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Introduction

This pilot’s guide provides an overview of the Weight & Balance feature in ForeFlight Mobile. Weight & Balance is available with the Basic Plus and Pro Plus subscription plans for individuals as well as the Business Pro plan for multi-pilot business subscribers.

For general information about ForeFlight Mobile, please refer to the “Pilot’s Guide to ForeFlight Mobile” available in the app in Documents > Catalog > ForeFlight or at www.foreflight.com/support/pilots-guide/.
About the Design

The Weight & Balance feature allows you to quickly determine whether your fixed-wing aircraft is loaded within its envelope, an important part of every pre-flight.

The Weight & Balance feature can be used for **fixed-wing** aircraft that meet these requirements:

✧ **Constant weight limits (ie: do not vary with CG)**
✧ **CG is in length units, not %MAC**
✧ **Takeoff and Landing CG limit envelopes are the same**
✧ **Only 1 fuel moment table (ie: a single variable-arm fuel station)**

Weight & Balance includes the SmartOptions™ interview, which uses data from Type Certificates to quickly set up your aircraft’s W&B profile based on its tail number, and the empty weight, CG, and moment from the POH.

The SmartOptions™ interview is available for many popular Cessna, Cirrus, Diamond, Mooney, and Piper aircraft.

If your aircraft’s tail number is not found in the SmartOptions™ database, you can manually set up the W&B profile by completing the manual profile interview then entering the moment, CG, and weight limits from your aircraft’s POH.

Once your aircraft’s W&B profile is set up, you can quickly create a Loading Summary for each flight, and you can share the profile and a PDF copy of the Loading Summary via email.
Set Up a Weight & Balance Profile

Tap More > Weight & Balance, then tap the + button in the upper right corner to begin entering a new profile.

Enter your aircraft’s tail number:

If the tail number is found in the SmartOptions™ Type Certificate database, the first SmartOptions™ interview question will be displayed automatically.

If the tail number is not found in the SmartOptions™ Type Certificate database, tap “OK” on the Profile Interview pop-up and proceed through the manual profile interview steps.
SmartOptions Interview Steps

1. Select the applicable options for your aircraft, then tap “Next”.

2. Enter two of the three fields for your aircraft’s actual empty weight, CG, or moment, making sure to enter them using the same units as requested, and the third value will be automatically calculated. Then tap “Next”.

3. Review important notices, including any assumptions made for stations with variable moment arms, then tap “Save”.

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Review and Verify SmartOptions W&B Profile

After completing the SmartOptions™ interview questions, review the Profile to make sure it corresponds to the W&B information in your POH.

If you need make any changes, tap the field that needs to be updated and make the change in the pop-up. Then tap “Save”. 

Weight & Balance in ForeFlight Mobile v9.2
1. Select the length unit for your aircraft. Suggestion: use the same as in the POH. Then tap “Next”.

2. Choose the weight unit for your aircraft. Suggestion: use the same as in the POH. Then tap “Next”.

3. Choose the fuel unit. Tip: choose usg if you will be entering fuel added and used in gallons. Then tap “Next”.

4. Choose the type of fuel. Then tap “Next”.

Weight & Balance in ForeFlight Mobile v9.2
5. Choose any additional Stations, such as More seats, Fuel tanks, and other installed equipment. Then tap “Next”.

6. If you selected “Need More Seat Choices...”, select the types of seats you wish to add. Then tap “Next”.

7. Enter your aircraft’s actual empty weight, CG, and moment, making sure to enter them using the units indicated, then tap “Next”.

8. Tap “Save” to save the W&B profile.
Completing a Manual W&B Profile

After completing the interview questions, to complete the W&B Profile you must enter the Station arms and limits, Weight limits, and CG arms and limits.

Station Arms and Limits

Refer to your POH for information about the Station arms and limits. Tap each relevant station to enter a limit. If you need to add an additional station, tap the “Edit” button and choose “Add Station”.

SAMPLE

Weight & Balance in ForeFlight Mobile v9.2
If your aircraft has a variable-arm fuel station, choose the “Fuel, variable arm” option for the Fuel Tanks, then enter the fuel weight and moment into the table at the bottom of the Setup page. Tap “Save” when you have entered the weight and moment.

Tap the “Edit” button, then tap the green “+” button to Add a New Fuel Moment and repeat as needed until you have entered ALL of the variable-arm fuel moments for your aircraft.

NOTE: If you enter them in the wrong order, you can re-reorder the entries while in Edit mode by touch-holding on the lines at the far right of the entry and dragging up and down. Then tap “Done” when you are finished editing.
Weight Limits

Tap an entry in the Weight Limits section to display the pop-up. Enter the relevant weights for your aircraft, then tap “Save”. If a particular limit is not specified in your POH, leave it blank.

<table>
<thead>
<tr>
<th>EMPTY AIRCRAFT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
</tr>
<tr>
<td>CG</td>
</tr>
<tr>
<td>Moment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WEIGHT LIMITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ramp</td>
</tr>
<tr>
<td>Takeoff</td>
</tr>
</tbody>
</table>

CG Arms and Limits

The final step in completing a Manual W&B Profile is to enter your aircraft’s CG Arms and Limits.

Look at the Limits section in your POH, or the CG Arms and Limits graph. If using the graph, identify the “corner” points where the limit line changes direction. You will need to enter a CG Arm and weight limit for each of those points.
Tap the limit to display the pop-up. Then enter the CG and Weight. Then tap “Save” to save that point. To add additional Forward or Aft CG limits (to correspond to one of the “corners”) tap the “Edit” button in the lower-left of the page, then tap the green “+” button to add an additional limit. Repeat as necessary for Forward or Aft points.

Once you have entered all CG Arms and Limits, confirm that the graph is the same shape as in your POH.
Common CG Arm and Limits Graph Mistakes

Squished and/or Offset CG Arm and Limits graph

If your chart looks to be approximately the correct shape, but is squished and/or offset, this is usually caused by entering numbers directly out of a POH which divides the moment by 100 or 1000.

Correct this by making sure you’ve entered the moment in inch-lbs, which will require multiplying the POH numbers by 100 or 1000 before entering them into the CG Arms and Limits section.
**Top of the CG Arm and Limits graph is offset**

If the top of your CG Arm and Limits Graph is offset, you have entered a Takeoff and/or Ramp weight limit lower than the maximum weight you entered in the Moments.

Correct this by changing the Takeoff or Ramp weight limit(s), or the Moments.
Using a W&B Profile

To check Weight & Balance before a flight, tap the Profile from the Weight & Balance list, then the “Load” button at the bottom of the Profile.

On the Load page, tap each Station to enter the weight. You can also change the name of the Load. Tap “Save” when you have completed the entry.

If the loading is within Weight & CG limits, a green header is shown; if the loading is out of Weight and/or CG limits, the red header is shown, along with notes about which area needs to be corrected.

**IMPORTANT:** When entering the fuel load, be sure to also enter the projected fuel use during the flight so that you can check that the your Landing CG is within limits.

Customizing a W&B Profile for Faster Planning

On the Load page you can save frequently used “loads” and then add or remove them simply by tapping the blue check button to the left of the load. For example, if Mike, Jim and Mary regularly fly the plane, and James and William are frequent...
passengers, you can save them each as an entry. Tap an entry to customize it, or tap the “Edit” button then tap the green “+” to add a new Load. Then simply tap the circle at the left to add that Load to the planned load.

If you need to move a load from one Station to another (say from the luggage compartment to the back seat), tap the “Edit” button, then touch drag that load to the new Station.
Copying a W&B Profile for Faster Planning

Once you have entered the basic W&B profile for your aircraft, you can copy it for faster “what-if” planning.

Tap the “Send to” button, choose Copy, then enter a descriptive name for that profile. Then you can easily start your W&B planning with the profile that best fits your particular mission.

Syncing a W&B Profile

W&B Profiles are included in ForeFlight’s Sync platform, meaning that profiles are automatically sync’d between all your devices when “Synchronize User Data” is enabled in More > Settings. W&B Profiles are also stored in the ForeFlight Cloud, allowing you to sync them to a new device even when all your other devices are turned off.
Sharing a W&B Profile

To share a W&B Profile with another pilot, tap the “Send to” button in the upper-right corner of the page and tap “Mail” to create an email with a PDF copy of the Loading Summary and a link to open the W&B profile in ForeFlight Mobile. **Note: You must be signed into the Apple Mail app for the “Mail” option to appear in the Send To menu.**

On the other device, open the email using Apple Mail, then tap the URL to save and open the W&B profile in ForeFlight Mobile on that device.

Deleting a W&B Profile

Delete a W&B Profile by tapping the “Edit” button at the top of the W&B Profile list, tapping the red circle next to the profile you want to delete, and tapping the “Delete” button. You can also swipe-delete the profile by swiping your finger from right to left across the profile title, then tapping the red “Delete” button.
Weight & Balance in ForeFlight Mobile

Change History

For v9.2 **NOTE: REQUIRES iOS 8.2 or LATER**

- Updated style for consistency with other guides.

For v7.5 **NOTE: REQUIRES iOS 8.2 or LATER**

- Weight & Balance is now available with both the Basic Plus and Pro Plus subscription plans for individuals and the Business Pro plan for multi-pilot business accounts, and as a $15 add-on with other subscriptions.

For v7.4 **NOTE: REQUIRES iOS 8.2 or LATER**

- Added “Empty CG” field to interview process and to Setup page, allowing you to enter any two of the empty weight, CG, or moment, and the third is automatically calculated.
- W&B Profiles added to ForeFlight’s Sync platform.

For v6.3 **NOTE: REQUIRES iOS 7.1 or LATER**

- Added Weight & Balance, which includes the SmartOptions™ interview to quickly add aircraft details based on Type Certificate data, and easy load entry so you can easily confirm whether your aircraft is in CG limits. Weight & Balance is currently limited to fixed-wing aircraft whose CG is provided in length units, not %MAC.