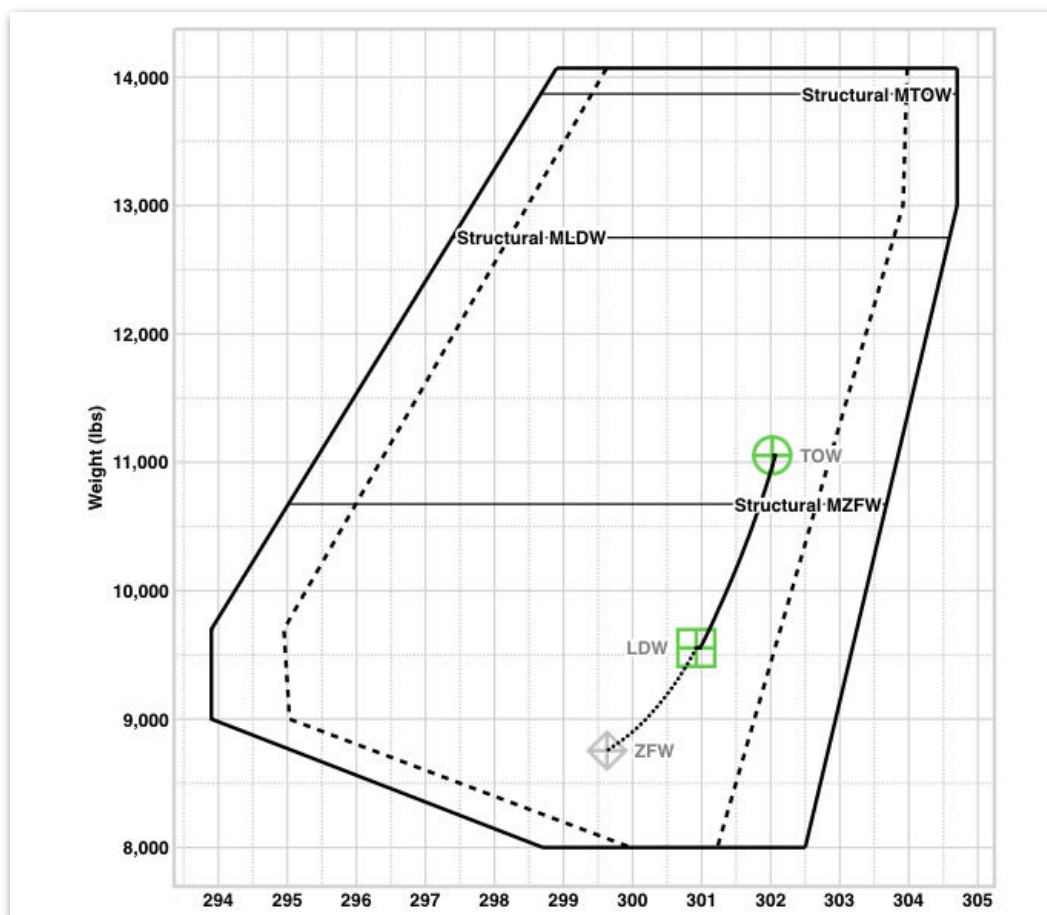
1. Select the **More** button.
2. Select **Weight & Balance**.
3. Tap the profile dropdown menu.
4. Select a profile.
5. Tap each seat and enter a weight and description. Use **Standard Weights** or **Saved Loads** if desired. See [Seats](#) for more information.
6. Tap each cargo compartment and enter a weight and description. Use a **Saved Load** if desired.
7. Tap each aircraft item and enter a weight and description. Use a **Saved Load** if desired.
8. Tap the fuel tank and specify the pre-start fuel amount.
9. Tap fuel consumption and enter the ground and in-flight usage. Fuel weight is determined by the **Fuel Type** entered in the aircraft profile.

NOTE: Manually entered weights with descriptions are added to the **Saved Load** list per station. To delete, swipe right to left on the saved load.

5. CALCULATING WEIGHT AND BALANCE

5.2 Curtailment Tools

Curtailment tools are available to MFB and multi-pilot business accounts to align with Advisory Circular 120-27F. These tools provide a more restrictive loading envelope than the manufacturers for simplified operations.



Weight and Balance Curtailed Envelope

WARNING: In-flight passenger movement and average baggage weight are not supported for curtailment. Supported curtailment tools are for standard average passenger weight and passenger distribution.

5. CALCULATING WEIGHT AND BALANCE

5.2.1 Standard Weights Curtailment Tool

When the Standard Weights Curtailment Tool is enabled, the app calculates a reduced center of gravity (CG) envelope based on seating capacity, average weights, and cabin centroid. The process estimates the possible variation in CG caused by statistical differences in passenger weights and seating distribution.

Use the Standard Weights Curtailment tool under the following conditions:

- Passenger seating locations are predetermined.
- Actual passenger weights are unavailable.
- Curtailment of the envelope is required using standard passenger weights.

Do not enable the Standard Weights toggle if actual passenger weights are used.

5. CALCULATING WEIGHT AND BALANCE

5.2.1.1 Enabling Curtailment with Standard Weights

To enable curtailed weight and balance for Standard Weights, toggle the **Standard Weights** option in the weight and balance profile setup view (see [Curtailment Options](#)). When enabled:

- The curtailed envelope is displayed as a dashed line.
- Standard weights are set in **More > Settings > Standard Weights**.
- Passenger weights are not replaced with standard weights.
- Payload is not recalculated using standard weights.

This toggle is intended solely for visualizing envelope curtailment under standard weight assumptions.



Standard Weights Toggle Switch

5. CALCULATING WEIGHT AND BALANCE

5.2.1.2 Calculating the Standard Weights Curtailed Envelope

The Standard Weights Curtailed Envelope calculations account for potential imbalances, such as all-male loading or varying distributions of passenger weights, and determine how much the CG could shift under these conditions. It evaluates forward-to-aft and aft-to-forward loading sequences and compares these against the aircraft's cabin centroid to find the greatest possible CG deviation.

The final curtailed envelope is determined by reducing the forward and aft CG limits based on the maximum deviation. This conservative envelope ensures the aircraft remains within manufacturer-approved loading limits when using standard weights.

NOTE: All calculations are performed automatically by the app and are based on FAA Advisory Circular 120-27F guidelines.

5.2.2 Passenger Distribution Curtailment Tool

The Passenger Distribution Curtailment Tool accounts for variations in passenger seating that may affect center of gravity (CG) calculations. The tool assumes that passengers may occupy any seat in the cabin and calculates a curtailed CG envelope based on the full forward and full aft seating scenarios to represent worst-case loading conditions.

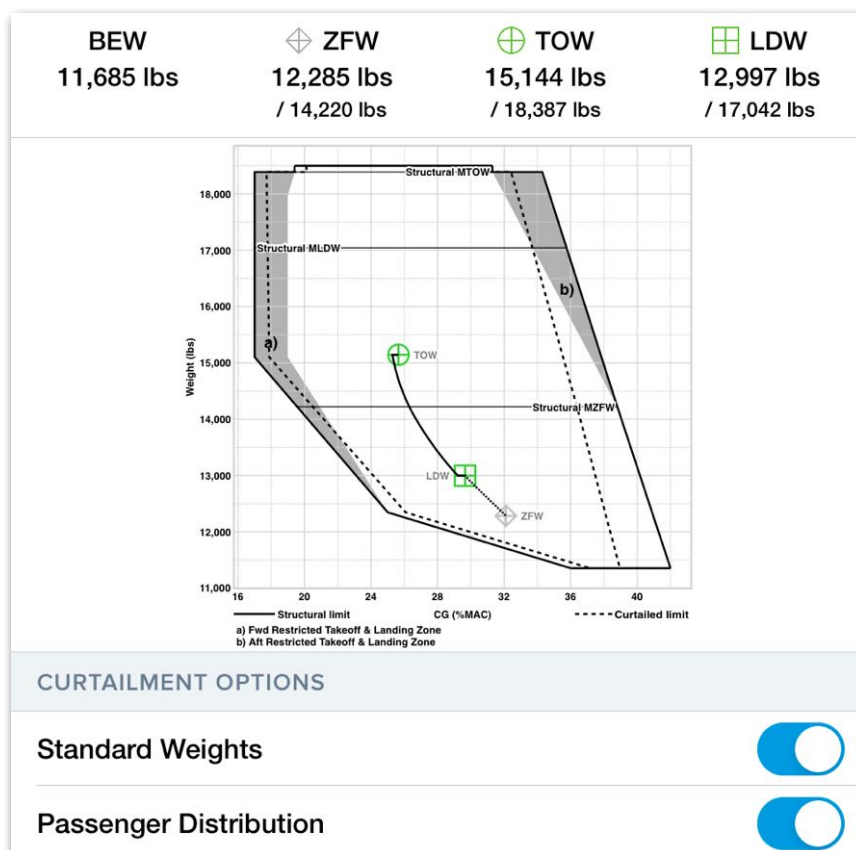
NOTE: The **Curtailment Option** setting in the weight and balance profile determines whether the tool is enabled by default.

5. CALCULATING WEIGHT AND BALANCE

5.2.2.1 Enabling Passenger Distribution Curtailment

To enable passenger-distribution curtailment:

1. Tap the **Passenger Distribution** toggle switch.
2. When enabled, the curtailed CG envelope appears as a dashed line.



Passenger Distribution Curtailment

This tool is intended for use when the weights of all passengers are known, but their seating positions are not predetermined. If the **Standard Weights** toggle is also enabled, the calculation will use standard weights instead of actual passenger weights.

IMPORTANT: The **Passenger Distribution** toggle does not alter passenger seating arrangements or recalculate payload. It only adjusts the CG envelope display to show limits based on worst-case seating scenarios.

5. CALCULATING WEIGHT AND BALANCE

5.2.3 Calculating the Passenger Distribution Curtailed Envelope

The Passenger Distribution Curtailment Tool automatically calculates a reduced center of gravity (CG) envelope to reflect worst-case seating scenarios based on known passenger weights or Standard Weights (if enabled). It estimates how the CG could shift by simulating worst-case seating distributions, where the heaviest passengers are first seated in the forwardmost or aftmost positions, followed by progressively lighter passengers.

By comparing these extreme loading conditions with the actual distribution, the tool identifies the maximum potential CG deviation. The resulting forward and aft curtailment values are displayed as dashed lines within the CG envelope.

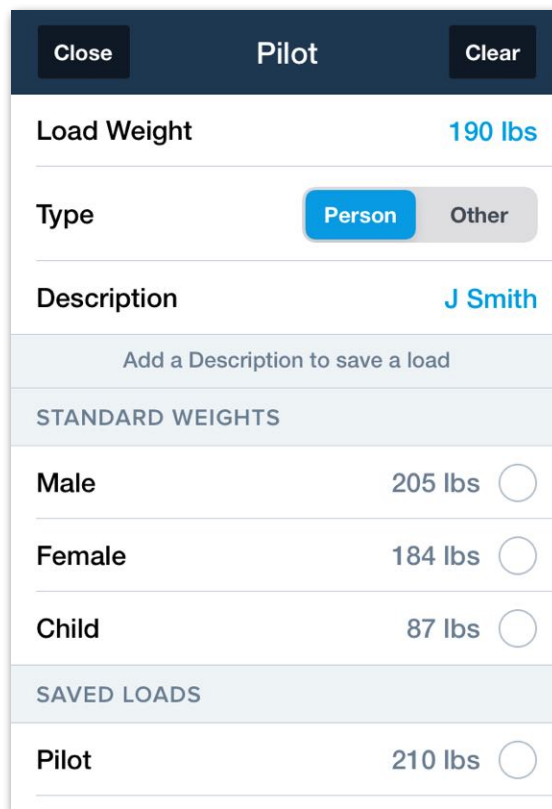
If the calculated CG falls within these dashed limits, the aircraft is considered loaded within manufacturer-approved limits regardless of how passengers are distributed.

5. CALCULATING WEIGHT AND BALANCE

5.2.4 Special Considerations for Seats

Each seat station in the weight and balance setup includes fields for:

- **Load Weight** - The actual weight of the person or object.
- **Type** - Select **Person** if the seat is occupied by a person. Select **Other** if it is an object. The **Person** type includes the weight in the passenger count, whereas **Other** does not.
- **Description** - Used to:
 - Create a new **Saved Load**.
 - Differentiate loads in the summary.



The screenshot shows a mobile application interface for configuring a 'Pilot' seat. At the top, there is a dark blue header bar with 'Close' and 'Clear' buttons on the left and right, and 'Pilot' in the center. Below the header, the form has three main sections: 'Load Weight' with a value of '190 lbs' in blue text; 'Type' with two buttons, 'Person' (highlighted in blue) and 'Other' (grey); and 'Description' with the value 'J Smith' in blue text. Below these is a light blue bar with the text 'Add a Description to save a load'. The next section is 'STANDARD WEIGHTS' with three rows: 'Male' (205 lbs) with a radio button, 'Female' (184 lbs) with a radio button, and 'Child' (87 lbs) with a radio button. The final section is 'SAVED LOADS' with one row: 'Pilot' (210 lbs) with a radio button.

Field	Value
Load Weight	190 lbs
Type	Person
Description	J Smith
Add a Description to save a load	
STANDARD WEIGHTS	
Male	205 lbs ☐
Female	184 lbs ☐
Child	87 lbs ☐
SAVED LOADS	
Pilot	210 lbs ☐

Example Pilot Seat

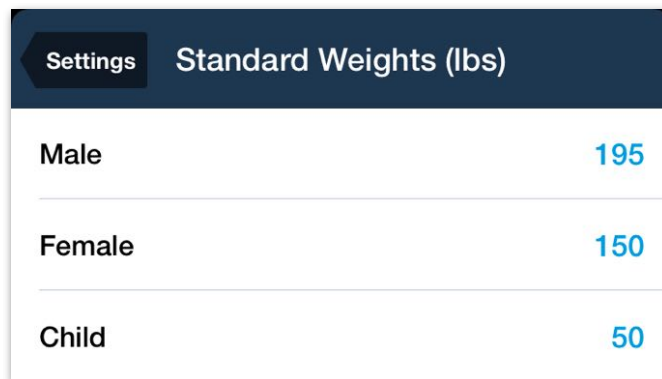
5. CALCULATING WEIGHT AND BALANCE

5.2.4.1 Standard Weights

Standard weights provide a quick way to enter passenger weights using predefined values.

To edit standard weights:

1. Navigate to **More > Settings > Standard Weights** (scroll to the bottom of the settings list)
2. Tap the desired weight to edit.
3. Make changes.
4. Exit the menu or tap the **Settings** back button.



Settings Standard Weights (lbs)	
Male	195
Female	150
Child	50

Standard Weight Settings

5. CALCULATING WEIGHT AND BALANCE

5.2.4.2 Saved Loads

A **Saved Load** is automatically created when a load is given a description. This feature enables quick reentry of frequent loads. Tap a saved load to add it to a station. Delete a saved load by swiping it from right to left.

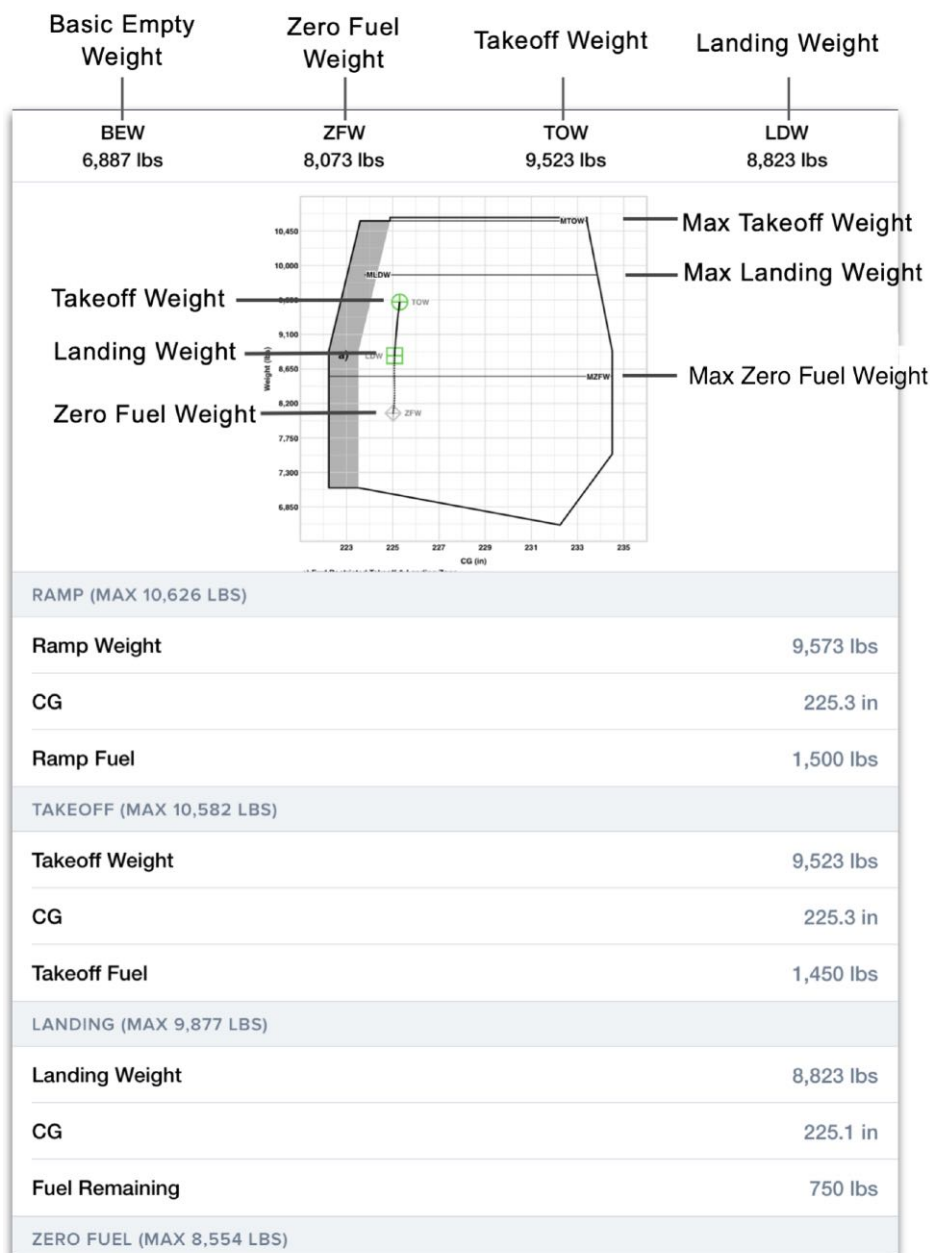
The screenshot shows a mobile application interface for entering load information. At the top, there is a dark blue header with 'Close' and 'Clear' buttons, and a title 'Pilot'. Below the header, the 'Load Weight' is set to '190 lbs'. The 'Type' is set to 'Person' (with 'Other' as an option). The 'Description' is 'J Smith'. Below this is a light blue bar with the text 'Add a Description to save a load'. Underneath is a section titled 'STANDARD WEIGHTS' with three options: 'Male' (205 lbs), 'Female' (184 lbs), and 'Child' (87 lbs), each with a radio button. Below this is a section titled 'SAVED LOADS' with one entry: 'Pilot' (210 lbs) with a radio button. A line points from the text 'Saved Load' to the 'Pilot' entry in the 'SAVED LOADS' section.

Pilot		
Load Weight	190 lbs	
Type	Person Other	
Description	J Smith	
Add a Description to save a load		
STANDARD WEIGHTS		
Male	205 lbs	☐
Female	184 lbs	☐
Child	87 lbs	☐
SAVED LOADS		
Pilot	210 lbs	☐

5. CALCULATING WEIGHT AND BALANCE

5.3 Weight and Balance Results

Weight and balance results are dynamically displayed on the right side of the screen. The graph visually represents key data points, including weight and center of gravity (CG) limits, as well as takeoff, landing, and zero fuel weights.



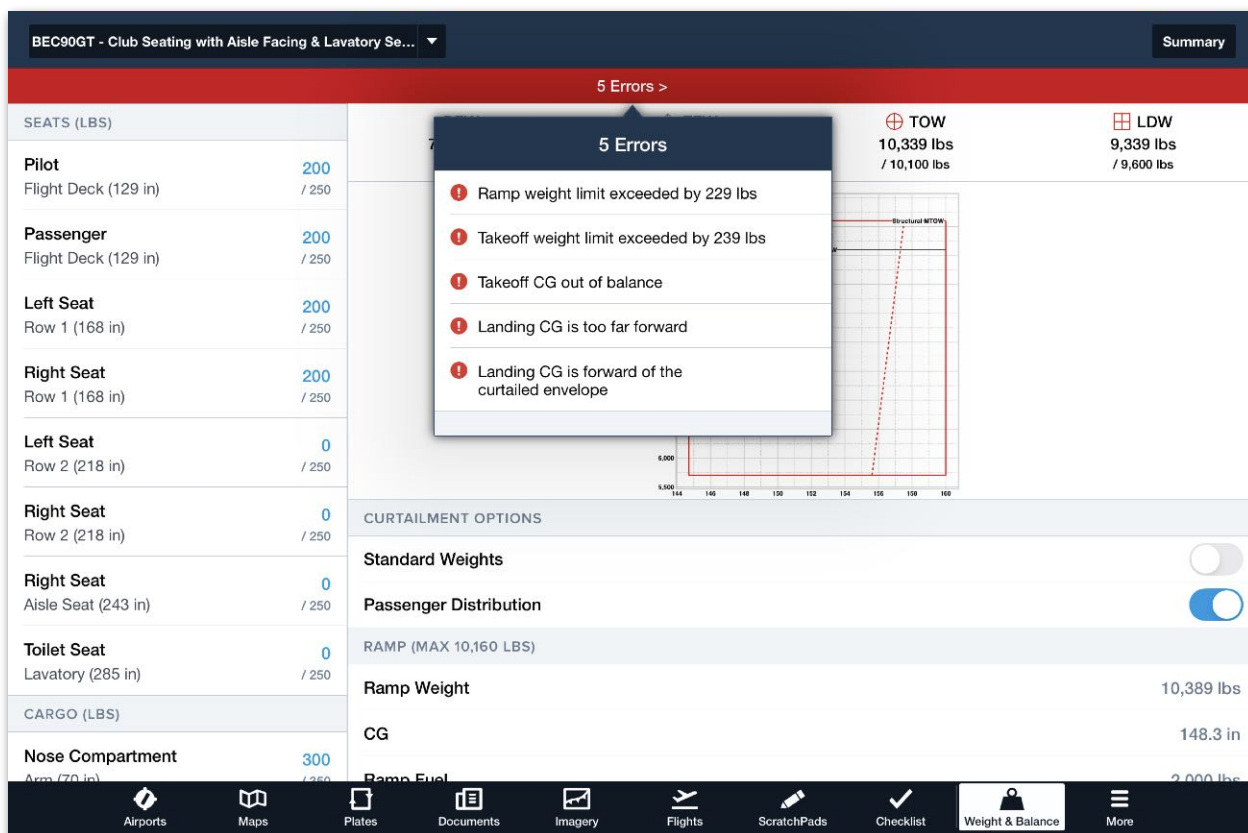
Weight and Balance Results

 Takeoff Weight	 Landing Weight	 Zero Fuel Weight
 Max Takeoff Weight Limit Exceeded	 Max Landing Weight Exceeded	 ZFW Exceeded

5. CALCULATING WEIGHT AND BALANCE

5.4 Warnings

When a weight or balance limitation is exceeded, a warning appears near the top of the screen. The graph also changes color to indicate the issue. If multiple warnings are present, tap the warning label to view additional details.



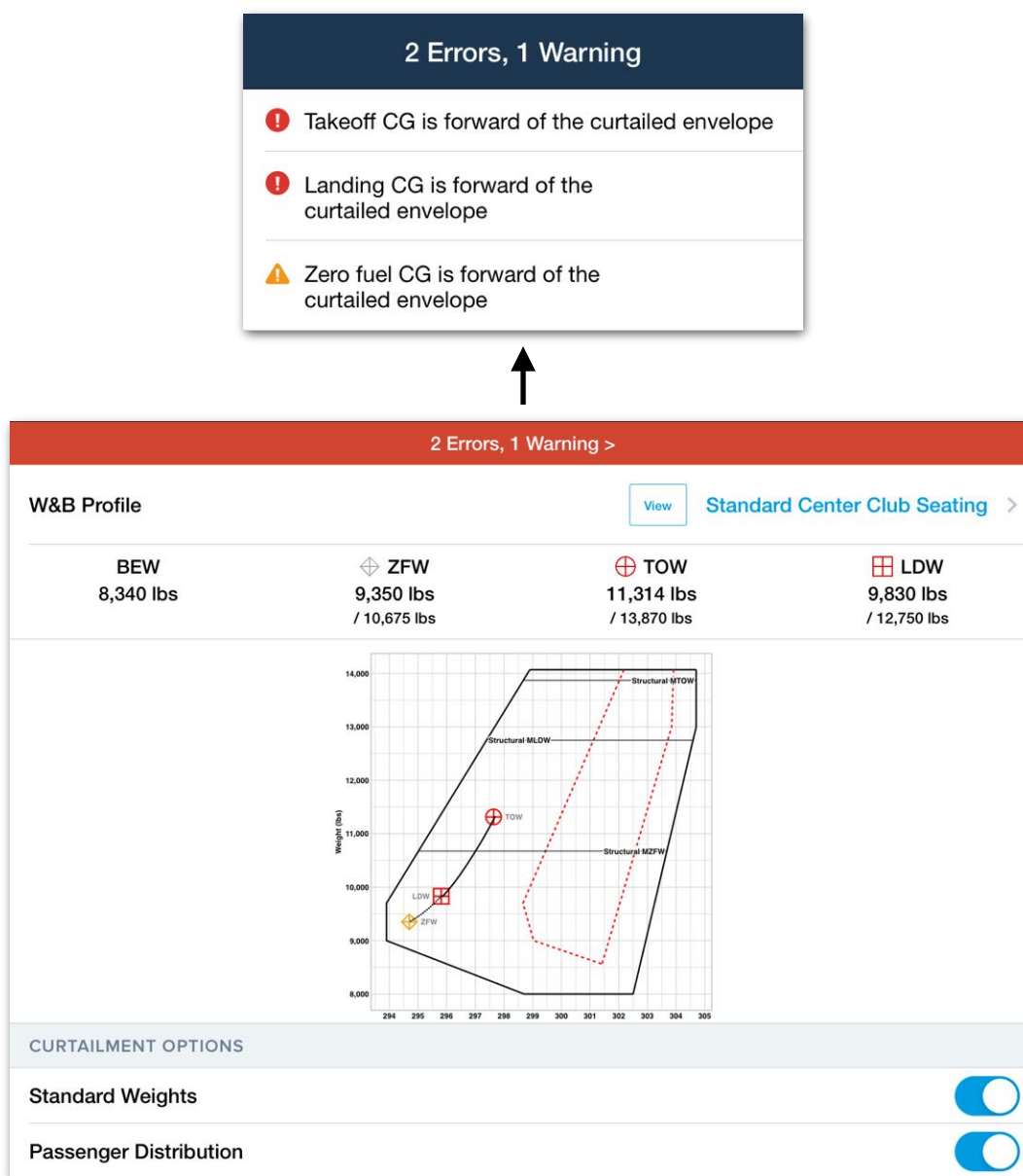
Weight and Balance Warnings

- | | | |
|---|---|--|
|  Takeoff Weight |  Landing Weight |  Zero Fuel Weight |
|  Max Takeoff Weight Limit Exceeded |  Max Landing Weight Exceeded |  ZFW Exceeded |

5. CALCULATING WEIGHT AND BALANCE

When using the **Standard Weights** or **Passenger Distribution Curtailment** tools, the results display similar visual indicators when limits are exceeded:

- The dashed lines representing the curtailed envelope appear in red.
- Weight and balance elements outside the envelope (e.g., takeoff weight and landing weight) are shown in red.
- A red warning label appears at the top of the screen. Tap the label to view detailed information about the issue.



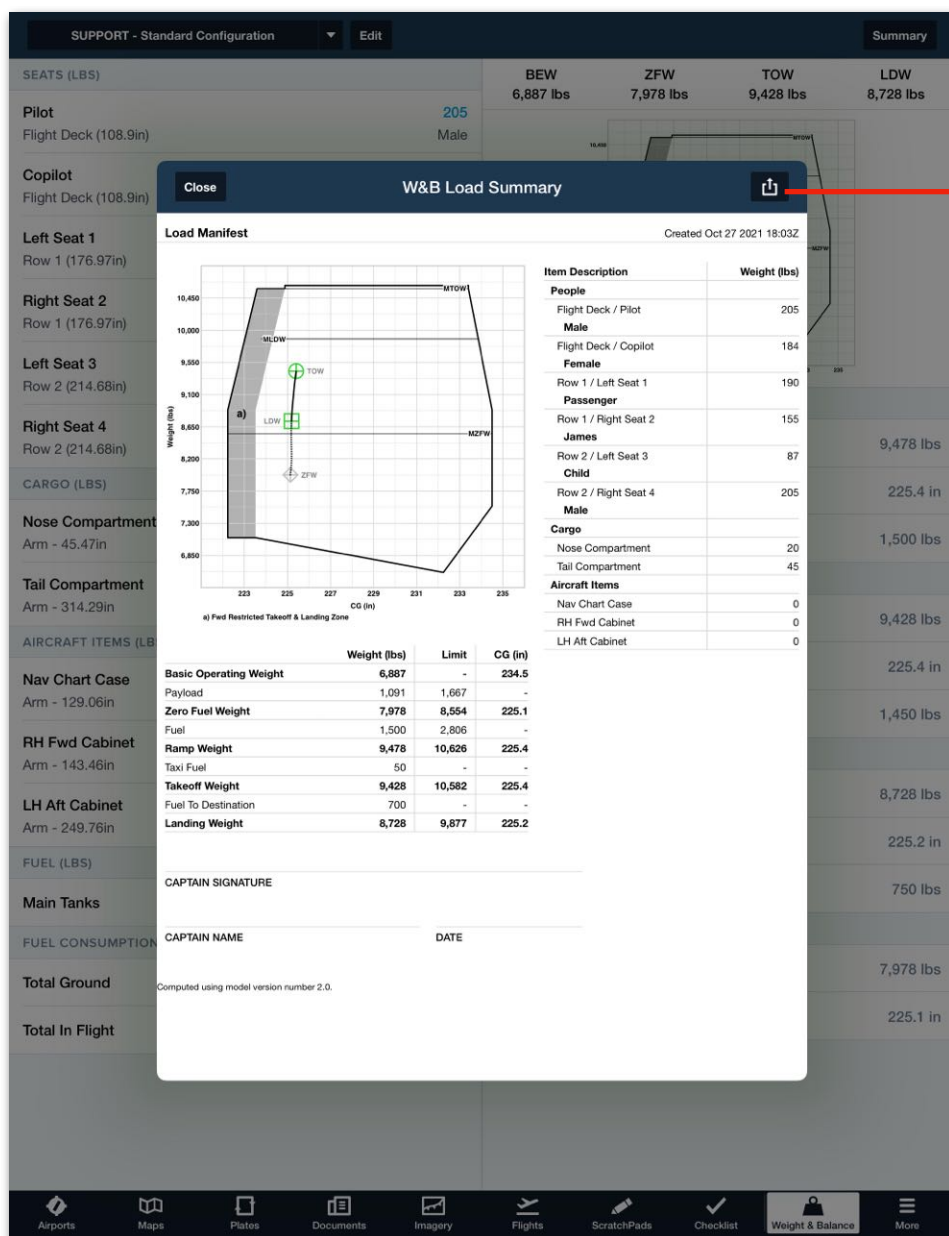
Curtailment Planning Error Indications

5. CALCULATING WEIGHT AND BALANCE

5.5 Weight and Balance Load Summary

Tapping the **Summary** button in the upper toolbar generates a PDF copy of the load summary. To share the PDF, tap the **Send To** button and select an option from the share menu. The summary can be AirDropped, emailed, printed, or saved to an external app.

The PDF includes fields for a signature, name, and date. The summary may be printed and signed manually or signed digitally using markup tools on the device.



Weight and Balance Load Summary

5. CALCULATING WEIGHT AND BALANCE

5.5.1 Signing the Load Summary

Digital signatures cannot be added from the preview pop-up window. To sign the load summary digitally, use one of the following methods:

5.5.1.1 Signing with a Third-Party App

To sign using a third-party app:

1. Tap **Summary** to open the load summary preview.
2. Tap the **share** button.
3. Select a third-party app (e.g., Mail, Dropbox, Google Drive, Files).
4. Open the third-party app.
5. Sign and date the load manifest using the annotation tool in the app.

5.5.1.2 Signing with ForeFlight Mobile

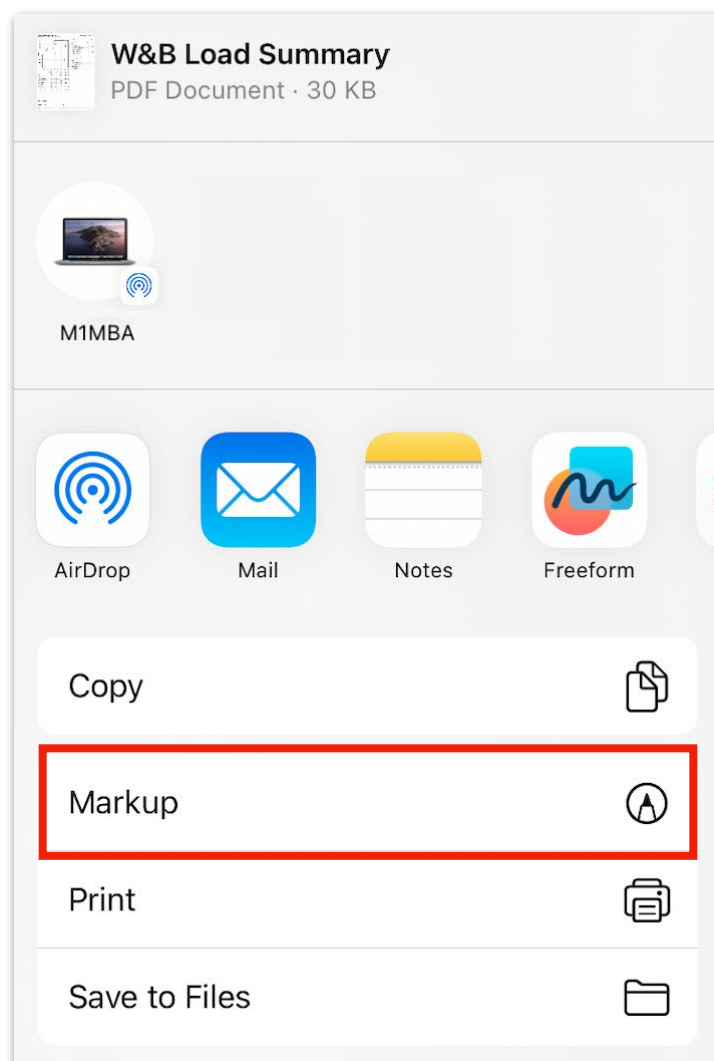
To sign using ForeFlight:

1. Tap **Summary** to open the load summary preview.
2. Tap the **share** button.
3. Select a third-party app (e.g., Mail, Dropbox, Google Drive, Files).
4. Open the third-party app.
5. Tap the **share** button again.
6. Export the summary from the third-party app back to **ForeFlight**.
7. When ForeFlight opens, choose **Documents** or **Flights**:
 - Selecting **Documents** adds the summary to the Imported Documents Drive.
 - Selecting **Flights** provides a prompt for choosing a flight (Premium, Business Performance, MFB Performance, and MFB One subscriptions only).
8. Use ForeFlight's annotation tools to sign and date the summary.

5. CALCULATING WEIGHT AND BALANCE

5.5.1.3 Signing Using Markup

The share menu includes a **Markup** option, which opens the iOS built-in PDF editor. Using **Markup**, the summary can be signed and dated directly on the device.



Share Menu with Option to Markup

NOTE: Load summaries signed with Markup cannot be returned directly to ForeFlight. However, if needed, they may be shared with a third-party app and imported into ForeFlight afterward.

5. CALCULATING WEIGHT AND BALANCE

5.6 Integrated Weight and Balance

Integrated Weight and Balance streamlines the flight planning process by transferring payload and fuel data from the Flights view to the Weight & Balance view. Calculations are retained with the flight and remain accessible as long as the flight is not deleted. To calculate weight and balance, tap the **Weight and Balance** button.

KC XO to KAUS
Thu May 22, 14:25 CDT

Distance
118 nm

ETE
0h21m

ETA (CDT)
14:45

Flight Fuel
1,319 lbs

Wind
14 mph head

PAYLOAD (LBS)

	COUNT	AVG WT.	TOTAL
People	3	200	600
Cargo			0
Total Payload			600

Weight and Balance

FUEL

GAL

LBS

Fuel Policy

Minimum Fuel Required >

Start
16,843 lbs available

MAX

468
/ 2,963

3,157
/ 20,000

Tap to calculate Integrated Weight and Balance

NOTE: When using the People Count option to add passengers and crew, they are seated from front to back. Center of gravity (CG) considerations are not applied during this automatic distribution.

5. CALCULATING WEIGHT AND BALANCE

To calculate Integrated Weight and Balance

1. Plan a flight using the **Flights** view.
2. Enter people and cargo information in the **Payload** section.
3. Verify the fuel load or select a fuel policy.
4. Tap **Weight and Balance**.
5. Select the desired weight and balance profile.
6. Verify seat, cargo, and aircraft items. Edit as needed.
7. Verify fuel weight. Edit as needed.

NOTE: Edits made in the **Weight and Balance** view are reflected in the flight plan. Payload can also be entered directly in the **Weight and Balance** view instead of the Flights view.

The screenshot displays the 'Flights' view in the ForeFlight application. The top bar shows 'KCXO to KAUS' with a timestamp of 'Thu May 22, 14:25 CDT'. Below this, flight details are listed: Distance 143 nm, ETE 0h25m, ETA (CDT) 14:49, Flight Fuel 1,458 lbs, and Wind 12 mph head. The left sidebar shows a list of flights, with 'KCXO to KAUS (IFR)' selected. The main content area shows the 'ROUTE' section with a map and the route 'BORRN6 MNURE WLEEE7'. Below the route, the 'PAYLOAD (LBS)' section is visible, showing a table with columns for 'COUNT', 'AVG WT.', and 'TOTAL'. The table lists 'People' (3, 200, 600) and 'Cargo' (0, 0, 0). The 'Total Payload' is 600. The 'Weight and Balance' section is highlighted with a red box, showing a 'FUEL' section with 'GAL' and 'LBS' columns, and a 'Fuel Policy' section with 'Minimum Fuel Required' and 'Not Filed' options. A 'Proceed to File' button is at the bottom right.

	COUNT	AVG WT.	TOTAL
People	3	200	600
Cargo			0
Total Payload			600

FUEL	GAL	LBS

Fuel Policy: Minimum Fuel Required >

Not Filed Proceed to File >

Integrated Weight and Balance

5. CALCULATING WEIGHT AND BALANCE

5.6.1 Integrated Weight and Balance Results

Weight and balance results are updated in real-time as payload and fuel inputs are entered. These fields remain editable at any time. Any change in the Flights view or Weight & Balance view is automatically reflected in the other.

Once flight details are verified, tap the **Back** button in the upper toolbar to return to the main Flights view. The **Weight and Balance** button is replaced with a status label indicating whether the aircraft's configuration is within limits. Tap this label to review or edit the weight and balance.

PAYLOAD (LBS)			
	COUNT	AVG WT.	TOTAL
▶ People	2	205	410
▶ Cargo			59
▶ Aircraft Items			600
Total Payload			1,069
Weight & Balance In Balance >			
Remove Weight and Balance			

PAYLOAD (LBS)			
	COUNT	AVG WT.	TOTAL
▶ People	2	205	410
▶ Cargo			59
▶ Aircraft Items			6,000
Total Payload			6,469
Weight & Balance Out of Balance >			
Remove Weight and Balance			

In Balance and Out of Balance Integrated Weight and Balance Labels

5.6.2 Removing Integrated Weight and Balance

Weight and balance calculations remain linked to a flight until the flight is deleted. To remove the weight and balance data without deleting the flight, tap the **Remove Weight and Balance** button at the bottom of the flight's Payload section.

PAYLOAD (LBS)			
	COUNT	AVG WT.	TOTAL
▶ People	2	205	410
▶ Cargo			59
▶ Aircraft Items			6,000
Total Payload			6,469
Weight & Balance Out of Balance >			
Remove Weight and Balance			

Remove Weight and Balance Button

5. CALCULATING WEIGHT AND BALANCE

5.7 Graphical Weight and Balance

The station diagram provides a visual method for loading the aircraft. To input station data, tap a station to open the pop-over, then manually enter the weight or select a standard weight. Tap **Done** to apply the load. The updated value will be reflected in the station diagram.



Station Diagram

The 'Station Pop Over' dialog box for 'Right Seat 4' allows users to input weight data. It includes fields for 'Load Weight', 'Type' (Person/Other), 'Description' (Optional), and 'Infant in Lap' (toggle). Below these are 'STANDARD WEIGHTS' for Male (205 lbs) and Female (184 lbs), each with a radio button for selection.

Station Pop Over

5. CALCULATING WEIGHT AND BALANCE

5.8 Ballast Fuel

Ballast fuel is unusable fuel intentionally added to increase the zero fuel weight of the aircraft for the purpose of adjusting the center of gravity. This fuel is not used during flight operations and exists solely to help keep the center of gravity within allowable limits.

This feature is available for supported aircraft models with a Premium, Business Performance, MFB Performance, and MFB One subscriptions.

5.8.1 Adding Ballast Fuel

Ballast fuel can be added during weight and balance calculation from either the **Weight & Balance** or **Flights** view. If the center of gravity exceeds the aft limit and ballast fuel will correct the imbalance, a **USE** button appears next to the ballast fuel amount.

When weight and balance calculations are complete, ballast fuel is listed at the bottom of the flight's Fuel section, the Navlog, and the Weight and Balance Summary Document.

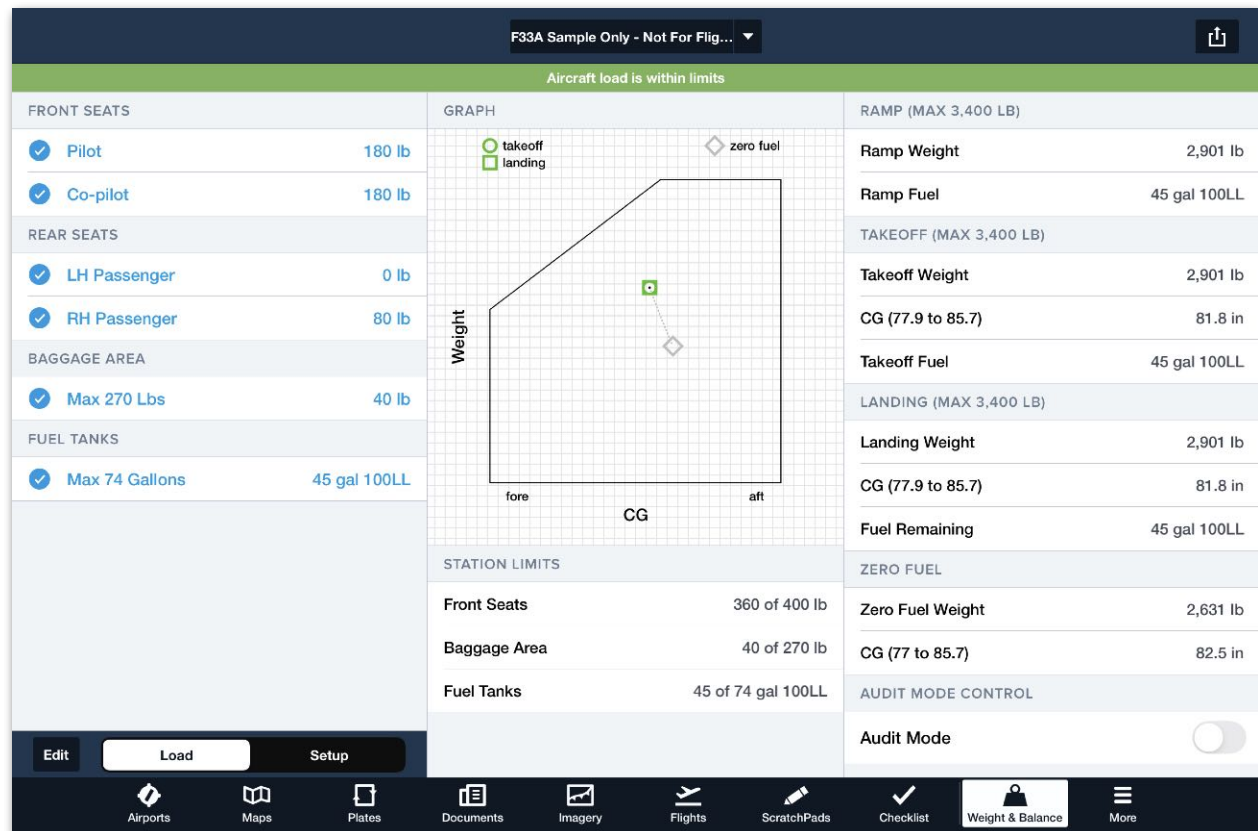
PAYLOAD (LBS)		
Weight & Balance		In Balance >
Remove Weight and Balance		
FUEL		
	GAL	LBS
Fuel Policy		Minimum Fuel Required >
▼ Total Start 2,709 lbs available	MAX 708 / 1,109	4,776 / 7,485
Fuselage Tank	148	1,000
Wing Tanks	560	3,776
▼ Flight Fuel	360	2,428
Taxi Fuel	30	200
Fuel to Destination	330	2,228
▼ Fuel at Landing	349	2,347
Alternate Fuel	0	0
Reserve Fuel	169	1,138
Extra Fuel	0	0
Ballast Fuel Wing Tanks	180	1,209
WEIGHTS (LBS)		

Ballast
Fuel

Flights Planning Form

LEGACY WEIGHT AND BALANCE

ForeFlight Mobile version 14.2 introduced Enhanced Weight and Balance. Profiles created before this release are designated as Legacy profiles. These can be updated via the [Migration Assistant](#).



Legacy Weight and Balance

Legacy profiles remain usable for fixed-wing aircraft under the following conditions:

- Constant weight limits (i.e., do not vary with CG)
- Identical CG envelopes for takeoff and landing
- Single fuel moment table (i.e., a single variable-arm fuel station)

Legacy profiles are created using the **SmartOptions™** interview, which pulls data from FAA type certificates. The SmartOptions interview is available for many popular Cessna, Cirrus, Diamond, Mooney, and Piper aircraft.

6. LEGACY WEIGHT AND BALANCE

NOTE: Legacy Weight and Balance does not support aircraft profile linking, station types, or integration with flights.

If a weight and balance profile is not found in the SmartOptions database, a profile can be manually created by completing the manual profile interview.

6.1 Creating Profiles

To create a Legacy Weight and Balance profile

1. Select **More**.
2. Tap **Weight & Balance**.
3. Tap the **[+]** button or select **Add New Profile** from the dropdown in the upper toolbar.
4. Enter the aircraft tail number.
5. Tap **Next**.

If a match is found in the FAA database, the SmartOptions interview begins. If not, proceed with the manual interview.

6.1.1 SmartOptions Interview

When a profile match is found for an aircraft, station and limit details are automatically entered. To complete the SmartOptions interview:

1. Select the aircraft configuration.
2. Enter basic empty weight.
3. Enter basic empty CG.
4. Tap **Next**.

6. LEGACY WEIGHT AND BALANCE

6.1.2 Manual Interview

If a profile does not exist for your aircraft, use the manual process:

1. Choose units for length, weight, and fuel burn.
2. Select the aircraft fuel type.
3. Specify the station types.
4. Enter the basic empty weight.
5. Enter the basic empty center of gravity.
6. Tap **Save**.

The screenshot shows a mobile application interface for 'Step 6' of a manual interview process. At the top, there are navigation buttons: 'Step 5' (with a left arrow), 'Cancel', 'Step 6' (current step), and 'Next' (with a right arrow). Below the navigation bar, the title 'CHOOSE STATIONS FOR N12345' is displayed. The main content area is a list of stations, each with a label and a selection indicator (a blue checkmark in a circle for selected items, and an empty circle for unselected items). The stations listed are: Cockpit (selected), Front Seats (unselected), Need More Seat Choices ... (selected, with a subtext 'adds more seat choices in a later step'), Baggage Area (selected), Need More Baggage Choices ... (unselected, with a subtext 'adds more baggage choices in a later step'), Fuel Tanks (selected), Need More Fuel Choices ... (unselected, with a subtext 'adds more fuel choices in a later step'), Built-in Oxygen Tank (selected), and De-ice Fluid Tank (unselected). The bottom of the screen has a light blue bar.

Station	Selected
Cockpit	Yes
Front Seats	No
Need More Seat Choices ... adds more seat choices in a later step	Yes
Baggage Area	Yes
Need More Baggage Choices ... adds more baggage choices in a later step	No
Fuel Tanks	Yes
Need More Fuel Choices ... adds more fuel choices in a later step	No
Built-in Oxygen Tank	Yes
De-ice Fluid Tank	No

Manual Interview

6. LEGACY WEIGHT AND BALANCE

6.1.3 Completing a Manual Profile

After completing the interview questions, to finalize the manual profile:

- Select **Setup** near the bottom of the screen.
- Enter station arms, limits, and CG limits.

The screenshot displays the ForeFlight Weight & Balance setup interface for aircraft N12345. A red banner at the top states "Setup Incomplete. Check Notices." The interface is divided into three main sections: STATIONS, GRAPH, and TAKEOFF/LANDING data.

STATIONS	GRAPH	TAKEOFF	
Cockpit Arm Not Set	Setup Incomplete Check Notices	Takeoff Weight 2,000 lb	
Front Aft-Facing Seats Arm Not Set		CG 60 in	
Back Fwd-Facing Seats Arm Not Set		Takeoff Fuel 0 lb	
Baggage Area Arm Not Set		LANDING	
Fuel Tanks Arm Not Set		Landing Weight 2,000 lb	
Oxygen Tank Arm Not Set		CG 60 in	
EMPTY AIRCRAFT		Fuel Remaining 0 lb	
Weight 2,000 lb		NOTICES	ZERO FUEL
CG 60 in			Zero Fuel Weight 2,000 lb
Moment 120,000 in-lb			CG 60 in
AUDIT MODE CONTROL			
WEIGHT LIMITS		Audit Mode ☐	
Ramp None	⚠ The takeoff weight limit is not set. ⚠ A station arm is not set. ⚠ Each forward CG limit point should have a unique weight. ⚠ Each aft CG limit point should have a unique weight.		
Takeoff None			
Landing None			

At the bottom, a navigation bar includes buttons for Edit, Load, and Setup (which is highlighted with a red rectangle). The bottom-most bar contains icons for various app features: Airports, Maps, Plates, Documents, Imagery, Flights, ScratchPads, Checklist, Weight & Balance, and More.

Incomplete Setup

6. LEGACY WEIGHT AND BALANCE

6.1.3.1 Limits

To enter limits, tap an entry in the Weight Limits section to open a pop-up. Enter weight limits and tap **Save**. If a limit is not specified in the POH, leave it blank.

The screenshot displays the ForeFlight Weight & Balance app interface for aircraft N12345. The top status bar shows the aircraft registration and a share icon. Below this, a green banner indicates "Aircraft load is within limits". The main interface is divided into three columns: "EMPTY AIRCRAFT", "GRAPH", and "RAMP (MAX 3,525 LB)".

EMPTY AIRCRAFT:

- Weight: 2,000 lb
- CG: 78 in
- Moment: 156,000 in-lb

WEIGHT LIMITS (highlighted with a red box):

- Ramp: 3,525 lb
- Takeoff: 3,500 lb
- Landing: 3,200 lb
- Zero Fuel: None

GRAPH: A central graph showing Weight vs. CG. It includes a "takeoff" point (green circle) and a "landing" point (green square). A dashed line represents the "landing limit". The x-axis is labeled "CG" with "fore" and "aft" markers. The y-axis is labeled "Weight".

RAMP (MAX 3,525 LB):

- Ramp Weight: 2,000 lb
- Ramp Fuel: 0 lb

TAKEOFF (MAX 3,500 LB):

- Takeoff Weight: 2,000 lb
- CG (70 to 90): 78 in
- Takeoff Fuel: 0 lb

LANDING (MAX 3,200 LB):

- Landing Weight: 2,000 lb
- CG (70 to 90): 78 in
- Fuel Remaining: 0 lb

ZERO FUEL:

- Zero Fuel Weight: 2,000 lb
- CG (70 to 90): 78 in

AUDIT MODE CONTROL:

- Audit Mode: ☐

EMPTY AIRCRAFT LIMITS:

- FORWARD CG LIMITS:**
 - 80 in: 3,500 lb
 - 70 in: 2,800 lb
 - 70 in: 2,000 lb
- AFT CG LIMITS:**
 - 90 in: 3,500 lb

Bottom Bar: Includes buttons for "Edit", "Load", and "Setup", along with icons for "Airports", "Maps", "Plates", "Documents", "Imagery", "Flights", "ScratchPads", "Checklist", "Weight & Balance", and "More".

Weight Limits

NOTE: Zero Fuel is the maximum weight limit for the aircraft with zero fuel onboard. This limit is uncommon for general aviation aircraft.

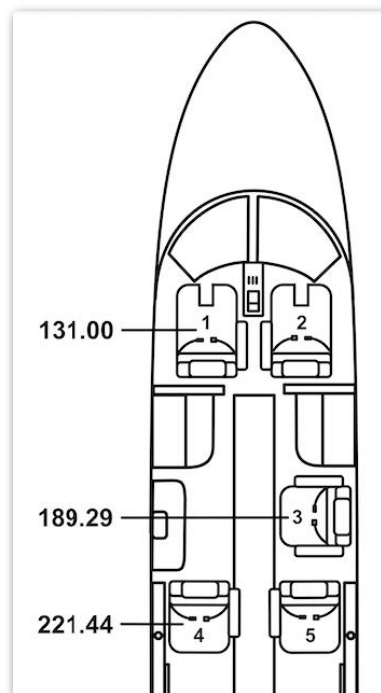
6. LEGACY WEIGHT AND BALANCE

6.1.3.2 Stations

Stations (items that can change weight with each flight) include:

- Crew and Passenger (Seats)
- Fuel
- Cargo
- Aircraft Items.

Tap each station to input name, arm, and limit. Ensure the station type is correct before tapping **Save**. Tap **Edit** (near the bottom of the screen) > **Add New Station** as needed.



Example Stations

STATIONS	
Cockpit (limit 450 lb)	131 in
Entrance Seat	189.3 in
Front Aft-Facing Seats	270.4 in
Back Fwd-Facing Seats	300 in
Baggage Area	310 in
Fuel Tanks	270 in

Cancel	Edit	Save
STATION		
Name	Cockpit	
Arm (in)	131	
Limit (lb)	450	
TYPE		
Seats, Baggage, etc. not a fuel station	✓	
Fuel, fixed arm use above arm		
Fuel, variable arm ignore arm, use fuel moment table		

Cockpit Seats Arm 131.00

NOTE: Seats in the same row with identical arms require only one station entry. Multiple seats in a row are added in the **Load** view.

6. LEGACY WEIGHT AND BALANCE

6.1.3.3 Stations (Fuel)

Fuel tank stations with fixed arms are common in many general aviation aircraft. To add a fixed-arm fuel tank station:

1. Tap the fuel tank station.
2. Enter the fuel tank's **name**, **arm**, and **limit** in the pop-up.
3. Select **Fuel, fixed arm** as the station type.
4. Tap **Save**.

CancelEditSave

STATION

NameFuel Tanks

Arm (in)95

Limit (lb)288

Limit (gal 100LL)48

TYPE

Seats, Baggage, etc.
not a fuel station

Fuel, fixed arm
use above arm✓

Fuel, variable arm
ignore arm, use fuel moment table

Fuel - Fixed Arm

	Weight (Lbs)	Arm Aft Datum (Inches)	Moment (In-Lbs)
Licensed Empty Weight			
Oil (8 quarts)	15	24.5	368
Pilot and Front Passenger	340	80.5	27370
Passengers, Aft (Rear Seat)	340	118.1	40154
Fuel (48 Gal. Maximum)		95.0	
*Baggage		142.8	
Moment due to Retracting of Landing Gear			819
Total Loaded Airplane			

Sample Stations

6. LEGACY WEIGHT AND BALANCE

6.1.3.4 Stations (Fuel - Variable Arm)

Aircraft that do not burn fuel symmetrically use variable fuel arms. These aircraft rely on **fuel moment tables** that define the moment for a given fuel weight.

To add a variable arm fuel tank station:

1. Tap the fuel station and select **Fuel, Variable Arm**.
2. Tap **Save**.
3. Scroll to the bottom and locate the Fuel Moment Table section.
4. Tap **Edit**.
5. Tap **Add New Fuel Moment**.
6. Enter a fuel weight and its corresponding moment.
7. Repeat steps 5-6 until all entries are added.

The screenshot displays the 'WING TANK FUEL' table on the left and the 'FUEL MOMENT TABLE' interface on the right. The 'FUEL MOMENT TABLE' interface includes a list of fuel weights and their corresponding moments, with a red circle around the 'MOMENT/100' header. An arrow points from the 'Add New Fuel Moment' button in the interface to the 'MOMENT/100' header in the table. A text label 'Drag to Rearrange' points to the three-line menu icon next to the 100 lb entry.

WEIGHT (POUNDS)	MOMENT/100 (INCH-POUNDS)
100	311.72
200	619.45
300	923.80
400	1226.16
500	1527.43
600	1828.57
700	2130.74
800	2433.92
900	2737.96
1000	3042.77
1100	3348.26
1200	3654.36
1300	3961.04
1400	4268.25
1500	4575.96
1600	4884.49
1700	5193.78
1800	5503.69
1900	5814.20
2000	6125.28
2100	6436.95
2200	6749.18
2300	7061.97
2400	7375.33
2500	7689.28
2600	8003.82
2700	8318.98
2800	8634.75
2900	8951.12
3000	9268.10

FUEL MOMENT TABLE

- 100 lb 31,172 in-lb
- 200 lb 61,945 in-lb
- 300 lb 92,380 in-lb
- + Add New Fuel Moment

Done Load Setup

Fuel Moment Table

NOTES:

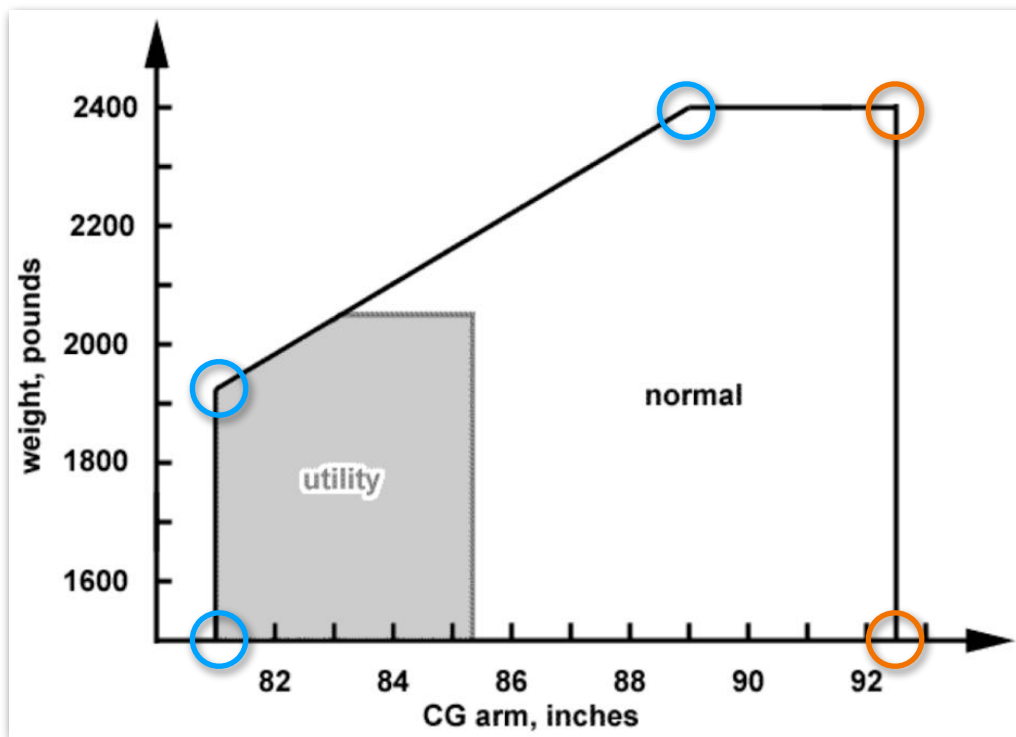
- Enter rows in the order they appear in the source documentation.
- To rearrange rows, tap **Edit** and drag them into the desired order.
- Confirm that moment units are in **inch-pounds**.
- If the source moment values are divided (e.g., **MOMENT/100**), multiply the value by the divisor before entering it in ForeFlight.

6. LEGACY WEIGHT AND BALANCE

6.1.3.5 CG Limits

The center of gravity (CG) envelope for the aircraft must be defined. These limits are typically found in the Limitations section or as a graph in the Weight and Balance section of the aircraft flight manual.

When using a CG envelope graph, identify each point or “bend” where the envelope changes direction. Each point requires a corresponding weight and arm value.



FORWARD CG LIMITS

89 in	2,400 lb
81 in	1,920 lb
81 in	1,500 lb

Forward CG Limits

AFT CG LIMITS

92.5 in	2,400 lb
92.5 in	1,500 lb

Aft CG Limits

6. LEGACY WEIGHT AND BALANCE

To enter CG limits:

1. Tap either the **Forward CG** or **Aft CG limit**.
2. Enter a **Weight** and **Arm**.
3. Tap the Forward CG or Aft CG limit and enter a weight and arm.
4. Tap **Edit**.
5. Tap **Add New Forward (or Aft) Point**
6. Enter the next CG limit and corresponding arm.
7. Tap **Save**.
8. Repeat steps 4-7 until all points (bends) that define the forward and AFT CG points are entered.

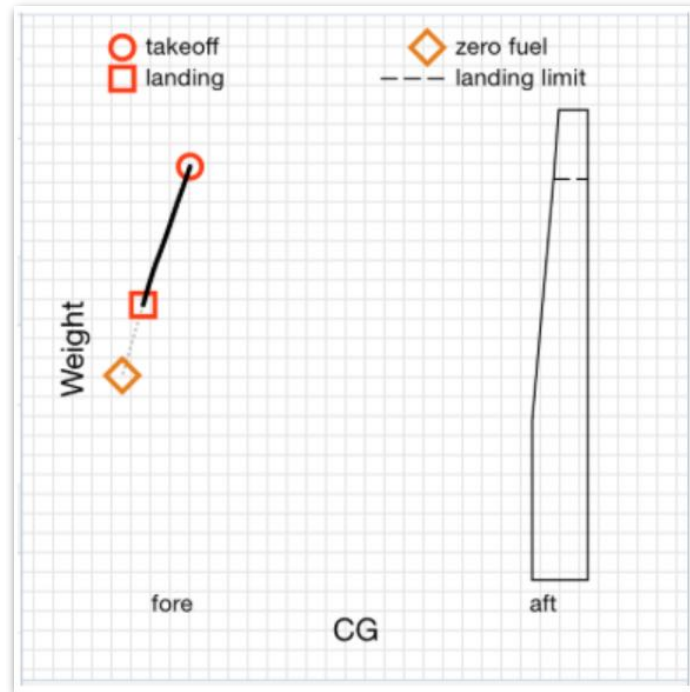
NOTES:

- A CG limit point must be defined at the maximum gross weight (e.g., 2,400 lbs).
- Ensure the CG envelope is based on **weight over arm**. If using a **weight over moment** graph, convert moment to arm by dividing the moment by the corresponding weight.

6. LEGACY WEIGHT AND BALANCE

6.1.3.6 Common Mistakes

A center of gravity envelope that appears distorted, either squished or offset, is often the result of using moment values directly from the Pilot's Operating Handbook (POH) without proper conversion.



Error due to using divided moment values

Many POHs list moment values divided by 100 or 1,000. These values must be converted to inch-pounds before being entered.

To correct this:

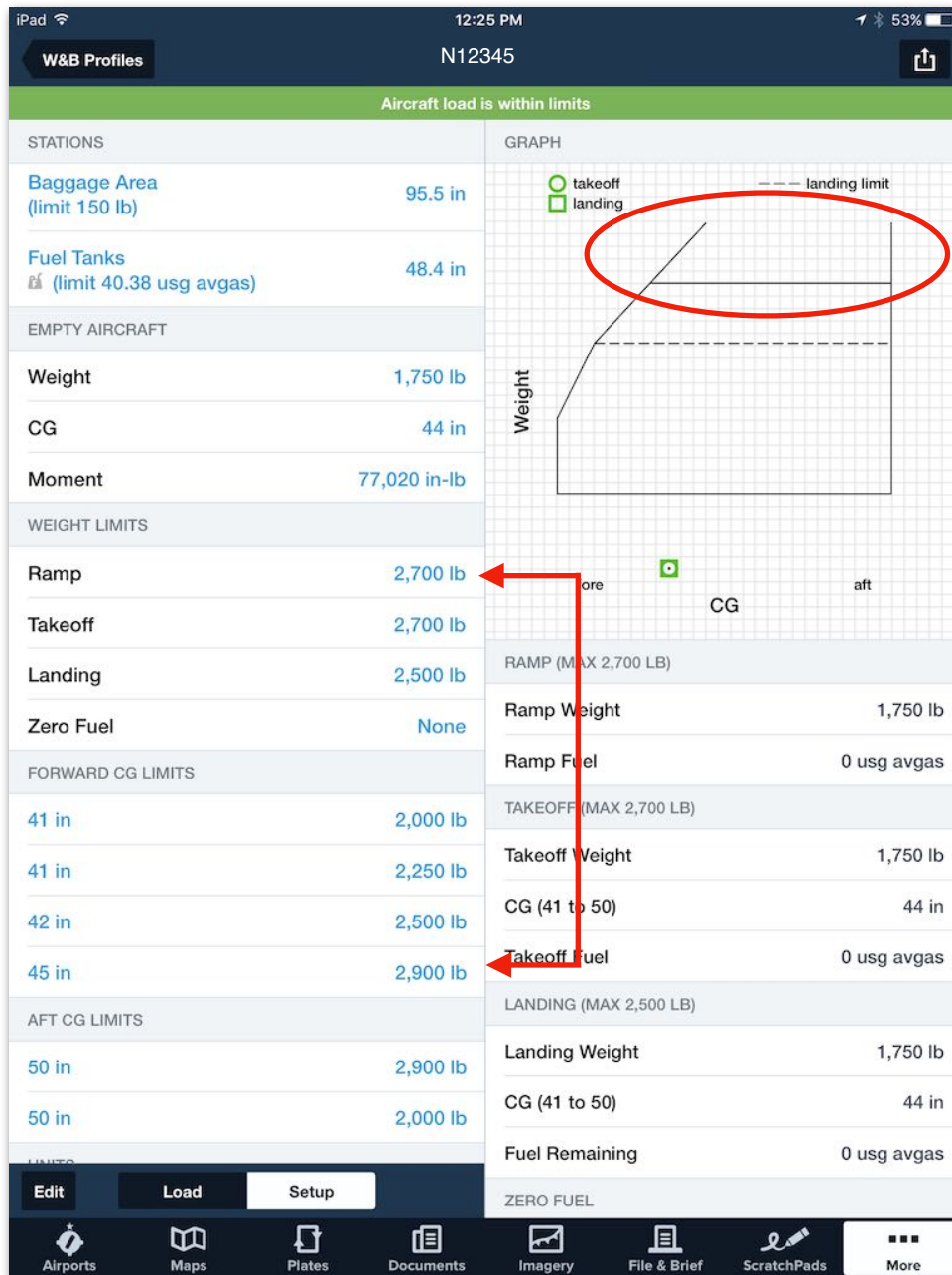
- Multiply the POH moment values by 100 or 1,000, as appropriate.
- Enter the converted values into the CG Arms and Limits section.

Ensuring moments are entered in inch-pounds is critical to accurately depicting the aircraft's CG envelope.

6. LEGACY WEIGHT AND BALANCE

An offset at the top of the CG Arm and Limits graph typically indicates a mismatch between weight limits. This presentation occurs when the Takeoff or Ramp weight limit is set lower than the maximum weight defined in the center of gravity moment entries.

Correct this by changing the Takeoff or Ramp weight limit(s) or the Moments.



6. LEGACY WEIGHT AND BALANCE

6.2 Complete Profiles

Once a weight and balance profile is set up, it can be selected from the **profile dropdown** in the upper toolbar.

To make changes to a profile:

- Tap **Setup** to enter edit mode.
- Use **Edit > Delete** or **Edit > Add New Station** to modify station fields.
- To delete individual fields, swipe from **right to left** on the entry.

Profiles can be updated at any time to reflect changes in aircraft configuration or operational needs.

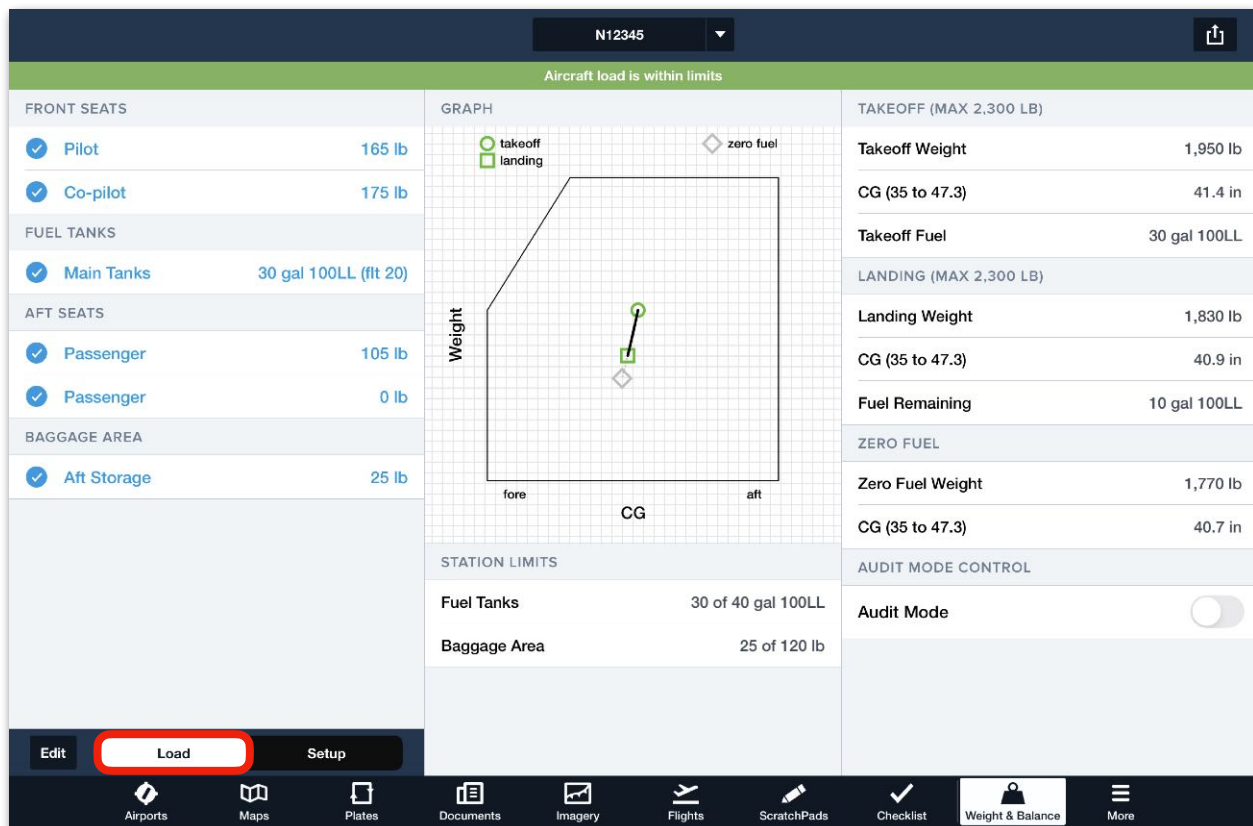
6. LEGACY WEIGHT AND BALANCE

6.3 Calculating Weight and Balance

To perform a weight and balance calculation:

1. Select the appropriate profile from the dropdown in the upper toolbar.
2. Tap Load at the bottom of the screen.
3. On the Load page, tap each station to enter a Weight and Name.
4. Tap Save to confirm each entry.

When entering fuel, include the amount planned for both in-flight use and ground operations.



Calculating Weight and Balance

6. LEGACY WEIGHT AND BALANCE

6.3.1 Saved Loads

Saved loads allow frequently used weight entries, such as crew, passengers, fuel, or cargo, to be stored and reused.

To create a saved load:

1. Select **Edit** > **Add New Load** within a station.
2. Enter the **Name** and **Weight** of the load.
3. Tap **Save**.
4. Tap **Done** when finished.

NOTE: Each station can store an unlimited number of saved loads. Storing commonly used items streamlines future load planning.

The screenshot displays the 'Weight & Balance' screen for aircraft N12345. The interface is divided into several sections:

- FRONT SEATS:** Lists 'Amelia' (145 lb) and 'Orville' (175 lb), both selected with blue checkmarks.
- FUEL TANKS:** Lists '2 Hours' (30 gal 100LL (ft 18)) and 'Top Off' (42 gal 100LL (ft 33)). '2 Hours' is selected.
- AFT SEATS:** Lists 'William' (185 lb), 'Julie' (150 lb), 'Rusty (Dog)' (60 lb), and 'Wilbur' (163 lb). 'Wilbur' is selected.
- BAGGAGE AREA:** Lists 'Emergency Kit' (20 lb), 'Camping Kit' (30 lb), and 'Suitcase' (35 lb). 'Emergency Kit' is selected.
- GRAPH:** A graph showing Weight vs. CG (fore to aft). It includes markers for 'takeoff', 'landing', and 'zero fuel'. A green line indicates the current load path.
- STATION LIMITS:** A table showing limits for Fuel Tanks, Baggage Area, Takeoff Fuel, Landing Weight, CG, and Fuel Remaining.

Annotations on the left side of the screenshot:

- Saved Load (Selected):** Points to the 'Amelia' and 'Orville' entries in the Front Seats section.
- Saved Load (Not selected):** Points to the 'William', 'Julie', and 'Rusty (Dog)' entries in the Aft Seats section.
- Cargo Station:** Points to the 'Emergency Kit', 'Camping Kit', and 'Suitcase' entries in the Baggage Area section.

The bottom of the screen features a navigation bar with icons for Airports, Maps, Plates, Documents, Imagery, Flights, Weight & Balance, and More. Above this bar are buttons for 'Edit', 'Load', and 'Setup'.

6. LEGACY WEIGHT AND BALANCE

6.3.1.1 Selecting Loads

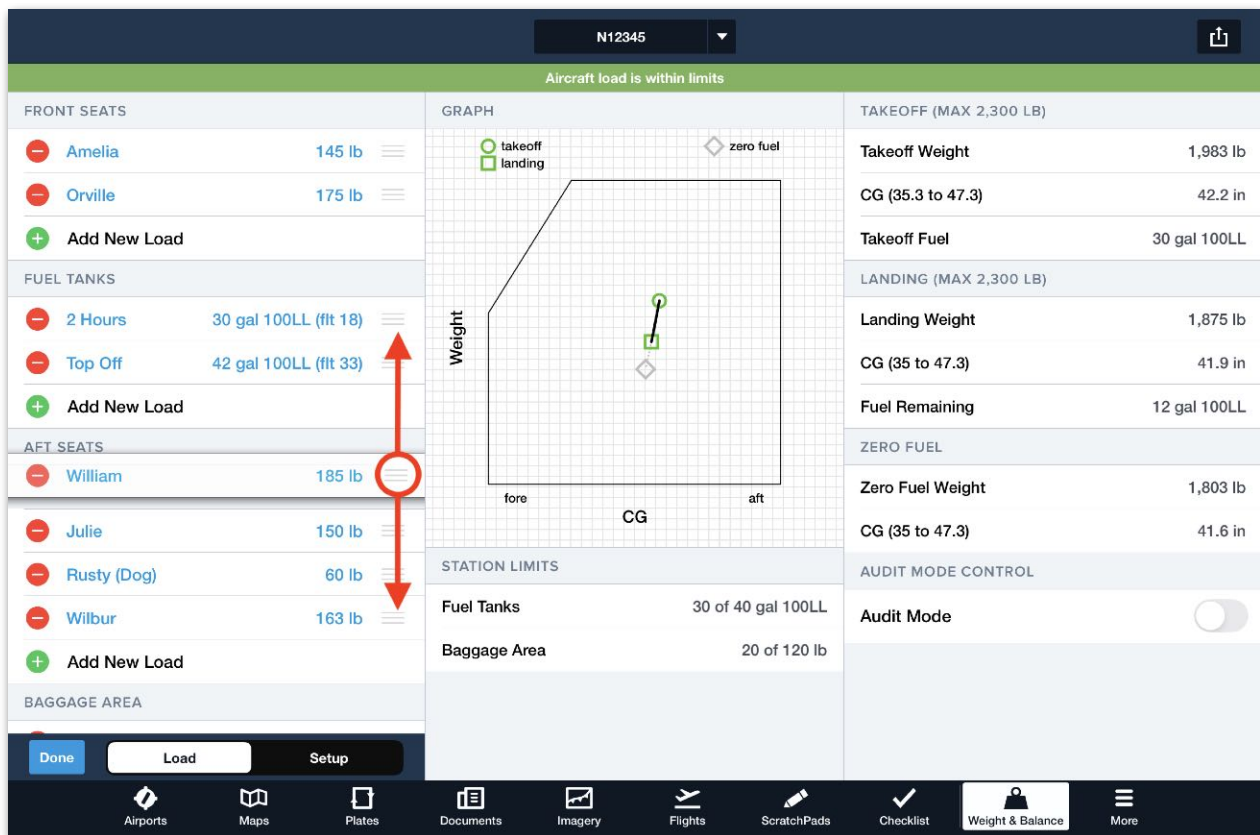
Only selected loads are included in weight and balance calculations. To include a load, tap the **checkmark** next to the desired load.

By saving all typical crew and cargo configurations, users can quickly select the necessary loads for a given flight.

6.3.1.2 Rearranging Loads

To move a load from one station to another:

1. Tap **Edit**.
2. Drag the load to the new station.
3. Tap **Done** to save the changes.



Rearranging Loads

6. LEGACY WEIGHT AND BALANCE

6.4 Copying a Profile

Profiles can be copied to simplify setup for multiple aircraft of the same type.

To copy a profile:

1. Tap the **share** button.
2. Select **Copy** in the upper toolbar.
3. Enter a new name for the profile.
4. Tap **Save**.

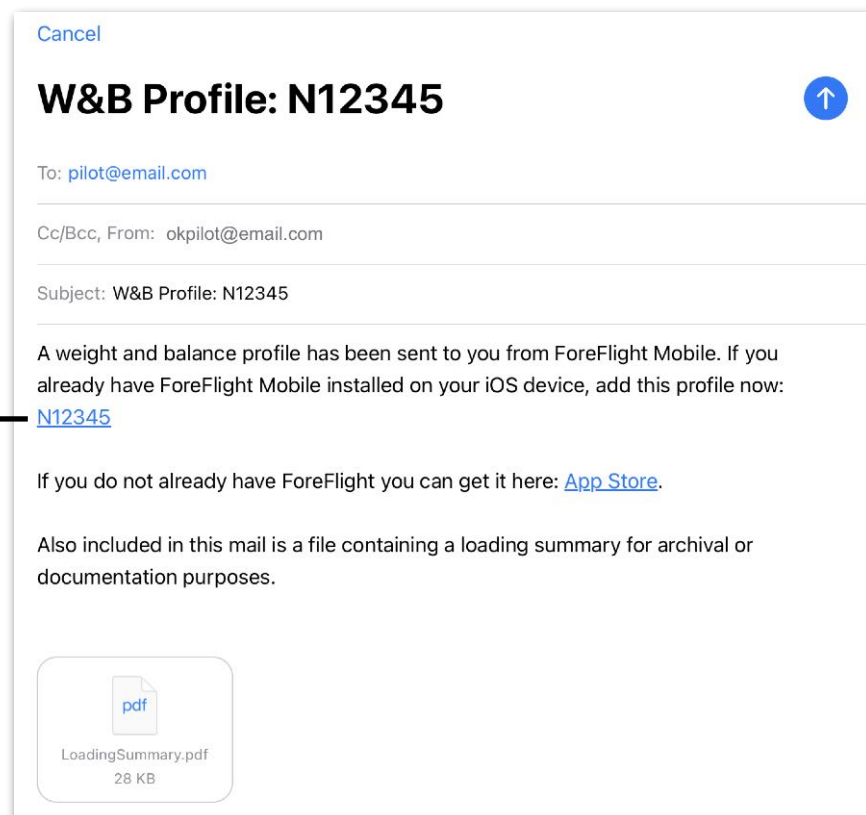
6.5 Sharing a Profile

To share a profile:

1. Tap the **share** button in the upper toolbar.
2. Select **Mail**.

The recipient must open the email in **Apple Mail** and tap the hyperlinked profile name to import it. Tapping the **LoadingSummary.PDF** opens a read-only PDF version.

**Import
Hyperlink**



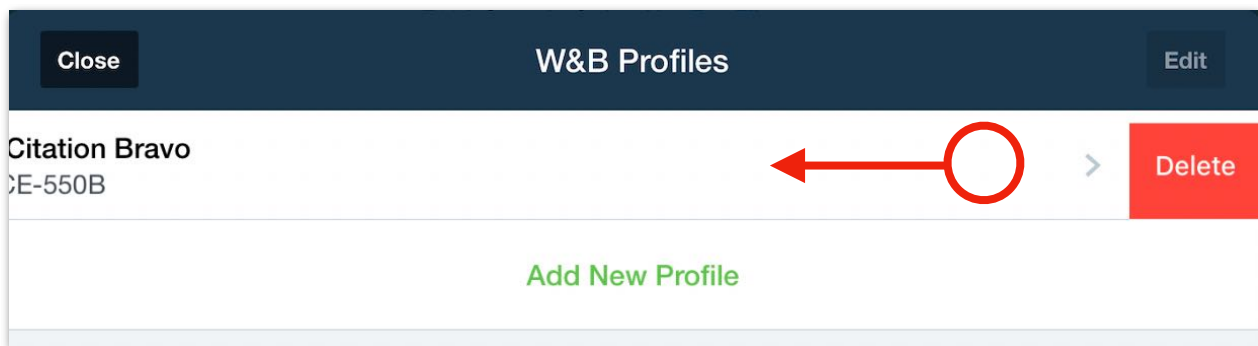
6. LEGACY WEIGHT AND BALANCE

6.6 Deleting a Profile

To delete a profile:

1. Open the profile list via the dropdown menu in the upper toolbar.
2. Tap **Edit**.
3. Tap the red circle next to the profile.
4. Tap **Delete**.
5. Select the Delete confirmation button.

Alternatively, swipe from right to left on the profile name and tap Delete. Confirm the deletion.



Swipe Deleting a Weight and Balance Profile

CHANGE HISTORY

Version	Date	Change Summary
17.7	July 2025	• Added lateral center of gravity for helicopter weight and balance profiles.
17.6	June 2025	• Subscription plans renamed. • Condensed Calculating Weight and Balance section.
17.3	May 2025	• Minor fixes. • Updated imagery.
16.8	August 2024	• Graphical Weight and Balance added.
15.10	October 2023	• Passenger curtailment options added.
15.4	April 2023	• Curtailment options added. • Miscellaneous styling and content updates.
15.3	March 2023	• Ballast fuel added. • Gear retraction moment change added. • Miscellaneous styling and content updates.



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