



ForeFlight

PERFORMANCE PLANNING

Guide



ForeFlight

A Boeing Company

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DEFINITIONS

Abbreviation	Definition
AC	Advisory Circular
ADS-B	Automatic Dependent Surveillance Broadcast
AFM	Aircraft Flight Manual
AGL	Above Ground Level
AIRMET	AIRman's METeorological Information
ASDA	Accelerate Stop Distance Available
ATC	Air Traffic Control
CFR	Code of Federal Regulations
CSV	Comma-Separated Values
EOP	Engine-Out Procedure
ETA	Estimated Time of Arrival
ETD	Estimated Time of Departure
ETE	Estimated Time En Route
FAA	Federal Aviation Administration
FBO	Fixed-Base Operator
HTML	Hypertext Markup Language
IAS	Indicated Air Speed
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
JFX	JetFuelX
LDA	Landing Distance Available
M	Magnetic
METAR	METeorological Terminal Aviation Routine Weather Report
MLW	Maximum Landing Weight
MOS	Model Output Statistics

DEFINITIONS

Abbreviation	Definition
MSL	Mean Sea Level
MTOW	Maximum Takeoff Weight
N ₁	Gas Generator Speed
NOTAM	Notice to Airmen
OEI	One Engine Inoperative
OEM	Original Equipment Manufacturer
POH	Pilot's Operating Handbook
RAIM	Receiver Autonomous Integrity Monitoring
RNAV	Area Navigation
SIGMET	SIGNificant METeorological Information
TAF	Terminal Area Forecast
TAS	True Air Speed
TEC	Tower En Route Control
TFR	Temporary Flight Restrictions
TODA	Take Off Distance Available
TOFL	Takeoff Field Length
TORA	Take Off Run Available
V ₁	Decision Speed
V ₂	Takeoff Safety Speed
V _{ENR}	En Route Climb Speed with Critical Engine Inoperative
VFR	Visual Flight Rules
V _{FTO}	Final Takeoff Speed
V _{MC}	Minimum Control Speed with One Engine Inoperative
V _{MCG}	Minimum Control on the Ground Speed
VOR	Very High Frequency Omnidirectional Radio Range
V _R	Rotation Speed
V _{REF}	Reference Landing Spee

INTRODUCTION

This guide provides an overview of the Performance Planning features in ForeFlight Mobile. Performance Planning is available with the Performance Plus subscription plan for individuals, and the Business Performance plan for multi-pilot accounts. Visit www.foreflight.com/pricing to upgrade your subscription.

This guide covers features that are unique to the Performance Plus plan, while touching on features that are available with other plans but are involved in the performance planning workflow. For information about other features in 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 Performance Planning

ForeFlight Performance Planning is a set of features that provides advanced flight planning capabilities suitable to high-performance aircraft. Although designed with turboprop and jet aircraft in mind, pilots of any type of aircraft can benefit from the accuracy and speed of these capabilities, which simplify the flight planning process while presenting the pilot with detailed performance calculations about all available routes.

Performance Planning includes a large selection of advanced aircraft performance profiles derived from manufacturer data and covering the full operational range of each aircraft, allowing for extremely accurate speed and fuel flow calculations. Contributing to the accuracy of these calculations are capabilities for payload and fuel management, allowing you to specify weights and fuel amounts that affect the performance characteristics of a given flight. Performance Planning allows ForeFlight users flying planes that use jet fuel to view their JetFuelX contract fuel prices within ForeFlight. JetFuelX allows pilots to manage all of their fuel card memberships and compare contract fuel prices from multiple vendors, and request fuel releases from FBOs. With Performance Planning JetFuelX is integrated with ForeFlight so pilots can plan their flights and find the best fuel prices in the same place.

AIRCRAFT PERFORMANCE PROFILES

The advanced capabilities of ForeFlight Performance Planning begins with the aircraft profile. ForeFlight's dedicated Performance team has assembled a library of advanced profiles for hundreds of aircraft models and variants. Each of these aircraft includes one or more ForeFlight Performance Profiles, which combine climb, cruise, and descent data for a given cruise model, such as "Max Speed" or "Max Range."

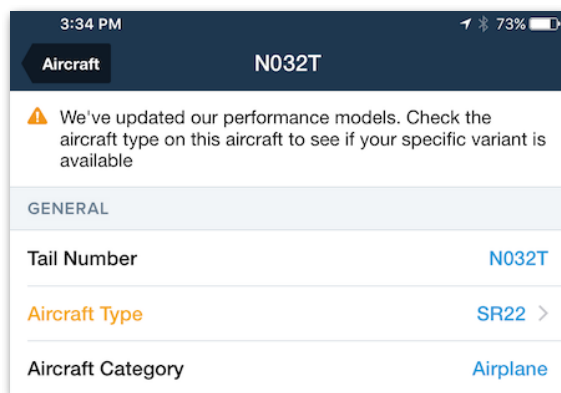
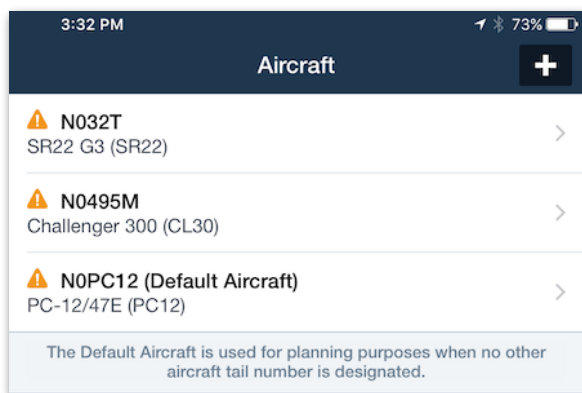
Using these performance profiles for flight planning will result in extremely accurate time and fuel flow calculations for any flight. If Runway Performance values are available for the Aircraft type, the "Runway Profile" row will show the available serial-number range.

21:01 Tue Mar 2	Aircraft	TXT510
Filter	GENERAL	
MOST RECENT	Tail Number	TXT510
TXT510 510 Citation Mustang (C510)	Serial Number	
C560XLS 560 Citation XLS+ (C56X)	Aircraft Type	510 Citation Mustang (C510) >
C550ENC 560 Citation Encore+ (C560)	Aircraft Category	Airplane
NP100 Phenom 100 (E50P)	Aircraft Color	W
N186T (Default Aircraft) PA-32RT-300T Turbo Lance II (P32T)	Home Airport	
ALL AIRCRAFT	Airspeed Units	Knots
172R 172R Skyhawk (C172)	PERFORMANCE	
737BBJ 737-700W (B737)	Performance Profiles	No Default Profile set 2 >
A36 Bonanza 36/A36 (BE36)	Runway Profile	FAA certified Config AH 510-0001 thru -0065 incorporating SB510-34-02 and 510-0066 & On
A36TN Bonanza 36/A36 Turbonormalized (BE36)	Field Performance	>
ATR ATR 42-320 (AT42)	GLIDE PERFORMANCE	
B36 Bonanza B35 (BE35)	Best Glide Speed	140
BARN58 Baron 58 (BE58)	Best Glide Ratio	12.2
BE55 The Default Aircraft is used for planning purposes when no other aircraft tail number is designated.	ALTITUDES	
	Default Cruise Altitude (FT)	41,000
	Maximum Ceiling (FT)	41,000
	WEIGHTS	
	Weight Units	Pounds
	Basic Empty Weight	5,421
	Max Zero Fuel Weight	6,750
	Max Ramp Weight	8,730

1. PERFORMANCE PROFILES

1.1 Updating Existing Aircraft After Purchasing Performance Plus

If you're upgrading to the Performance Plus plan from another subscription plan, alert icons may appear next to some or all of your existing aircraft. These indicate that you need to select an aircraft type from the performance database for those aircraft, since some of them might have ForeFlight Performance Profiles and other information associated with them.

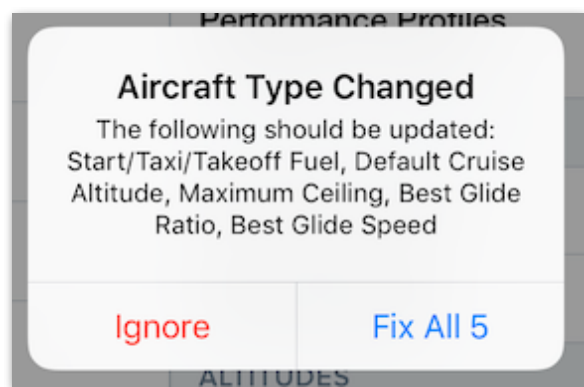


Tap on an aircraft to enter the Aircraft Edit page, then tap Aircraft Type near the top to search for your aircraft type. Whatever type code you previously entered for that aircraft will autofill in the search field, so finding and selecting the correct model and variant should be easy. If your aircraft doesn't appear in the list, you can also search by make and model.



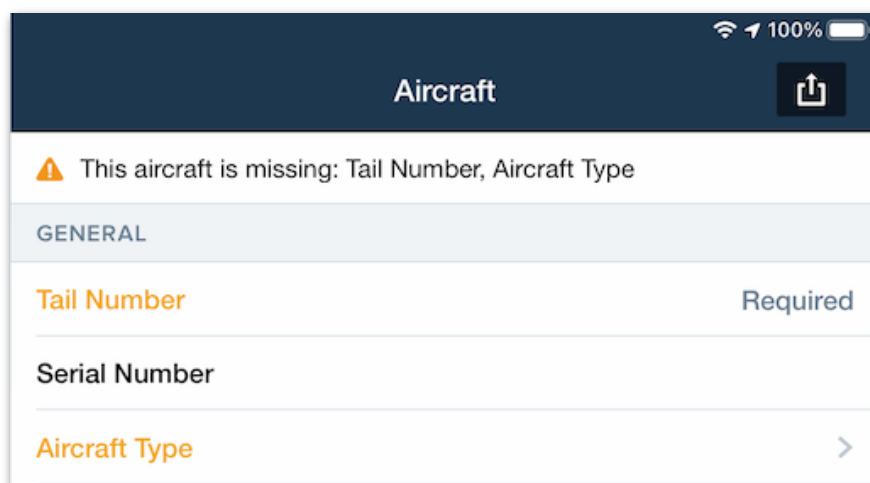
1. PERFORMANCE PROFILES

If your aircraft type has ForeFlight Performance Profiles associated with it, the number of such profiles is indicated in blue text below the model and variant information. Tap on one of the aircraft type options to select it. If your aircraft has ForeFlight Performance Profiles, ForeFlight may prompt you to update certain data fields with new information. Tap “Fix” to accept the changes.



1.2 Adding New Aircraft

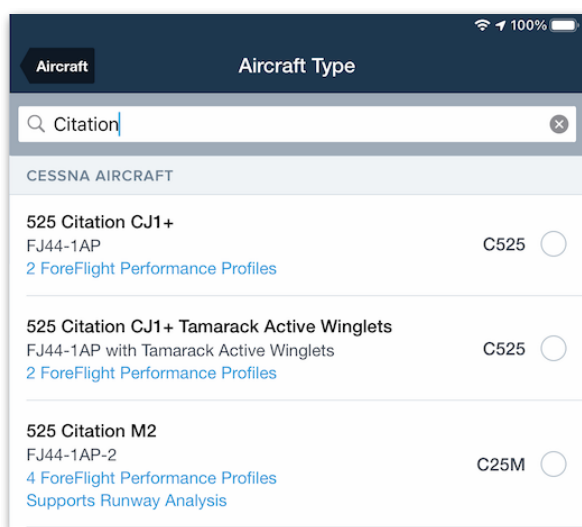
To add a new aircraft, tap the Plus button at the top of the scrollable list on the left of the **More > Aircraft** page, to enter the Aircraft Edit page. Required fields (Tail Number, Aircraft type) are highlighted in orange. After entering the tail number, tap Aircraft Type to search ForeFlight’s library of aircraft models. Use the search bar at the top to search by make, model, or type code.



1. PERFORMANCE PROFILES

Aircraft models that have ForeFlight Performance Profiles associated with them include two lines beneath the model indicating the specific variant and the number of preconfigured performance profiles available with that model and variant. Tap on an aircraft model to select it.

Jet aircraft for which **Runway Analysis** is available show “Supports Runway Analysis” and piston and turboprop aircraft that support **Takeoff & Landing Performance** calculations have that listed below. Aircraft with ForeFlight Performance Profiles have preconfigured values for a number of fields in the Aircraft Edit page, including Glide Performance (typically only piston aircraft will have values for both Best Glide Speed and Best Glide Ratio), Altitudes, Weights, and Fuel information. These fields are auto-filled when you select an aircraft model that provides these data.



Aircraft Type Search

1. PERFORMANCE PROFILES

Before filing a flight plan with a new aircraft you will also need to input ICAO equipment codes in the Filing section and fill in applicable fields in the Dingy and Emergency sections. Information about these fields and what filing codes to select can be found in the ForeFlight Filing Guide, available for download in the app in **Documents > Catalog > ForeFlight**, or online at <https://www.foreflight.com/support/filing/pdf>.

WARNING: You should always carefully review any auto-filled values to ensure they match those of your own aircraft, especially the values for Basic Empty Weight, Total Useable Fuel, and Default Reserve Fuel. Default Reserve Fuel is not calculated for each flight, so you should set the value here according to your preference. Reserve fuel can be modified for individual flights without changing the default value while planning in the Flights view.

1. PERFORMANCE PROFILES

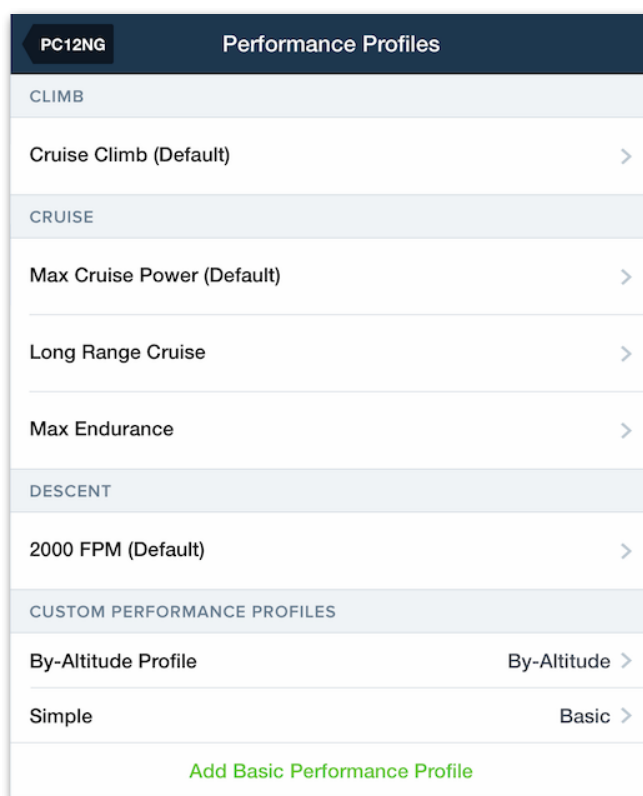
1.3 Performance Profiles

Aircraft Performance Profiles provide the data to power ForeFlight's performance calculations. There are three kinds of performance profiles that you can use in ForeFlight:

- ForeFlight Performance Profiles, which are provided by ForeFlight for hundreds of aircraft models.
- By-altitude profiles, which allow you to input detailed performance data for all altitudes in any aircraft's operational range.
- Basic profiles, which allow you to input only a single cruise speed and fuel flow to be used for all altitudes.

ForeFlight customers who purchase the Performance Plus plan have access to all three types of profiles; customers on other subscription plans can only use basic profiles.

Tap "Performance Profiles" while viewing an Aircraft's details to view all the performance profiles for that aircraft, whether provided by ForeFlight or built by the user.



1. PERFORMANCE PROFILES

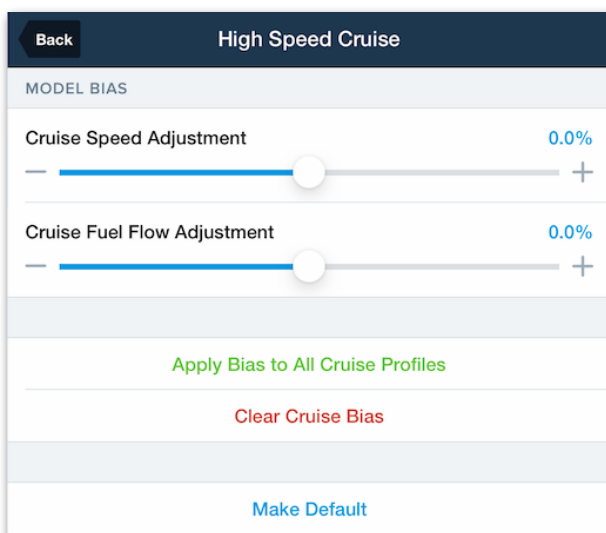
1.3.1 ForeFlight Performance Profiles

Performance Plus customers have access to ForeFlight Performance Profiles for hundreds of different piston, turboprop, and turbofan aircraft models. These performance profiles contain high-fidelity performance data and are built by ForeFlight's dedicated Performance team, using manufacturer-sourced data to ensure the most accurate performance calculations for every flight. The climb, cruise, and descent models contained in each profile are defined for multiple weights, altitudes, and temperatures, providing accurate speed and fuel flow data for all conditions.

For most of the aircraft models that come with ForeFlight Performance Profiles, multiple profiles are available, corresponding to different cruise speed/power settings. The names of the profiles reflect these settings (e.g. Max Cruise Power, Long Range Cruise, M0.83, 55% Best Econ, etc.).

Tap on a ForeFlight Performance Profile to see an illustrated breakdown of the climb, cruise, and descent models for that performance profile. Tap the Climb, Cruise, or Descent model to adjust them to better fit your aircraft's actual performance using the Fixed Time and Fuel Bias (for Climb & Descent) or the Cruise Speed and Cruise Fuel Flow adjustment sliders.

The model adjustment sliders should be used after you have identified consistent deviations between the performance results predicted by ForeFlight and your aircraft's actual results. We recommend flying several flights with the same performance profile while closely tracking actual fuel burn and flight times. After each flight, compare actuals to the time and fuel burn predicted by ForeFlight. If the actuals differ from the predicted values in a consistent and predictable



1. PERFORMANCE PROFILES

fashion (such as actual cruise fuel burn is always ~3% greater than predicted), use the model adjustment sliders for the cruise model (and/or the Fixed Time and Fuel Biases in climb and descent profiles) to adjust the ForeFlight model closer to your aircraft's actuals. Repeat this process on subsequent flights until the performance results predicted by ForeFlight align with your aircraft's actual results.

Tap "Make Default" to set that performance profile as the default for flight planning with that aircraft.

Max Climb 125 KIAS	
MODEL BIAS	
Fixed Time Bias	0 min
Fixed Fuel Bias	0 lbs
Apply Bias to All Climb Profiles	
Clear Climb Bias	

1.3.2 Custom Performance Profiles

If your aircraft type does not have any ForeFlight Performance Profiles associated with it, you can create custom performance profiles to use instead.

By-Altitude Profiles

By-altitude profiles allow you to enter performance data for every altitude in your aircraft's operational range, and can be set up on ForeFlight's web application (plan.foreflight.com). Once built, you can use by-altitude profiles for flight planning in the mobile app just as you would ForeFlight Performance Profiles. See [By-Altitude Profiles](#) for detailed instructions on setting up by-altitude profiles.

1. PERFORMANCE PROFILES

Basic Performance Profiles

The third and simplest type of performance profiles are basic profiles. These allow you to specify only one value for cruise speed and one value for cruise fuel flow to be used at all cruise altitudes. These basic profiles result in less accurate performance calculations compared to the previous types of performance profiles. Customers who purchase the Performance Plus plan are **strongly encouraged** to set up and use by-altitude profiles instead of basic performance profiles if ForeFlight Performance Profiles are not available for their aircraft type.

The screenshot shows the 'Basic Profile' configuration screen in the ForeFlight app. The status bar at the top indicates the time is 2:38 PM and the battery is at 89%. The app's navigation bar has 'Performance Profiles' and 'Basic Profile' tabs. The screen is divided into sections: GENERAL, CLIMB, CRUISE, and DESCENT. The CRUISE section is currently active, showing 'Cruise TAS (KTS)' set to 490 and 'Cruise Fuel Per Hour' set to 800. The DESCENT section shows fields for 'Descent TAS (KTS)', 'Descent Fuel Per Hour', and 'Descent Rate (FPM)'. A note at the bottom states: 'The fuel numbers above are in POUNDS PER HOUR. You can change this on the Aircraft view, under "Fuel Units."' At the very bottom are two buttons: 'Make Default' and 'Delete Profile'.

Section	Field	Value
GENERAL	Profile Name	Basic Profile
CLIMB	Climb TAS (KTS)	
	Climb Fuel Per Hour	
	Climb Rate (FPM)	
CRUISE	Cruise TAS (KTS)	490
	Cruise Fuel Per Hour	800
DESCENT	Descent TAS (KTS)	
	Descent Fuel Per Hour	
	Descent Rate (FPM)	

The fuel numbers above are in POUNDS PER HOUR. You can change this on the Aircraft view, under "Fuel Units."

Make Default

Delete Profile

PERFORMANCE PLANNING WITH FLIGHTS

The Flights view brings together the most important planning tools in ForeFlight in a sleek, form-based layout that allows for fast and efficient flight planning, briefing, and filing. The top-to-bottom workflow follows a logical progression from inputting airports, checking Takeoff & Landing performance, selecting an aircraft and performance profile, defining a route and altitude, entering payload and fuel details, reviewing weight checks, then filing the flight plan. Only ForeFlight customers who have purchased a Performance plan can access the Payload, Fuel, and Weight Verification sections.

The screenshot displays the ForeFlight 'Flights' view on a mobile device. The interface is divided into two main panels. The left panel shows a list of flight plans, categorized by month (AUGUST 2021 and JUNE 2021). The right panel provides detailed information for the selected flight plan, 'KASH to KMQY' on Tuesday, August 31, 2021, at 09:30 EDT.

Flight Plan Details (Right Panel):

- Distance:** 807 nm
- ETE:** 4h25m
- ETA (CDT):** 12:54
- Flight Fuel:** 955 lbs
- Wind:** 40 kts head
- Calculated moments ago:** (Refresh button)
- Navigation:** Navlog, Briefing, 0 Files, 0 New Msg
- DEPARTURE / DESTINATION:** ETD, ETA, Aug 31, 2021 09:30 EDT
- Departure:** Takeoff, Info, KASH
- Destination:** Landing, Info, KMQY
- Alternate:**
- AIRCRAFT:** Aircraft, MERIDIAN (P46T) >
- Performance Profile:** Climb: Max Climb 125 KIAS, Cruise: Intermediate Cruise 800 TQ, Descent: Normal 350 TQ >
- ROUTE:**
- Flight Rules:** IFR
- Map:** A map showing the flight route from KASH to KMQY, with various airports and weather conditions indicated.
- Not Filed:** Proceed to File >

Flight Plan List (Left Panel):

Flight Plan	Date	Time
KASH to KMQY (IFR) 28,000' MSL in MERIDIAN ETA 12:54 CDT ETE 4h25m GDM CTR LVZ SEG CKB HVQ LVT	Tue 8/31/21	ETD 09:30
KBDN to KMIC (IFR) 49,000' MSL in LR45XR ETA 22:36 CDT ETE 2h51m BDN1 DSD HOVEL DBS RLY RAP MHE FSD ENCEE2	Thu 8/19/21	ETD 17:45
KMQY to KASH (IFR) 51,000' MSL in LR45XR ETA 10:56 EDT ETE 1h57m DIRECT	Mon 8/16/21	ETD 08:00
KCKB to KMQY (IFR) 9,000' MSL in N177G ETA 15:15 CDT ETE 2h31m DIRECT	Sun 8/15/21	ETD 13:44
KASH to KCKB (IFR) 8,000' MSL in N177G ETA 13:14 EDT ETE 3h14m DIRECT	Sun 8/15/21	ETD 10:00
KASH to KMQY (IFR) 20,000' MSL in N77NG ETA 02:14 CDT ETE 4h34m DIRECT	Sat 8/14/21	ETD 22:40
KJHW to KASH (IFR) 11,000' MSL in N177G ETA 15:33 EDT ETE 2h08m ATAME THINK MESTE OXFOR OAKIL EEN Filed	Mon 6/28/21	ETD 13:25
KASH to KJHW (IFR) 8,000' MSL in N177G ETA 12:26 EDT ETE 2h41m EEN QUINZ RKA XUCCO KOLLR Filed	Mon 6/28/21	ETD 09:45
KJHW to KASH (IFR)	Thu 6/24/21	

Bottom Navigation Bar: Airports, Maps, Plates, Documents, Imagery, Flights, ScratchPads, Aircraft, More.

2. PERFORMANCE PLANNING WITH FLIGHTS

2.1 About the Flights View

You can send a route to the Flights view from the Maps view using the Send To button in the lower-right corner of the Maps view's Flight Plan Editor. This will auto-fill all fields with the information you entered on the Maps view other than payload and fuel details, which can only be entered on the Flights view. You can send a route from the Flights view to the Maps view using the Send To button in the upper-right corner of the Flights view. Tap the Plus button above the Flights list on the left to create a new flight .

At the top of the Flights view is the Route Performance Summary. This is where performance calculations for the flight are displayed, showing route distance (Dist), estimated time enroute (ETE), estimated time of arrival (ETA, in the destination airport's timezone), inflight fuel consumption (Flight Fuel), and the average head/tailwind component over the entire route of flight (Wind). These performance results are recalculated every time a change is made to any part of the Flights view, but you can also manually refresh the performance summary by tapping the "Refresh" button just below the Wind value - this is useful for incorporating the most recent wind and temperature forecasts if the performance results have not been recalculated in a while. The time since the most recent recalculation is shown on the left below the Distance and ETE values.

Distance	ETE	ETA (MST)	Flight Fuel	Wind
693 nm	2h22m	13:32	1,418 lbs	21 kts head
Calculated moments ago				 Refresh

2. PERFORMANCE PLANNING WITH FLIGHTS

2.2 Departure/Destination Section

To plan a flight, input your departure, destination, and alternate airports for the flight (if needed), and set your estimated time of departure or desired estimated time of arrival. When you add an alternate airport, ForeFlight calculates the fuel required to reach the alternate and adds it to your total fuel for the flight. This calculation is based on a direct route from your destination airport to the alternate, using the same performance profile as the rest of the flight and a cruise altitude appropriate to the distance to the alternate. After entering the airports, you can check [Runway Analysis](#) (jets) or [Takeoff and Landing Performance](#) (pistons and turboprops) for aircraft for which that information is available.

DEPARTURE / DESTINATION

ETD **ETA** Jul 5 12:14 CDT

Departure Takeoff Info **KCLL**

Destination Landing Info **KBHM**

Alternate

2.3 Runway Analysis

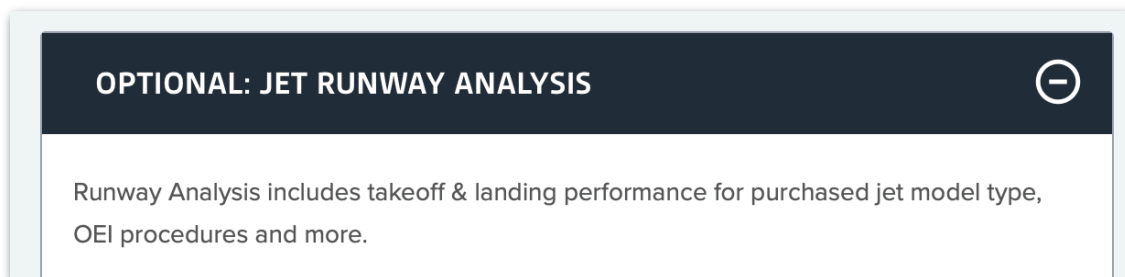
Runway Analysis is a sophisticated runway and obstacle analysis for jets that is seamlessly integrated into the Flights view. Runway Analysis is a paid per-type add-on to ForeFlight Performance Plus and Business Performance subscription plans. Runway Analysis was developed with AFM data and procedures sourced directly from OEMs, and meets the requirements of 14 CFR 135.379. Runway Analysis provides MTOW/MLW solutions for multiple constraints, and offers Engine Out procedures designed using AC 120-91A and the ICAO counterpart.

If you have a single-pilot plan, to add Runway Analysis for one or more types please visit <https://www.foreflight.com/buy> and enter your ForeFlight subscription address, choose Performance Plus, then scroll down and click on the “OPTIONAL: JET RUNWAY ANALYSIS” section to select your desired type(s) and complete the purchase.

2. PERFORMANCE PLANNING WITH FLIGHTS

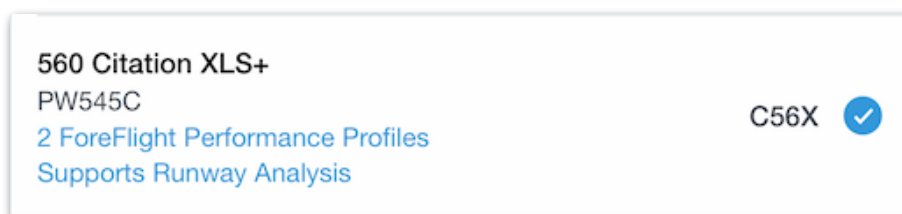
If you are part of a multi-pilot Business plan and are interested in Runway Analysis, please ask your ForeFlight account manager to contact our Sales team at:

<https://foreflight.com/campaigns/runway-analysis/>.

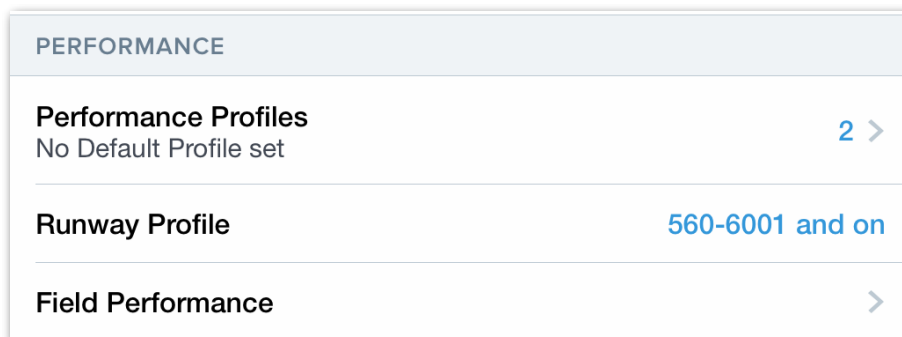


2.3.1 Setup

After purchasing Runway Analysis for an aircraft, tap More > Aircraft > Aircraft Type and confirm that the proper type and model is selected, including a second line of blue text showing Runway Analysis.



After selecting the aircraft, tap Field Performance to set the default configurations for Takeoff and Landing analysis. These values can also be adjusted per-flight.



2. PERFORMANCE PLANNING WITH FLIGHTS

Within Field Performance, the Obstacle Corridor sets the flight path's obstacle accountability corridor to either the FAA specification from AC 120-91A, or the slightly wider corridor defined by ICAO requirements.

The Landing Factor is the value by which the calculated landing distance is multiplied to produce the Factored Distance. Available commonly-used factors are:

60% dry: 1.67 80% dry: 1.25

60% wet: 1.92 80% wet: 1.44

The screenshot shows a mobile application interface for 'C560XLS' titled 'Field Performance'. At the top right, there is a 'Reset' button and a battery status indicator showing 75%. The interface is divided into two main sections: 'TAKEOFF' and 'LANDING'. Under 'TAKEOFF', the settings are: Takeoff Flaps (7°), Anti-Ice (Off), Thrust Reversers (No), and Obstacle Corridor (FAA). Under 'LANDING', the settings are: VREF Increment (+0 KIAS), Anti-Ice (Off), Thrust Reversers (Yes), and Landing Factor (1.0).

Field Performance	
TAKEOFF	
Takeoff Flaps	7°
Anti-Ice	Off
Thrust Reversers	No
Obstacle Corridor	FAA
LANDING	
VREF Increment	+0 KIAS
Anti-Ice	Off
Thrust Reversers	Yes
Landing Factor	1.0

2. PERFORMANCE PLANNING WITH FLIGHTS

2.3.2 Takeoff Analysis

After entering the initial flight plan details including Departure, ETD or ETA, Destination, Route, Payload (Persons and Cargo), and Fuel Policy, tap the Takeoff button to display the Takeoff Analysis page.

Tap the Runway field to view available runways with surface details and wind components, and tap a runway to select it. Distances shown for the departure runway include:

- TORA - Takeoff Run Available
- TODA - Takeoff Distance Available (includes stopway and clearway)
- ASDA - Accelerate Stop Distance Available (includes stopway)

If needed, tap a distance to enter a shorter length.

2. PERFORMANCE PLANNING WITH FLIGHTS

Once a runway is selected a summary of the Takeoff Analysis results are shown at the top of the page, including the max takeoff weight and its limiting constraint. Limiting constraints include:

- Structural Weight Limited
- Obstacle Limited - based on an obstacle along the flight path
- Runway Limited - based on available runway length, typically one of the declared distances
- Climb Limited - based on the minimum climb required that can be achieved for the given conditions
- Brake Energy Limited
- Climb or Brake Energy Limited
- Tire Speed Limited
- V_{MC} Limited - based on the minimum control speed on the ground, or V_{MCG}

Any subsequent changes to the values entered on the Takeoff page or the main Flight page will cause the Takeoff Analysis to recalculate.

KVNY to KABQ **Takeoff Runway 34L** **Summary**

TOW 8,645lbs	TOFL 3,175'	V1/VR/V2/ENR 89/89/97/118	Level Off Alt 2,818'
-----------------	----------------	------------------------------	-------------------------

MTOW: 8,645 lbs | Structural Weight Limited

DEPARTURE RUNWAY

Runway	↓ 15kts → 4kts 34L >
TORA	8,001 ft
ASDA	7,261 ft
Lineup Allowance	0 ft
Slope	0.7%
Surface Condition	Dry

OBSTACLE ANALYSIS

Obstacle Analysis ☒

Engine Out Procedure [Straight Out >](#)

Additional Departure Obstacles 0 >

Loaded KVNY TAF, issued: 26m ago
220139Z 2202/2224 34015G23KT P6SM SKC

WEATHER

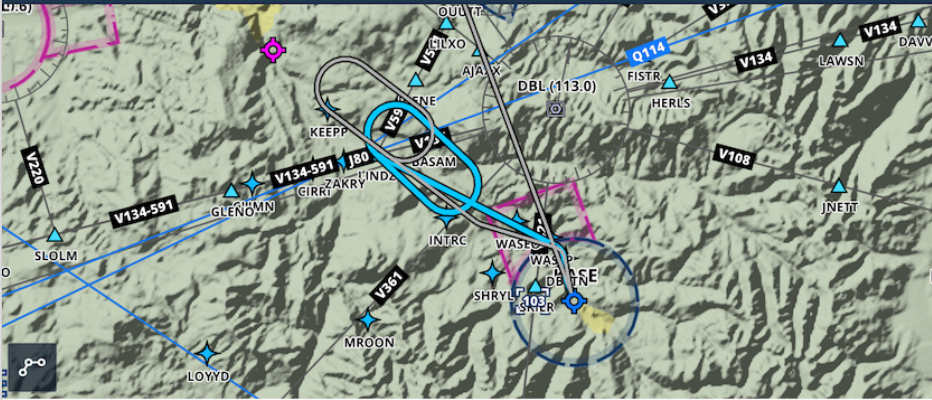
[Refresh](#)

Wind Direction	USE °M 340°T
Wind Speed	15 kts
Temperature	18°C
Altimeter	30.02 inHg

AIRCRAFT CONFIGURATION

Takeoff Weight	8,645 lbs
Takeoff Flaps	15
Anti-Ice	Off

Engine Out Procedures



MTOW: 12,213 lbs

RNAV procedure, GPS

Maintain runway heading direct ADITYA

Then, on track 246° to ROYET

Then on track 0000 to LIND3

Clinch in holding pattern at 11

Climb in holding pattern at LINDZ, RIGHT turns, 25 degree bank, 5 NM legs, 304° course inbound. Do not exceed 205 KIAS.

MTOW: 12,375

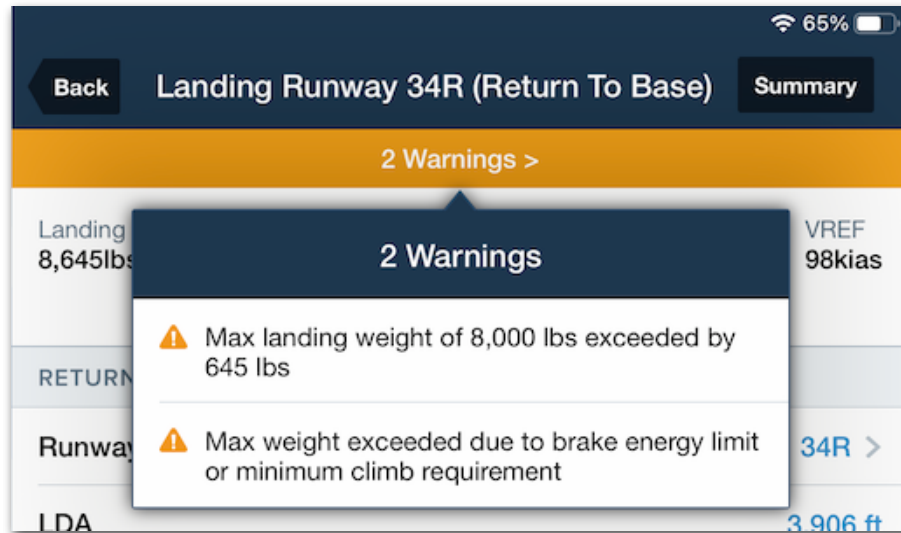
MTOW: 11,00

The Weather section automatically leads a user to forecast conditions based on

You can see the impact of the ethical takeoff – rights to education, the right to

2. PERFORMANCE PLANNING WITH FLIGHTS

Tap Emergency Return to see a Landing Analysis of an Emergency return to the departure airport. The default runway is the runway selected for the Takeoff Analysis, but you can also select a different runway. Warnings related to the Emergency Return are shown at the top of the page; tap the colored bar to see the details.



NOTE: Overweight warnings displayed here are not escalated to the main Flights view, since Return to Base landings are often expected to be overweight.

Tap “Back” to return to the Takeoff Analysis.

Expanding on the summary Takeoff values shown at the top of the page, detailed Takeoff Performance values and the selected EOP are shown towards the bottom of the page.

Performance values include the calculated takeoff thrust N_1 , as well as V_1 , V_R , and V_2 speeds.

V_{ENR} is the Enroute climb speed, or the target speed after all obstacle segments have been completed and aircraft is clear of all obstacles.

TOFL is the Takeoff Field Length.

Level-Off Accel MSL is the target indicated altitude (MSL) at which the aircraft should be leveled after clearing all obstacles.

2. PERFORMANCE PLANNING WITH FLIGHTS

V_{FTO} is the Final takeoff speed, eg: the target speed during the Final Segment climb.

The 1st and 2nd Net Grad are the climb gradients (height gained over distance covered).

To return to the default values, tap the Reset button at the bottom of the Runway Analysis page.

KVNY to KABQ **Takeoff Runway 34L** **Summary**

TOW: 8,645lbs TOFL: 3,123' V1/VR/V2/VENR: 89/89/97/118 Level Off Alt: 2,533'

MTOW: 8,645 lbs | Structural Weight Limited

PERFORMANCE

Takeoff Thrust N1	91.2%
V1	89 kias
VR	89 kias
V2	97 kias
VENR	118 kias
TOFL	3,123'
Level-Off Accel MSL	2,533'
1st Net Grad (airport alt)	3.1%
2nd Net Grad (level-off alt)	4.8%

ENGINE OUT PROCEDURE

RNAV procedure. Unless otherwise specified, all fixes are fly-by fixes and all turns are climbing 15 degrees of bank.

Maintain runway heading until DER (N34°13'00.78" W118°29'27.74"), then direct CONDS.

Then on track 337° to TRAFF.

Then on track 338° to LYDEY.

Then on track 338° to HAYEZ.

Then on track 280° to DYSP0.

Climb in holding pattern at DYSP0, RIGHT turns, 25 degree bank, 5 NM legs, 280° course inbound. Do not exceed 230 KIAS.

Reset

NOTE: If you selected the Maximum Fuel Policy on the main Flights view and the Takeoff Analysis shows a warning, tapping back will prompt ForeFlight to automatically reduce the planned Start Fuel to the lower limit calculated by the Takeoff Analysis. If you selected a Fuel Policy other than Maximum, you must manually reduce the fuel quantity or payload weights to the constrained value to remove the warning.

2. PERFORMANCE PLANNING WITH FLIGHTS

2.3.3 Landing Analysis

After entering the initial flight plan details including Departure, ETD or ETA, Destination, Route, Payload (Persons and Cargo), and Fuel Policy, tap the Landing button to display the Landing Analysis page.

Tap the Runway field to view available runways with surface details and wind components, and tap a runway to select it.

Once a runway is selected a summary of the Landing Analysis results are shown at the top of the page, including the landing weight, Actual Distance, V_{APP} and V_{REF}.

LDA is the Landing Distance Available (excludes stopway and clearway) and defaults to the value published for the selected runway. If needed, tap the value to enter a shorter length.

The Landing Factor uses the default value set for the Aircraft, but can be modified as needed for the flight. Changes made on a particular flight do not update the aircraft's default.

Available commonly-used factors are:

60% dry: 1.67 80% dry: 1.25

60% wet: 1.92 80% wet: 1.44

On the Landing Analysis page you can also enter a Landing Factor if needed.

KVNY to KABQ **Landing Runway 21** **Summary**

Landing Weight	Actual Dist.	VAPP	VREF
7,582lbs	2,579'	98kias	91kias
MLW: 8,000 lbs Structural Weight Limited			

DESTINATION RUNWAY

Runway ↓ 8kts ← 7kts **21** >

LDA 10,000 ft

Slope -0.11%

Surface Condition Dry

Landing Factor 1.0

WEATHER Refresh

Wind Direction USE 'M 260°T

Wind Speed 10 kts

Temperature 14°C

Altimeter 29.81 inHg

Loaded KABQ TAF, issued: 3h 40m ago
FM220200 26010KT P6SM SCT120

AIRCRAFT CONFIGURATION

Landing Weight 7,582 lbs

App/Landing Flaps 15/Land (Stall Warn Normal)

VREF Increment +0 KIAS

Anti-Ice Off

Anti-Skid Operative

Displayed distances are AFM distances multiplied by safety distance factor

PERFORMANCE

VAPP 98 kias

VREF 91 kias

Like for the Takeoff Analysis, the Landing Analysis Weather section automatically loads current or forecast conditions based on METARs, TAFs, MOS forecasts, or ForeFlight's global Daily Weather forecasts, in that order. Tap on any weather field to test the impact of alternate conditions on the analysis, and tap Refresh to reload the current or forecast conditions.

2. PERFORMANCE PLANNING WITH FLIGHTS

You can see the impact of hypothetical landing weights by adjusting the weight in the Aircraft Configuration section. However weight changes are not saved when you leave the page since ForeFlight calculates takeoff weight using the Payload and Fuel details on the main Flights view.

PERFORMANCE	
VAPP	98 kias
VREF	91 kias
Actual Landing Distance	2,579'
Approach Gross Climb Gradient	5.7%
Landing Gross Climb Gradient	17.4%
Reset	

Expanding on the summary Landing values shown at the top of the page, detailed Landing Performance values are shown towards the bottom of the page.

If a Landing Factor other than 1.0 is selected or entered the landing distance is displayed in the upper summary as Factored Distance, and in the detailed Landing Performance section as Landing Field Distance.

To return to the default values, tap the Reset button at the bottom of the Runway Analysis page

2. PERFORMANCE PLANNING WITH FLIGHTS

2.3.4 Runway Analysis Summary

To generate a PDF with a detailed breakdown of the Runway Analysis results, tap the “Summary” button at the top-right of either the Analysis page. The Takeoff and Landing Summaries at the top detail the selected inputs, aircraft configurations, runway, and results, as well as the selected Engine Out Procedure. The Takeoff and Landing Analysis sections below this compare results under different scenarios, simplifying evaluation of the impact a different runway assignment or weather conditions could have on the takeoff and landing weight limits.

Summary			
Runway Analysis KVVY — KABQ in TXT510 (S10 Mustang)			
Created Mar 21 2021 20:24 - FFM 13.1.1			
TAKEOFF SUMMARY		LANDING SUMMARY	
Wind	349°M / 16 kts ↑ 16 kts ← 2 kts	Wind	252°M / 10 kts ↓ 6 kts ← 7 kts
Temperature	16°C	Temperature	14°C
Altimeter	30.04 inHg / 1017.27 hPa	Altimeter	29.81 inHg / 1009.48 hPa
Runway / EOP	34L / EOP 1 (RNAV)	Runway	21
TORA / TODA / ASDA	8,001 / 8,001 / 7,261 ft	LDA	10,000 ft
Surface Condition	Dry	Surface Condition	Dry
TOW	8,645 lbs	ELW	7,582 lbs
V1 / VR / V2 / VNR	89 / 89 / 97 / 118 KIAS	VAPP / VREF	98 / 81 KIAS
Takeoff Thrust N1	91.2%	Actual Distance	2,579 ft
TOFL	3,123 ft	Appch Climb Gradient	5.7%
Level Off Altitude	2,533 ft		
TAKEOFF ENGINE OUT PROCEDURE			
RNAV procedure. Unless otherwise specified, all fixes are fly-by fixes and all turns are climbing 15 degrees of bank.			
Maintain runway heading until DER (N34°13'00.78" W118°29'27.74"), then direct CONDS.			
Then on track 337° to TRAFF.			
Then on track 338° to LYDEY.			
Then on track 338° to HAYEZ.			
Then on track 280° to DYSPCO.			
Climb in holding pattern at DYSPCO, RIGHT turns, 25 degree bank, 5 NM legs, 280° course inbound. Do not exceed 230 KIAS.			
Takeoff Analysis - KVVY - Van Nuys - Elevation 802 ft			
Obstacle Criteria	FAA 120-91A		
Takeoff Flaps	15		
Anti-Ice	Off		
Anti-Skid	Operative		
Runway	16L	16R	34L
TORA/TODA/ASDA	4,011 / 4,011 / 4,011 ft	8,001 / 8,001 / 8,001 ft	8,001 / 8,001 / 7,261 ft
Slope	-0.70%	-0.70%	0.70%
Winds	↑ 16 kts → 2 kts	↑ 16 kts → 2 kts	↓ 16 kts ← 2 kts
OAT	EOP 1 (RNAV)	Straight Out	EOP (Jeppesen)
MTOW (lbs)	14°C	Takeoff Impossible	Takeoff Impossible
16°C	Takeoff Impossible	Takeoff Impossible	Takeoff Impossible
18°C	Takeoff Impossible	Takeoff Impossible	Takeoff Impossible
Runway	34R		

Summary			
TORA/TODA/ASDA			
Slope	4,011 / 4,011 / 4,011 ft	8,001 / 8,001 / 8,001 ft	8,001 / 8,001 / 7,261 ft
Winds	-0.70%	-0.70%	0.70%
OAT	↑ 16 kts → 2 kts	↑ 16 kts → 2 kts	↓ 16 kts ← 2 kts
MTOW (lbs)	14°C	Takeoff Impossible	Takeoff Impossible
16°C	Takeoff Impossible	Takeoff Impossible	Takeoff Impossible
18°C	Takeoff Impossible	Takeoff Impossible	Takeoff Impossible
Runway	34R		
TORA/TODA/ASDA	4,011 / 4,011 / 3,906 ft		
Slope	0.70%		
Winds	↓ 16 kts ← 2 kts		
OAT	Straight Out		
MTOW (lbs)	14°C	8,037	Obstacle
16°C	8,045	Obstacle	
18°C	8,037	Obstacle	
Landing Analysis - KABQ - Albuquerque International Sunport - Elevation 5,355 ft			
Landing Factor	1.0	App/Landing Flaps	15/Land (Stall Warn Normal)
VREF Increment	+0 KIAS	Anti-Ice	Off
Anti-Skid	Operative		
Runway	03	08	12
LDA	10,000 ft	12,793 ft	6,000 ft
Slope	0.11%	0.31%	0.03%
Dist	2,783	2,783	2,783
MLW / LIMIT	8,000	8,000	8,000
Zero winds	Structural	Structural	Structural
10 kts tail	3,426	7,964	3,508
Climb/Brake Energy	Climb/Brake Energy	Climb/Brake Energy	Climb/Brake Energy
Runway	26		
LDA	13,793 ft		
Slope	-0.31%		
Dist	2,992	2,805	2,805
MLW / LIMIT	8,000	8,000	8,000
Zero winds	Structural	Structural	Structural
10 kts tail	3,662	7,917	7,965
Climb/Brake Energy	Climb/Brake Energy	Climb/Brake Energy	Climb/Brake Energy

Tap the “Send to” button in the upper-right to save the PDF to the Flight’s files for easy access at any time from the Flight’s Files button, or to print or share the PDF with another app.

2. PERFORMANCE PLANNING WITH FLIGHTS

2.4 Takeoff and Landing Performance

Integrated Takeoff & Landing Performance calculations are now available for over 290 popular piston and single-engine turboprop aircraft. Simply tap the “Takeoff” or “Landing” button next to the departure or destination airport to open the page where you can choose the runway and make other selections.

DEPARTURE / DESTINATION			
Departure	Takeoff	Info	KSGR
Destination	Landing	Info	KOSH
Alternate			

2.4.1 Header

The header shows at-a-glance values for important weight, distance, and speed information.

KSGR to KOSH		Takeoff Runway 17	
Weight	Total Dist	VR	50' Speed
6,867 lbs	2,251'	87 kias	96 kias

KSGR to KOSH		Landing Runway 36	
Weight	Total Dist	VAPP	
5,767 lbs	2,373'	80 kias	

2. PERFORMANCE PLANNING WITH FLIGHTS

Runway and Runway List

When a runway is selected for takeoff or landing you will see the details about the runway including slope (negative means downhill), and usable length. The runway's Declared Distance information is available below so you can easily update the usable length value to match if required by your operation.

KCFD to KMAF

Takeoff Runway 33

Weight	Total Dist	50' Speed	VENR
2,624 lbs	1,282'	62 kias	95 kias

Runway

33 >

Slope

-0.25%

Usable Length

4,000'

Declared Distances Information: TORA-4000 TODA-4000 ASDA-4000 LDA-4000

WEATHER

Refresh

Wind Direction

350°T

Wind Speed

8 kts

Temperature

6°C

Altimeter

30.46 inHg

And if your aircraft POH or AFM includes performance values for different runway surfaces, you will see an option for selecting that as well.

Runway Surface

50' Speed
96 kias

Dry Paved

Wet Paved

Slippery Paved

Short Grass

High Grass

Hard Sod

17 >

-0.1%

Dry Paved

8,000'

ASDA-8000

Refresh

170°T

2. PERFORMANCE PLANNING WITH FLIGHTS

Enter a Safety Distance Factor to add built-in safety margins based on runway conditions or other factors. The original distance calculation is multiplied by the pilot-entered decimal number between 1.00 - 10.00 for that aircraft. A Safety Distance Factor entered for a particular aircraft will be used for future flights with that aircraft, and can be modified at any time.

The screenshot displays the ForeFlight Performance Planning interface. A modal window titled "Safety Distance Factor" is open, allowing the user to input a value. The modal has a "Close" button and a numeric keypad with digits 1-9, a decimal point, and a backspace button. The current value entered is 1.25. The background interface shows various flight parameters for a specific aircraft, including Altimeter (30.46 inHg), Loaded KCDF METAR (issued 20m ago), Takeoff Weight (2,624 lbs), Takeoff Flap (0°), TO Climb (Up), Safety Distance Factor (1.25), Displayed (ce factor), CALCULATION, Liftoff Speed (62 kias), Ground Roll (841'), 50ft Speed (62 kias), and Total Distance (1,282').

Parameter	Value
Altimeter	30.46 inHg
Loaded KCDF METAR	issued: 20m ago
AIRCRAFT CO	
Takeoff We	2,624 lbs
Takeoff Fla	0°
TO Climb G	Up
Safety Dist	1.25
Displayed e	ce factor
CALCULATION	
Liftoff Spee	62 kias
Ground Ro	841'
50ft Speed	62 kias
Total Distance	1,282'

2. PERFORMANCE PLANNING WITH FLIGHTS

Tap the “Runway” box to see the METAR, TAF, or MOS, and the resulting headwind/tailwind and crosswind component for each runway. Tap “Details” to see more information about that runway.

Back		Landing Runway 26	
Rwy 08	8,003' x 150' Concrete, good condition	↑ 15kts ← 5kts	Details ☐
Rwy 26	8,003' x 150' Concrete, good condition	↓ 15kts → 5kts	Details ☒
Rwy 17L	2,891' x 74' Asphalt, good condition	↓ 5kts ← 15kts	Details ☐
Rwy 35R	2,891' x 74' Asphalt, good condition	↑ 5kts → 15kts	Details ☐
Rwy 17R	11,500' x 150' Concrete, good condition	↓ 5kts ← 15kts	Details ☐
Rwy 35L	11,500' x 150' Concrete, good condition	↑ 5kts → 15kts	Details ☐
Loaded KLBB TAF, issued: 2h 21m ago FM281700 25016KT P6SM FEW250			

CAUTION: In general, aircraft POHs publish runway performance corrections for up to 10 knots of tailwind (some older POHs don't publish any tailwind corrections). If the selected runway's tailwind component exceeds the published tailwind limit, no performance results are displayed and ForeFlight provides an error message that the tailwind limit was exceeded.

2. PERFORMANCE PLANNING WITH FLIGHTS

2.4.2 Weather

Wind and other weather information is updated via the Internet, or in-flight via ADS-B, or XM. The original text of the METAR or forecast is displayed at the bottom of the section. Tap Refresh to load new information if available.

WEATHER Refresh	
Wind Direction	170°T
Wind Speed	17 kts
Temperature	31°C
Altimeter	29.83 inHg
Loaded KSGR MOS, issued: 1h 30m ago 281900Z 17017G24KT 6SM 31/24	

You can manually change the Wind Direction to use magnetic (M) direction for use with ATIS or tower wind reports. Wind speed, the temperature, and altimeter setting can also be manually adjusted.



2. PERFORMANCE PLANNING WITH FLIGHTS

2.4.3 Aircraft Configuration

All pilot-adjustable inputs affecting runway performance (as defined by the aircraft's POH or AFM) are listed in the Aircraft Configuration section. Some aircraft provide no pilot-adjustable inputs, while others provide multiple configuration settings. And some may have configuration options for just one of Takeoff or Landing.

For aircraft with pilot-adjustable inputs, tap Reset to restore the settings to their default configuration.

AIRCRAFT CONFIGURATION	
Takeoff Weight	6,865 lbs
Takeoff Flaps	TO

AIRCRAFT CONFIGURATION		 Reset
Landing Weight	2,338 lbs	
Landing Flaps	Full	
Landing CG	82 inches or aft	
Equipped LDG Gear	Grp 1 Hvy Duty Landing Gear	

NOTE: Some aircraft require specific configuration combinations under icing or other situations. ForeFlight will not display performance results for non-published configurations and will provide an error message explaining the issue.

2. PERFORMANCE PLANNING WITH FLIGHTS

2.4.4 Calculations

The Calculations section displays the results of ForeFlight's runway performance calculation using the provided input conditions. The displayed results for a given aircraft are the same found in the aircraft's POH, including the resulting performance parameter name. Different aircraft types will provide different sets of outputs.

CALCULATIONS	
Liftoff Speed	62 kias
Ground Roll	1,066'
50ft Speed	62 kias
Total Distance	1,644'
TO Climb Speed	93 kias
TO Climb Rate	1,567 fpm
Cruise Climb Speed	95 kias
Cruise Climb Rate	1,352 fpm

CALCULATIONS	
VAPP	80 kias
Total Distance	2,373'
VTD	63 kias
Ground Roll	1,278'

NOTE: ForeFlight Mobile does not perform physics-based performance calculations, but rather interpolates on the POH- or AFM-provided performance data. For example, some POHs from the 1950's and 60's do not include the effect of air temperature on performance, and so neither will ForeFlight when calculating values for such an aircraft. You should think of Takeoff & Landing Performance as a faster, integrated alternative to determining runway performance by hand using your POH; given the same inputs, the outputs will be the same.

2. PERFORMANCE PLANNING WITH FLIGHTS

2.4.5 Takeoff Output Labels

This table lists generic takeoff output labels used for most aircraft, though not all aircraft provide every output label, and some aircraft have specific output labels that apply only to that aircraft and are not listed here. Consult your aircraft's POH or AFM for further detail on the specific aircraft configuration used for these outputs.

Takeoff Output Label	Description
Rotate Speed	Target takeoff speed upon which to initiate takeoff rotation
Liftoff Speed	Approximate speed when main gear leaves the runway; faster than rotate speed, but slower than 50 ft speed
Ground Roll	Takeoff distance from brake release point until main gear lifts off the runway.
50 ft Speed	Initial climb speed reached at end of total takeoff distance and at the obstacle height of 50 ft AGL with gear down and takeoff flaps.
Total Distance	Takeoff distance from brake release point through reaching 50 ft obstacle height point above ground level (AGL). Consists of ground roll distance and air segment for initial climb, all at takeoff flap setting and gear down (if retractable).
Accel-Stop Distance	Distance from brake release point through acceleration to a reject speed and subsequent deceleration to a full stop; aircraft never leaves the runway (this distance is typically only found with twin engine aircraft)
Climb Speed	Target speed for the initial climb after reaching the 50 ft AGL takeoff point, typically gear up, if retract (see POH for flap setting used)
Climb Rate	Instantaneous rate of climb in ft/min for the initial climb after reaching the 50 ft AGL takeoff point typically gear up, if retract (see POH for flap setting used)
Climb Gradient	Instantaneous climb gradient (rise/run) for the initial climb after reaching the 50 ft AGL takeoff point typically gear up, if retract (see POH for flap setting used)

2. PERFORMANCE PLANNING WITH FLIGHTS

Takeoff Output Label	Description
Takeoff Climb Speed	Target speed for the initial climb after reaching the 50 ft AGL takeoff point in the POH-defined takeoff flap and gear configuration
Takeoff Climb Rate	Instantaneous rate of climb in ft/min for the initial climb after reaching the 50 ft AGL takeoff point in the POH-defined takeoff flap and gear configuration
Takeoff Climb Gradient	Instantaneous climb gradient (rise/run) for the initial climb after reaching the 50 ft AGL takeoff point in the POH-defined takeoff flap and gear configuration
Cruise Climb Speed	Target enroute climb speed, typically flaps up and gear up, if retract
Cruise Climb Rate	Enroute climb rate, typically flaps up and gear up, if retract
Cruise Climb Gradient	Enroute climb gradient, typically flaps up and gear up, if retract
OEI Climb Speed	Target climb speed when one engine inoperative (OEI) on a twin engine aircraft
OEI Climb Rate	Climb rate when one engine inoperative (OEI) on a twin engine aircraft

2. PERFORMANCE PLANNING WITH FLIGHTS

2.4.6 Landing Output Labels

This table lists generic landing output labels used for most aircraft, though not all aircraft provide every output label, and some aircraft have specific output labels that apply only to that aircraft and are not listed here. Consult your aircraft's POH or AFM for further detail on the specific aircraft configuration used for these outputs.

Landing Output Label	Description
50 ft Speed (or Approach Speed)	Target threshold crossing speed for landing and at 50 ft AGL (obstacle height point). Typically referred to as the reference speed (V_{REF}), some manuals call it the approach speed (V_{APP}).
Total Distance	Landing distance from 50 ft AGL obstacle height point (over approach end runway threshold) until full stop is reached. Consists of air portion with flare, touchdown and stopping portion.
Ground Roll	Landing distance from touchdown point on the runway until full stop is reached.
Go-Around/Balked Landing Climb Speed	Target go-around speed, typically in landing flap/gear configuration.
Go-Around/Balked Landing Climb Rate	Go-around climb rate in ft/min. Consult POH for flap and gear configuration.
Go-Around/Balked Landing Climb Gradient	Go-around climb gradient (rise/run). Consult POH for flap and gear configuration.

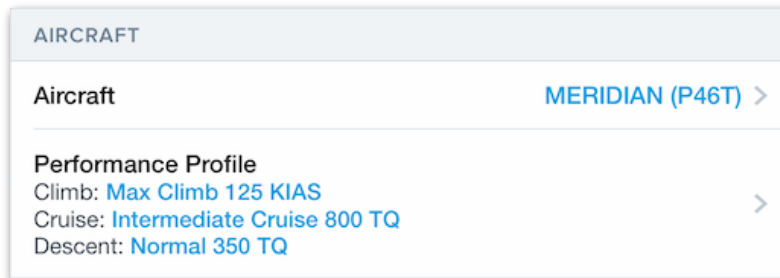
For more information about Runway performance, see:

<https://www.foreflight.com/support/runway-performance/>

2. PERFORMANCE PLANNING WITH FLIGHTS

2.5 Aircraft Section

The Aircraft section allows you to select an aircraft and climb, cruise, and descent performance profiles for the flight. If you've designated an aircraft and performance profiles as defaults then they will be automatically selected when you create a new flight. All your aircraft and performance profiles are fully editable from the Flights view by tapping the Edit/View buttons next to each. You can also create new aircraft from the Flights view by tapping the Plus button when viewing the aircraft list, and create new performance profiles by tapping "Add Custom Performance Profile".



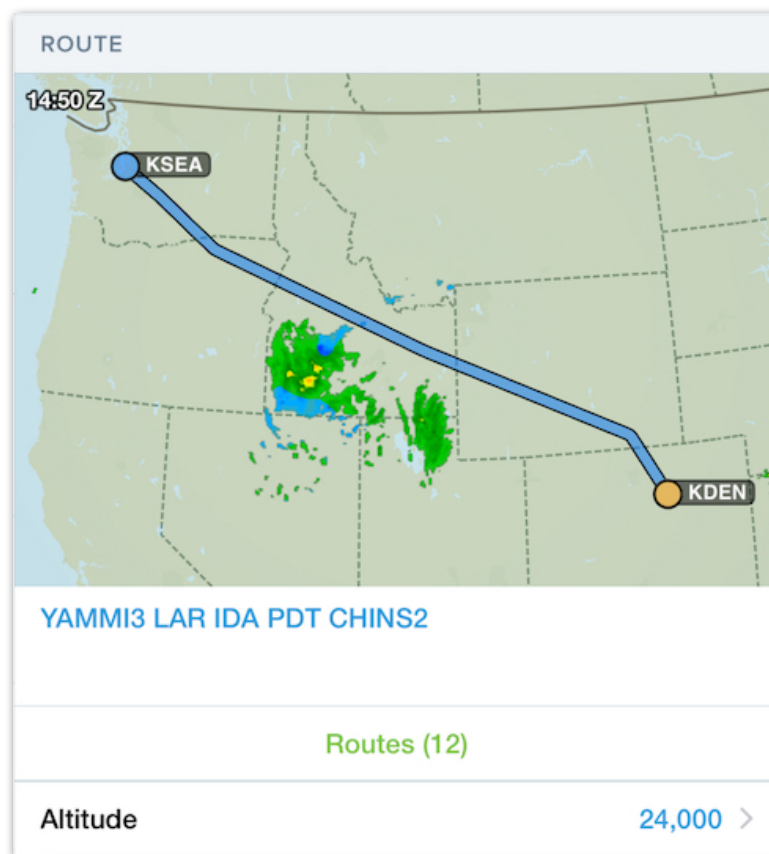
NOTE: Only basic performance profiles can be created on the mobile app - use ForeFlight on the web to build [by-altitude profiles](#) that you can then use in ForeFlight Mobile.

2. PERFORMANCE PLANNING WITH FLIGHTS

2.6 Route Section

The Route section is where you enter a route and altitude for a flight. You can tap in the text field to enter a route manually, or tap “Routes” in green to open ForeFlight’s Route Advisor. The number of routes identified by Route Advisor is shown in parentheses next to Routes.

A “Route Preview” built into the Route section allows you to see your route on a map with radar. Tap on the map to enter an interactive split-screen view where you can pan and zoom the map, then tap the Back button at the top to return to the planning form.



2. PERFORMANCE PLANNING WITH FLIGHTS

2.6.1 Route Advisor

Route Advisor groups routes under section headers based on what kind of route they are or their source. Routes shown include the Recommended Route, Preferred routes, ATC Cleared routes, TEC routes, and Airway routes. ForeFlight calculates performance results for every route shown (including flight time, distance, and flight fuel) and displays them on the right, allowing for quick comparisons between routes.

Route Advisor also includes a Route Preview showing the paths of every route on an interactive map. Tap on a route in the list to highlight it on the map. This Route Preview is also interactive using two-finger pan and zoom.

Recommended Route

ForeFlight's Recommended Route (formerly AviationCloud Autoroute) gives you the best route based on your detailed aircraft performance profile and time/fuel savings, while also accounting for preferred routes, recent ATC cleared routes, and how frequently a given route is assigned. ForeFlight evaluates all available route options and picks the one that provides the best balance between time/fuel savings and likelihood of being "cleared as filed" by ATC. If no previously cleared routes are available for an airport pair, ForeFlight will generate a wind- and temperature-optimized route based on your selected aircraft and performance profile.

If the Recommended Route's altitude is different from your aircraft's default altitude, a popup will prompt you to update the flight's altitude when you select the Recommended Route.

The screenshot shows the 'Route Advisor' interface. At the top, there's a 'Close' button and the title 'Route Advisor'. Below the title is a map showing several flight routes between two points. A blue line highlights the 'RECOMMENDED' route. Below the map is a list of routes. The first section is 'RECOMMENDED' and the second is 'ATC CLEARED'. Each route entry includes the route name, aircraft type, frequency, and performance metrics (time, distance, fuel).

Route	Aircraft	Frequency	Time	Distance	Fuel
RECOMMENDED					
YAMMI3 LAR IDA PDT CHINS3	FL400		3h01m	910nm	1,727lbs
ATC CLEARED					
YAMMI3 LAR CKW BPI DNJ PDT CHINS3		Today (342x)	3h02m	913nm	1,735lbs
Jet (FL260 to FL400)					
YAMMI3 LAR GANNE Q150 LEZLE Q152 SUNED CHINS3		Today (24x)	3h00m	913nm	1,715lbs
Jet (FL280 to FL380)					

Select Route

2. PERFORMANCE PLANNING WITH FLIGHTS

ATC Cleared Routes

Following the Recommended Route is the list of ATC cleared routes (if the airport pair has any cleared routes), in reverse-chronological order based on which route was most recently cleared by ATC. These routes provide two additional lines of information below the route string. The first line shows the departure time of the most recent flight cleared for that route, followed in parentheses by the number of times that route has been cleared by ATC in the past year. Frequently filed routes will often say “Tomorrow”, indicating that the most recent clearance for that route was given for a flight departing tomorrow. The second line includes information about the type(s) of aircraft cleared to fly that route (such as piston, turboprop, or jet), and the altitude or range of altitudes for which the clearance was given.

2. PERFORMANCE PLANNING WITH FLIGHTS

Eurocontrol Route Validity

For any route that passes through Eurocontrol airspace, Route Advisor will evaluate the route against Eurocontrol's complex system of route constraints and display a “**Eurocontrol Valid**” or “**Eurocontrol Invalid**” label beneath the route. A second validity check is also performed when you file the route to catch any validation issues that may have been raised by changes you made to the flight after selecting the route.

Close

Route Advisor



AVIATIONCLOUD AUTOROUTE

DET2F DET L6 DVR/N0226F290 UL9 KONAN UL607 KOK
UM150 DIK UN852 GTQ UT27 BLM BLM2G
FL270
Eurocontrol Valid

1h52m
472nm
1,171lbs

ATC CLEARED

DET2F DET L6 DVR/N0228F290 UL9 KONAN UL607 KOK
UM150 DIK UN852 GTQ UT27 BLM BLM2G
FL270
Eurocontrol Valid

1h52m
472nm
1,171lbs

MID4F MID L612 BENBO/N0228F290 UL612 RESMI
UN491 MELKO UM606 BLM BLM2G
FL270
Eurocontrol Invalid

1h58m
483nm
1,216lbs

NOTE: Although Route Advisor will evaluate the validity of *any* route that intersects Eurocontrol airspace, only intra-European flights may be filed from within ForeFlight. **Do not attempt to file intercontinental flights through ForeFlight**

ForeFlight Performance Planning Guide

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2. PERFORMANCE PLANNING WITH FLIGHTS

2.6.2 Altitude Advisor

Altitude Advisor makes it easy to compare altitude options for your flight. When you create a new flight, the altitude is automatically set to your aircraft's default cruise altitude. Open Altitude Advisor to review other altitudes. The highest altitude shown is based on the value for your aircraft's maximum ceiling altitude.

All altitude options are evaluated by ForeFlight's planning engine and performance results are shown next to each one, including the average head/tailwind component over the entire route, which is color-coded red or green; total flight time; and inflight fuel usage. If performance results are not shown for a given altitude (eg: "-----") it means that your aircraft cannot achieve the desired cruise speed quickly at that altitude, due to warmer than standard temperatures, payload/fuel weight, a cruise speed that is faster than can be achieved at that altitude, or a route too short to achieve that altitude.

The screenshot shows the 'Altitude Advisor' window with a 'Close' button in the top left. The title bar reads 'Altitude Advisor'. The current altitude is set to 39,000. A note indicates 'Winds aloft: 34 kts tailwind'. The main table lists altitudes from FL250 to FL450. Each row displays the altitude, the average tailwind component (e.g., '20kts tailwind'), the total flight time (e.g., '3h29m'), the inflight fuel usage (e.g., '8,897lbs'), and a selection radio button. The FL390 row is selected, indicated by a blue checkmark in its radio button. The FL450 row shows dashes for the last three columns, indicating it is not achievable. A note at the bottom of the table states 'Coloring based on winds aloft and aircraft performance.' At the bottom of the window are five filter buttons: 'VFR', 'IFR', 'Westerly', 'Easterly', and 'All'.

Altitude	Winds aloft: 34 kts tailwind			
FL250	20kts tailwind	3h29m	8,897lbs	☐
FL270	21kts tailwind	3h24m	8,732lbs	☐
FL290	22kts tailwind	3h19m	8,577lbs	☐
FL310	24kts tailwind	3h14m	8,428lbs	☐
FL330	26kts tailwind	3h10m	8,291lbs	☐
FL350	29kts tailwind	3h10m	7,807lbs	☐
FL370	31kts tailwind	3h10m	7,377lbs	☐
FL390	34kts tailwind	3h10m	7,044lbs	☒
FL410	32kts tailwind	3h10m	6,870lbs	☐
FL450	-----	-----	-----	☐

Coloring based on winds aloft and aircraft performance.

VFR IFR Westerly Easterly All

The buttons along the bottom of Altitude Advisor allow you to filter the altitudes shown. The VFR/IFR buttons on the left filter the altitudes to those permissible for the selected flight rules. The Westerly/Easterly/All buttons on the right filter altitudes to those that are fileable based on your flight's direction. ForeFlight will automatically filter this list to only show relevant altitudes as you make changes to a flight.

2. PERFORMANCE PLANNING WITH FLIGHTS

2.7 Payload Section

The Payload section allows you to input basic weight information for people and cargo, used by ForeFlight to evaluate fuel requirements and perform weight checks against your aircraft's structural weight limits. Tap on the blue numbers to adjust the values for number of people, the average weight of each person, and the total weight of cargo. The default value for the number of people is either one or two, based on the minimum crew requirement for your aircraft model. The starting default value for average person weight is 200 pounds, but changing this value for any flight will update the default to the new value.

PAYLOAD (LBS)			
	COUNT	AVG WT.	TOTAL
People	5	200	1,000
Cargo			200
Total Payload			1,200

NOTE: The Payload section is not tied to ForeFlight's Weight & Balance tool, although both of them involve inputting people and cargo weights.

2. PERFORMANCE PLANNING WITH FLIGHTS

2.8 Fuel Section

The Fuel section provides some of the most powerful flight planning capabilities available with Performance Planning by allowing for detailed fuel management and automated fuel calculation using the Fuel Policy selector.

FUEL		GAL	LBS
Fuel Policy	Minimum Fuel Required >		
Start 2,680 lbs available	MAX	601 / 999	4,060 / 6,740
▼ Flight Fuel		476	3,210
Taxi Fuel		30	200
Fuel to Destination		446	3,010
▼ Fuel at Landing		126	850
Alternate Fuel		0	0
Reserve Fuel		126	850
Extra Fuel		0	0

2. PERFORMANCE PLANNING WITH FLIGHTS

2.8.1 Fuel Policies

The Fuel Policy selector at the top of the Fuel section provides a number of options for calculating total (“block”) fuel that will be in the aircraft’s fuel tanks at engine start. Some policies require no additional input, and some allow you to specify certain values that will factor into the calculation.

- **Minimum Fuel Required** - calculates the minimum amount of fuel needed to land at the destination with legal reserves and alternate fuel (if an alternate airport is specified for the flight). Requires no additional input from user.
- **Extra Fuel** - adds a new field below the Fuel Policy selector where you can specify a fuel amount in addition to the minimum fuel required for the flight.
- **Maximum Fuel** - calculates the maximum amount of fuel that can be loaded before exceeding any structural weight limit or the limit for total useable fuel configured for the aircraft. Requires no additional input from user.
- **Landing Fuel** - adds a field below the Fuel Policy selector where you can specify a fuel amount to have in the tanks upon landing at your destination; ForeFlight will then calculate the total fuel required at engine start to achieve that value. The fuel amount entered must be greater than the sum of reserve and alternate fuel (if an alternate airport is specified).
- **Manual Fuel** - adds a field below the Fuel Policy selector where you can specify the total amount of fuel in the tanks at engine start. The fuel amount entered must be greater than the minimum amount of fuel required to land at the destination with legal reserves and alternate fuel (if an alternate airport is specified).



The screenshot shows a mobile app interface for the 'Fuel Policy' selector. At the top, there is a status bar with the time '3:06 PM' and battery level '77%'. Below the status bar is a dark blue header with a 'Back' button and the title 'Fuel Policy'. The main content area is white and lists five fuel policy options, each with a radio button to its right. The 'Minimum Fuel Required' option is selected, indicated by a blue checkmark in its radio button. The other options are 'Extra Fuel', 'Maximum Fuel', 'Landing Fuel', and 'Manual Fuel', all of which have unselected radio buttons. Each option includes a brief description of what it calculates or requires.

Fuel Policy	Description	Selected
Minimum Fuel Required	Minimum legal required (trip + taxi + reserve). Alternate included if alternate airport defined.	Yes
Extra Fuel	Fuel in addition to the minimum fuel required. Amount is at user's discretion.	No
Maximum Fuel	Max fuel, up to the aircraft's maximum ramp weight.	No
Landing Fuel	User-defined amount of fuel to have in tanks upon landing. Must include legal reserves.	No
Manual Fuel	User-defined fuel amount at engine start.	No

2. PERFORMANCE PLANNING WITH FLIGHTS

2.8.2 Fuel Allocation

The Fuel Allocation table below the Fuel Policy selector shows how the total amount of fuel is allocated during the flight, in both gallons and pounds of fuel. The primary fuel unit (gallons or pounds) configured for the aircraft appears in the far-right column, and the secondary unit in the column next to it.

FUEL		GAL	LBS
Fuel Policy	Minimum Fuel Required >		
Start	MAX	601	4,060
	2,680 lbs available	/ 999	/ 6,740
▼ Flight Fuel		476	3,210
Taxi Fuel		30	200
Fuel to Destination		446	3,010
▼ Fuel at Landing		126	850
Alternate Fuel		0	0
Reserve Fuel		126	850
Extra Fuel		0	0

Fuel Allocation is divided between Flight Fuel, which is the total amount of fuel burned to reach the destination, composed of Start/Taxi Fuel and Fuel to Destination; and Fuel at Landing, which is the total amount of fuel remaining in the tanks upon landing at the destination, composed of Alternate Fuel, Reserve Fuel, and Extra Fuel. You can collapse and expand these categories by tapping the carets to the left of each category row.

The default values for Start/Taxi Fuel and Reserve Fuel come from the values set in the Aircraft Edit page, but you can change either value for a single flight by tapping the blue numbers in the far-right column. Changing these numbers will not affect the default values, which can only be changed from the Aircraft Edit page.

At the top of the Fuel Allocation table is the value for fuel at Start, as calculated from the sum of Flight Fuel and Fuel at Landing, beneath which is the value for total usable fuel configured for the aircraft. If you exceed the value for total usable fuel during planning, the numbers for Start turn red, and the amount of fuel that is over the limit replaces the value for additional fuel available beneath “Start”.

2. PERFORMANCE PLANNING WITH FLIGHTS

2.9 Weight Verification Section

The last section of the Flights view planning form is Weight Verification. This allows you to review the total weight of the aircraft and compare it to important structural weight limits to see how much additional weight capacity is available for the flight. The structural weight limits come from the values configured in the Aircraft Edit page, and are shown in a smaller font directly below the actual weight value based on what you've configured for payload and fuel. The amount of fuel available before reaching each limit is shown on the left below the name of each limit.

WEIGHT VERIFICATION (LBS)	
▼ Zero Fuel Weight 1,555 lbs available	25,445 / 27,000
Total Fuel at Start	12,374
▼ Ramp Weight 1,181 lbs available	37,819 / 39,000
Taxi/Takeoff Fuel	150
▼ Takeoff Weight 1,181 lbs available	37,669 / 38,850
Fuel to Destination	7,224
Landing Weight 3,305 lbs available	30,445 / 33,750

2. PERFORMANCE PLANNING WITH FLIGHTS

Between the rows showing weight limits are rows of lighter text indicating how the aircraft's total actual weight changes between each limit, either from adding fuel before engine start, or burning fuel during taxi/takeoff and during the flight itself. You can collapse these rows by tapping the carets to the left of each weight limit name.

WEIGHT VERIFICATION (LBS)	
▼ Zero Fuel Weight 245 lbs over limit	27,245 / 27,000
Total Fuel at Start	12,491
▼ Ramp Weight 736 lbs over limit	39,736 / 39,000
Taxi/Takeoff Fuel	150
▼ Takeoff Weight 736 lbs over limit	39,586 / 38,850
Fuel to Destination	7,340
▼ Landing Weight 1,504 lbs available	32,246 / 33,750

If any weight limit is exceeded while planning your flight, the values for total actual weight turn red, and the amount of weight that is over the limit replaces the value for additional weight available at each limit.

2. PERFORMANCE PLANNING WITH FLIGHTS

2.10 Fuel Orders

When enabled in More > Settings, a Fuel Order field is displayed in the Destination Services section of the Flights view, allowing you to create and send a fuel order to your destination FBO before the flight (Internet connection required).

08:41 KCLM to KYKM Tue Apr 24, 08:30 PDT

Dist	ETE	ETA (PDT)	Flight Fuel	Wind
166nm	0h43m	09:13	58g	2kts head

WEIGHTS (LBS)

Zero Fuel Weight	5,487
545 lbs available	/ 6,032
Total Fuel at Start	979
Ramp Weight	6,466
964 lbs available	/ 7,430
Taxi/Takeoff Fuel	36
Takeoff Weight	6,430
964 lbs available	/ 7,394
Fuel to Destination	355
Landing Weight	6,075
949 lbs available	/ 7,024

DESTINATION SERVICES

McCormick Air Center
122.95 UNICOM / \$4.76/gal

FBO

Fuel Order Optional

FLIGHT LOG

Fuel at Shutdown (g) 0

Times Optional

Pack Flight (792 MB)

Not Filed Proceed to File

08:42 KCLM to KYKM Fuel Order

Fuel Provider McCormick Air Center

Fuel Type Jet-A

Fuel Card Optional

Quantity LBS 1,046 GAL 155

Price \$4.76/gal

Total \$737.80

Fuel On Arrival

Arrival Apr 24, 2018 09:13 PDT

Departure Optional

Comments/Requests

Send

To create a fuel order, first tap the Fuel Provider box and select the FBO from the available FBOs at the destination airport. If you have added [fuel cards in JetFuelX](#), you can select a Fuel Card to receive discounted prices at that FBO.

2. PERFORMANCE PLANNING WITH FLIGHTS

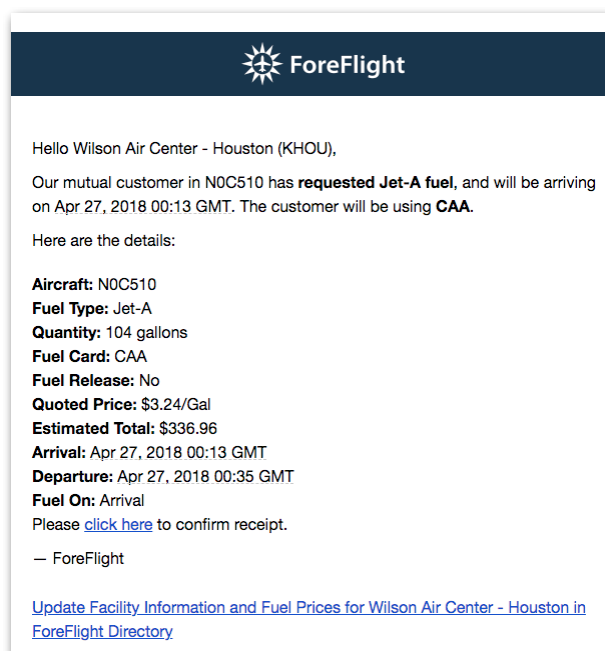
Each fuel card listed includes the discounted price, the fuel card provider, a link to view any notes for the fuel card, and the price tiers, if available with that card. The retail price of fuel at that FBO is shown at the top of the page for reference.

If the fuel card you selected supports fuel releases at that FBO, a new option appears to send a fuel release as part of the fuel order. Doing so will notify the fuel card provider in addition to the FBO, allowing them to release the fuel so it's ready and paid for when you arrive. If you choose to not use a fuel release, or the fuel card doesn't support them, you can still send the fuel order to the FBO without it.

ForeFlight automatically populates the Quantity field with the amount of fuel that needs to be added after the flight to reach max capacity, based on the Fuel at Landing value in the Fuel section of the Flights Planning form. Tap on the numbers for LBS or GAL to change this value as desired. The Price field indicates the price per gallon of fuel, using either the retail price or your contract fuel price if you selected a fuel card. Below that you can set your FBO Arrival and Departure times, and select whether you want to load the fuel on Arrival or Departure. If you want to add any special comments or request to your fuel order you can do so at the bottom.

Tap "Send" to transmit your fuel order to the FBO via email.

The emailed fuel order sent to the FBO includes information about the order and a button for them to confirm receipt of the fuel order. If the FBO accepts the fuel order the Order status in ForeFlight changes from "Sent" to "Confirmed."

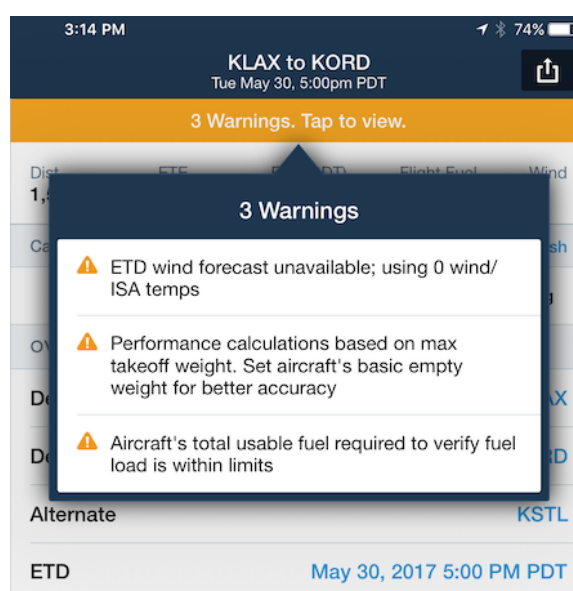
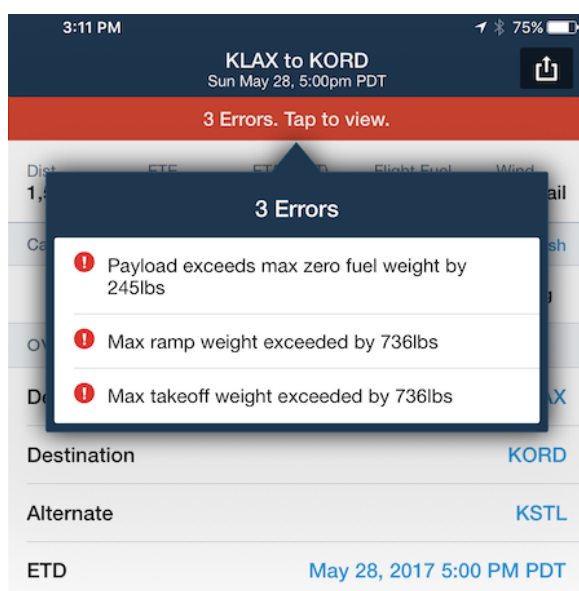


2. PERFORMANCE PLANNING WITH FLIGHTS

After sending a fuel order the Send button changes to Cancel. Clicking this will send another email to the FBO information them that you cancelled the order. If the fuel order email is not successfully delivered to the FBO, such as if the FBO's firewall rejects it or the FBO's email account no longer exists, the fuel order status will show "Not Delivered." However, other circumstances may prevent the email from reaching the FBO without triggering the "Not Delivered" message, such as if the email is automatically placed in the FBO's spam folder by the email client.

2.11 Errors and Warnings

The Flights view will display a number of errors and warnings to alert you of problems that might come up while planning a flight. These appear as a red or orange banner above the Route Performance Summary - you can tap on the banner to view details for the errors or warnings. Errors are critical problems that may prevent ForeFlight from calculating performance results for a flight (such as not providing a valid performance profile for the aircraft), or may prevent the flight from being carried out safely (such as exceeding structural weight or fuel limits). Warnings represent less severe problems that may result in less accurate performance calculations (such as the ETD being too far in the future to incorporate wind effects for the flight), or that may prevent ForeFlight from verifying that weight and fuel amounts are within limits (such as not entering a basic empty weight for the aircraft).



2. PERFORMANCE PLANNING WITH FLIGHTS

2.12 Add Next Flight

If planning a multi-leg trip, use the “Add Next Flight” button at the bottom of the planning form to create a new flight that retains the most important details from the previous one, making it easy to plan consecutive trip segments. Add Next Flight sets the destination airport of the previous flight as the departure airport of the new flight, and sets the new flight’s ETD to 30 minutes after the ETA of the previous flight, if that time has not already passed. Add Next Flight preserves the first flight’s aircraft and performance profile, payload details, and fuel policy, though if the selected fuel policy requires user input (such as Extra Fuel, Landing Fuel, and Manuel Fuel) then the previous value will not be preserved when adding a next flight.

2.13 Navlog

The Flights view Navlog provides a detailed overview of your flight that can be printed out and referenced to aid inflight decision-making. You can view the Navlog by tapping the Navlog button in the top left of the Flights view.

KSGR to KOSH

Navlog
KSGR to KOSH

KSGR — KOSH (May 28, 2019) in N101FFP (TBM8)

Created May 28 2019 1628Z

Max Cruise @ FL310

ETE	Distance	Avg Wind	ETD	ETA	TOW	ELW
2h52m	925nm	38kt tail (241°/055)	15:00 CDT / 2000Z	17:51 CDT / 2251Z	6865 lbs	5767 lbs
Block Fuel	Taxi Fuel	Flight Fuel	Reserve Fuel	Alternate Fuel	Extra Fuel	Landing Fuel
205 g	5 g	168 g	37 g	0 g	0 g	37 g

Route

DCT

RAIM (5° Mask, With Baro-aid)

✓ RAIM: No outages predicted

The top of the Navlog provides quick reference to key information like which Performance Profile and altitude were selected, the ETE, block fuel, the full route string, and more. The Navlog will also provide RAIM outage prediction for routes within the continental U.S., Alaska, and Hawaii; for routes outside of these supported areas, no message will be shown. If no outage is predicted, the message will say “No outages predicted” in green. If an outage is predicted, the message will be red, and will specify where in the route the outage is predicted - at the departure, destination, or alternate airports, or enroute.

ForeFlight’s RAIM prediction capability is based directly on the FAA’s RAIM prediction service and its open API.

2. PERFORMANCE PLANNING WITH FLIGHTS

Beneath the top of the page are tables providing helpful information about each leg of the trip. The first table shows expected performance results for each leg, such as fuel remaining, leg time, distance remaining, and winds aloft information, including forecasted deviations from standard temperature. If you specified an alternate airport for the flight the same details appear for it in a short table below.

Waypoint	Airway	MAG HDG CRS	ALT	WIND CMP DIR/SPD	ISA	SPD KT TAS GS	DIST NM LEG REM	FUEL G USED REM	ACT	TIME LEG REM ETE	ACT
KSGR		- -	82	- -	+16	0 0	- 925	5 200		- 2:52 -	
900-KOSH	DCT	019 018	13400	T21 188/021	+15	181 202	25 900	15 189		0:08 2:44 0:08	
-TOC-	DCT	013 018	FL310	T31 232/032	+13	222 253	66 834	31 174		0:16 2:28 0:24	
800-KOSH	DCT	010 018	FL310	T37 249/061	+11	304 341	34 800	36 169		0:06 2:22 0:30	
700-KOSH	DCT	010 019	FL310	T37 248/061	+10	305 342	100 700	51 154		0:17 2:05 0:47	
600-KOSH	DCT	012 019	FL310	T35 247/054	+9	307 342	100 600	67 139		0:18 1:47 1:05	
500-KOSH	DCT	015 020	FL310	T46 231/054	+8	308 354	100 500	81 124		0:17 1:30 1:22	
400-KOSH	DCT	017 021	FL310	T43 229/049	+8	309 352	100 400	96 109		0:17 1:13 1:39	
300-KOSH	DCT	018 023	FL310	T42 232/050	+7	311 353	100 300	111 94		0:17 0:56 1:56	
200-KOSH	DCT	018 024	FL310	T42 237/053	+6	312 353	100 200	126 79		0:17 0:39 2:13	
100-KOSH	DCT	017 025	FL310	T39 249/061	+6	312 351	100 100	141 64		0:17 0:22 2:30	
-TOD-	DCT	017 026	FL310	T35 254/064	+6	310 345	15 85	143 62		0:02 0:20 2:32	
KOSH	DCT	017 027	808	T33 254/064	+6	219 252	85 -	168 37		0:20 - 2:52	

ForeFlight's Navlog will also incorporate step climbs into your route if hot/high/heavy conditions prevent climbing direct to your final cruise altitude. Step climbs will appear in the altitude table as highlighted in green below.

Route
STYCK7 DOLEY ADM J52 FQF J20 PDT CHINS3

Routes (9)

Cruise Altitude
Initial Step 40,000

43,000 >

Waypoint	Airway	MAG HDG CRS	ALT	WIND CMP DIR/SPD	ISA	SPD KT TAS GS	DIST NM LEG REM	FUEL LB USED REM	ACT	TIME LEG REM ETE	ACT
KHOU		- -	46	- -	+15	0 0	- 1683	150 8726		- 3:47 -	
-TOC-	STYCK7	329 339	FL400	T11 249/078	+2	372 381	103 1580	1084 7793		0:16 3:31 0:16	
DOLEY	STYCK7	329 339	FL400	H2 247/082	0	470 468	60 1520	1326 7550		0:08 3:23 0:24	
100-ADM	DCT	329 339	FL400	T1 246/086	0	470 472	27 1493	1437 7439		0:04 3:19 0:28	
ADM ARDMORE 116.7	DCT	327 339	FL430	T13 242/097	-5	453 466	100 1393	1827 7049		0:12 3:07 0:40	
MRMAC	J52	294 305	FL430	H43 237/094	-5	464 422	60 1333	2080 6796		0:09 2:58 0:49	

2. PERFORMANCE PLANNING WITH FLIGHTS

The next table compares winds aloft and performance results for the selected cruise altitude as well as bracketing nearby altitudes. Each altitude column provides total trip time and fuel burn in bold at the bottom, making it easy to evaluate multiple altitudes at a glance.

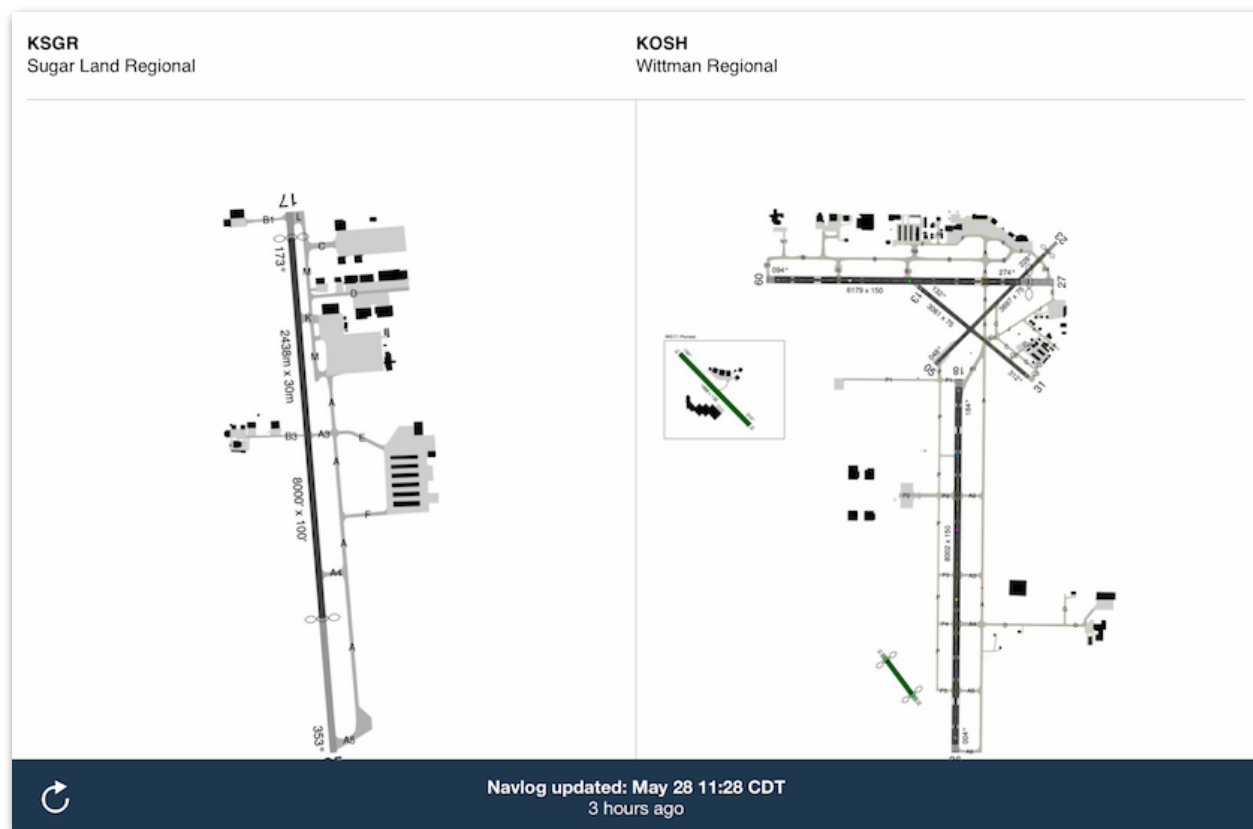
	FL 230 (ISA: -31°C)			FL 250 (ISA: -35°C)			FL 270 (ISA: -38°C)			FL 290 (ISA: -42°C)			FL 310 (ISA: -46°C)		
Winds Aloft	(COMP) WIND	ISA		(COMP) WIND	ISA		(COMP) WIND	ISA		(COMP) WIND	ISA		(COMP) WIND	ISA	
900-KOSH	(T32) 234/040	+12		(T32) 234/040	+16		(T32) 240/044	+12		(T29) 251/053	+9		(T29) 251/053	+13	
-TOC-	(T34) 236/044	+11		(T34) 236/044	+15		(T35) 238/047	+12		(T34) 249/058	+9		(T34) 249/058	+13	
800-KOSH	(T35) 239/046	+10		(T35) 239/046	+14		(T38) 237/049	+11		(T38) 246/059	+8		(T38) 246/059	+12	
700-KOSH	(T37) 235/047	+11		(T37) 235/047	+15		(T29) 246/044	+11		(T25) 255/049	+7		(T25) 255/049	+11	
600-KOSH	(T36) 241/051	+9		(T36) 241/051	+13		(T48) 230/056	+10		(T47) 226/053	+6		(T47) 226/053	+10	
500-KOSH	(T39) 240/053	+8		(T39) 240/053	+12		(T43) 233/052	+9		(T43) 224/048	+6		(T43) 224/048	+10	
400-KOSH	(T27) 242/037	+7		(T27) 242/037	+11		(T35) 233/042	+8		(T41) 231/048	+5		(T41) 231/048	+9	
300-KOSH	(T24) 250/038	+7		(T24) 250/038	+11		(T32) 242/043	+8		(T39) 237/049	+4		(T39) 237/049	+8	
200-KOSH	(T26) 257/050	+6		(T26) 257/050	+10		(T30) 255/055	+7		(T37) 249/058	+4		(T37) 249/058	+8	
100-KOSH	(T23) 264/055	+7		(T23) 264/055	+11		(T27) 262/060	+8		(T33) 257/064	+5		(T33) 257/064	+9	
-TOD-	(T17) 270/056	+6		(T17) 270/056	+10		(T24) 265/062	+7		(T31) 262/070	+4		(T31) 262/070	+8	
	2h54m (+0:03), 197 g Avg wind comp: T28			2h52m (+0:01), 188 g Avg wind comp: T31			2h51m (-0:01), 179 g Avg wind comp: T34			2h51m (0:00), 171 g Avg wind comp: T35			2h52m (0:00), 163 g Avg wind comp: T38		

The bottom section of the Navlog includes additional summaries of times, fuel, and weights, and a section to record actual performance results for the flight. Below that is smaller table with important frequency and runway information for your departure, destination, and alternate airports.

Summary & Times		Fuel & Weights				Notes	
PIC		Block Fuel	205 g		Out:	In:	Block time:
Tail	N101FFP (TBM8)	Taxi Fuel	5 g				
Profile	Max Cruise	Flight Fuel	168 g		Off:	On:	Flight time:
Fuel Flow	57 g/hr	Reserve Fuel	37 g				
Distance	925nm	Alt Fuel	0 g		Start:	Stop:	Hobbs time:
ETD	15:00 CDT / 2000Z	Extra Fuel	0 g		Start:	Rem:	Fuel used:
ETE	2h52m	Payload	755 lbs		Signature:		
ETA	17:51 CDT / 2251Z	ZFW	5517 lbs				
Route	DCT	TOW	6865 lbs				
Altitude	FL310	ELW	5767 lbs				
Airport		WX	TWR/CTAF	CLR	GND	ELEV	LONGEST RWY
KSGR		118.125	118.65	121.4	121.4	82	17 / 35 8000 ft
KOSH		125.9	118.5	N/A	132.3	808	18 / 36 8002 ft
Basler Flight Service (920) 236-7827 122.95 UNICOM							

2. PERFORMANCE PLANNING WITH FLIGHTS

If they are available for the departure and/or destination airport, ForeFlight Airport Diagrams are shown at the bottom of the NavLog. NOTE: an Airport Diagram is not included for an Alternate.



You can email the Navlog using the Send To button in the top right of the Flights view, and you can print it using a compatible AirPrint printer. Tap “Save to ForeFlight Documents” to save a PDF copy of the Navlog and the Flight Plan form to the “Imported” drive in Documents.

Changing any details of your flight will automatically update the Navlog for the next time you view it, but you can also manually refresh it by tapping the refresh button in the bottom left.

Navlogs generated on the web will automatically become available on mobile as part of ForeFlight’s Sync system, and vice versa.

2. PERFORMANCE PLANNING WITH FLIGHTS

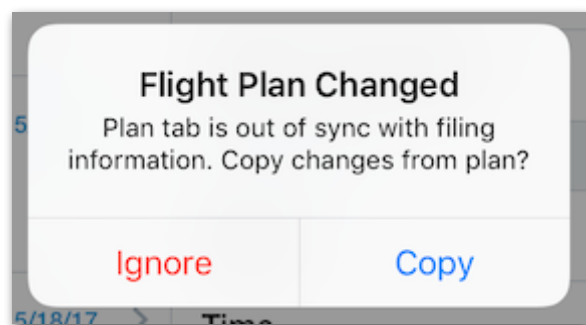
2.14 Briefing

You can request a pre-flight weather briefing by tapping the Briefing button next to the Navlog button. By default this will retrieve ForeFlight's Graphical Briefing, which presents weather and NOTAM information in a page-based, graphical format that allows you to translate the coded text into a "plain text" form.

An in-depth description of the contents of the Graphical Briefing can be found in the "Pilot's Guide to ForeFlight Mobile", available in the app in **Documents** > **Catalog** > **ForeFlight** or at www.foreflight.com/support/pilots-guide/.

2.15 Filing a Flight Plan

Tap "Proceed to File" at the bottom of the screen to move to the Flights view filing form. Information is automatically copied over from the planning form into the relevant fields of the filing form, allowing you to simply review the information before filing. If you return to the planning form and make changes, a popup will prompt you to copy the updated information into the filing form next time you view it.

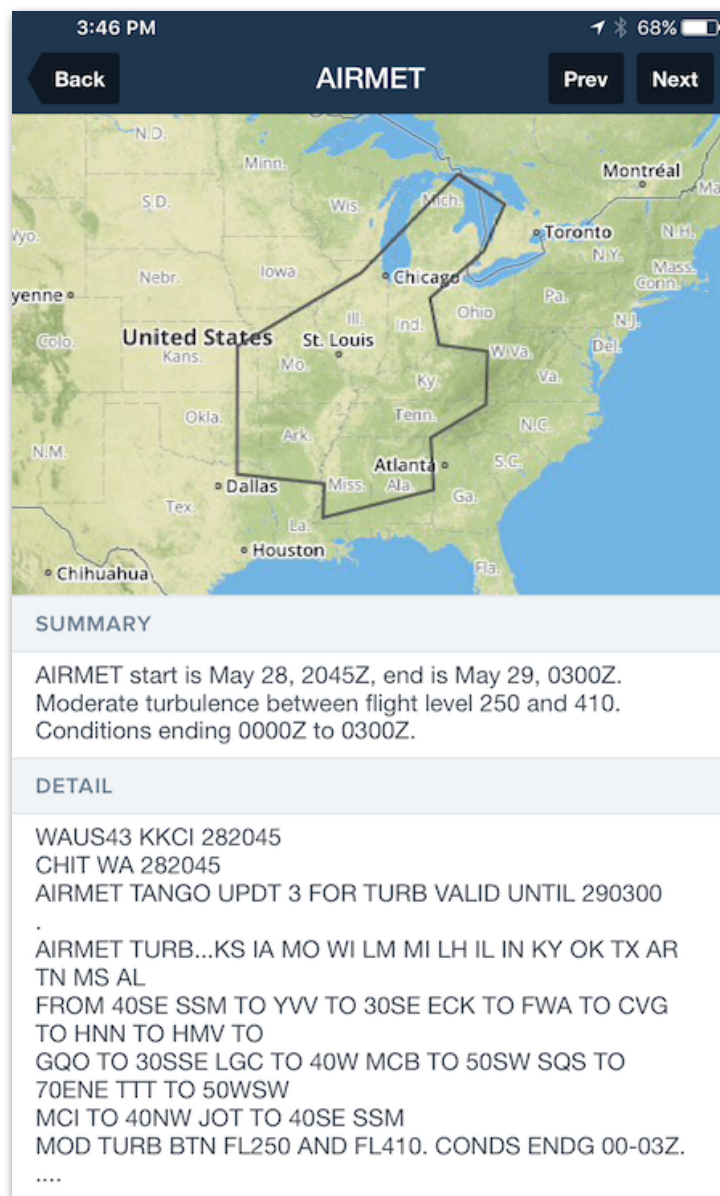


Refer to the "Pilot's Guide to ForeFlight Mobile" for more information about filing a flight plan, or the supplemental guide "Filing with ForeFlight Mobile" for in-depth information about filing ICAO flight plans and configuring aircraft with the proper ICAO codes. Both guides are available in the app in **Documents** > **Catalog** > **ForeFlight** or at www.foreflight.com/support/faqs/guides-supplements/

2. PERFORMANCE PLANNING WITH FLIGHTS

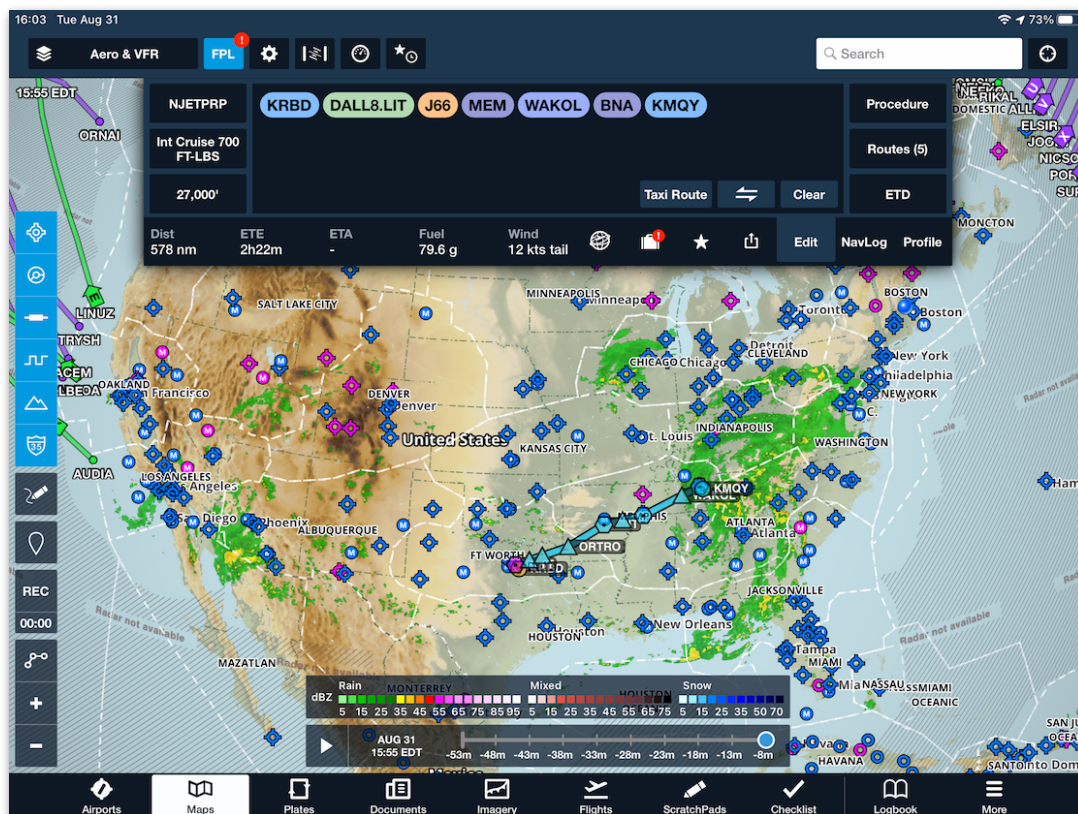
2.16 Messages

If you enabled Flight Notifications before filing, ForeFlight will check for important flight alerts along your route, such as AIRMETs and SIGMETs, TFRs, and runway closure notices. ForeFlight will start searching for and displaying these alerts two hours before your estimated time of departure, while connected to the internet. The alerts will appear in the Messages tab in the top right of the Flights view, and a notification bubble showing the number of new alerts will appear on the Flights view tab at the bottom of the screen. Tap on Messages to view a summary of all the alerts, and tap on an alert to see details about it. Use the Next and Previous buttons to move between the alerts.



PERFORMANCE PLANNING WITH MAPS

The Maps view includes many, though not all of the Performance-based planning tools found in the Flights view, and also includes unique capabilities such as Procedure Advisor that make it ideal for visual flight planning.



The capabilities for selecting an aircraft, selecting a performance profile, setting an ETD, and using the Route and Altitude Advisors can all be found as buttons on the Maps view Flight Plan Editor (shown above). However, the Maps view lacks the additional planning features that Performance Plus customers can access in the Flights view, including the Payload, Fuel, and Weight Verification sections, as well as other features like the printable Navlog and Graphical Briefing. Tap the Send To button in the bottom-right corner of the Flight Plan Editor and tap Flights to send the currently-entered route to the Flights view. All details about the flight that have been entered on the Maps view will be copied over to the Flights view.

You find more details about planning with the Maps view in the “Pilot’s Guide to ForeFlight Mobile”, available in the app in **Documents > Catalog > ForeFlight** or at www.foreflight.com/support/pilots-guide/.

PERFORMANCE ON THE WEB

ForeFlight on the web includes almost all of the advanced flight planning capabilities that ForeFlight Performance brings to the mobile app, plus some features that are web-exclusive. Login to the web application from ForeFlight's home page, or at plan.foreflight.com.

4.1 Aircraft on the Web

ForeFlight on the web allows you to view, edit, and create new aircraft using ForeFlight's aircraft type database and advanced performance profiles. Although the interface is different, every data field that you can access on the mobile app can also be accessed on the web.

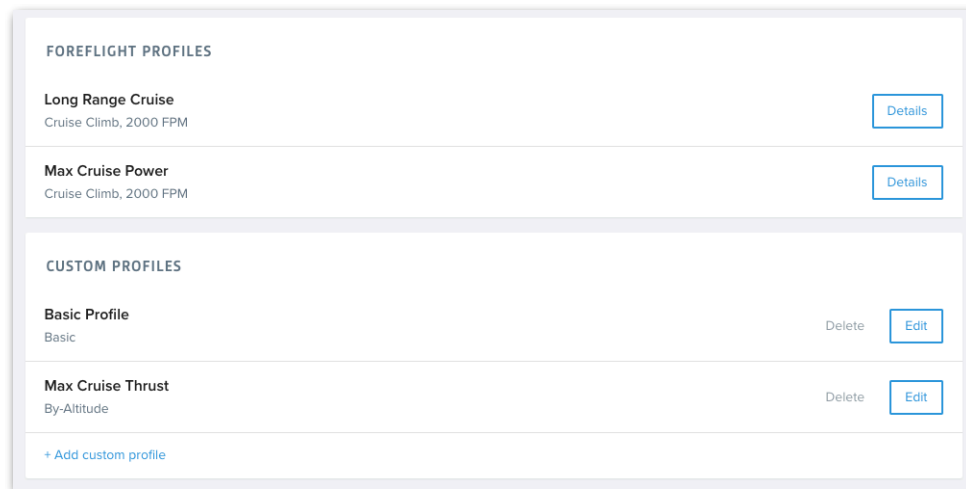
The screenshot displays the ForeFlight web interface for editing an aircraft. The left sidebar contains navigation links: Maps, Flights, Aircraft (selected), Logbook, Track Logs, and Account. The main content area is titled 'N0PC12 - PC-12/47E (PC12)' and includes a 'Default Aircraft' button, 'Copy', and 'Delete' options. The aircraft list on the left shows 'N032T SR22 G3 (SR22)', 'N0495M Challenger 300 (CL30)', and 'N0PC12 (Default Aircraft) PC-12/47E (PC12)'. The configuration form is divided into several sections: GENERAL (Tail Number: N0PC12, Aircraft Type: PC-12/47E (PC12), Aircraft Category: Airplane, Aircraft Home: KTME, Serial Number: Optional, Primary Color: White, Color 2: Optional, Color 3: Optional, Color 4: Optional, Airspeed Units: Knots), PERFORMANCE (4 Performance Profiles), GLIDE PERFORMANCE (Best Glide Speed: 114, Best Glide Ratio: 15.8), ALTITUDES (Default Cruise Altitude: 26,000, Max Ceiling: 30,000), and WEIGHTS (Weight Units: Pounds, Basic Empty Weight: 6,320, Max Zero Fuel Weight: 9,039, Max Ramp Weight, Max Takeoff Weight, Max Landing Weight). 'Reset' and 'Save' buttons are at the bottom right.

The aircraft type field on the right allows you to search for your aircraft by make, model, or type code, and just like in the mobile app, aircraft models with ForeFlight Performance Profiles include variant information beneath the model name and the number of preconfigured profiles below that. Selecting a model with performance profiles will auto-fill the fields for weight, fuel, altitudes, and glide performance. As with the mobile app, be sure to carefully review these data to confirm their accuracy with regard to your own aircraft. You can also enter

4. PERFORMANCE ON THE WEB

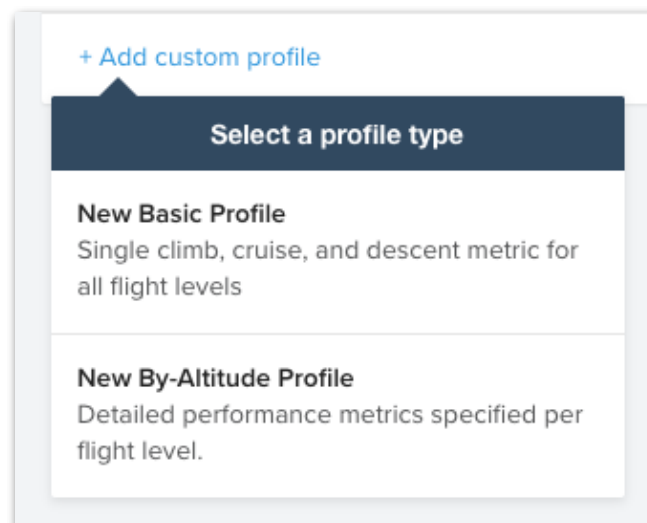
filing, dinghy, and emergency information below that. Click Save in the bottom right after making any changes to save them.

Click Performance Profiles to view the performance profiles configured for that aircraft, and click Details next to any ForeFlight Performance Profile to view the climb, cruise, and descent models, and to access the model adjustment sliders for cruise speed and cruise fuel flow.



4.1.1 By-Altitude Profiles

Click “Add Custom Profile” to see the one major difference between Performance Planning on the mobile app and on the web. In addition to basic profiles, the web interface allows you to create by-altitude profiles for your aircraft. These are useful if a preconfigured performance profile is not available for your aircraft model, as they allow you to input detailed performance data for every altitude in your aircraft’s operational range, offering far greater accuracy than basic profiles.



4. PERFORMANCE ON THE WEB

The performance data you enter here should be available in your aircraft's POH, but you can also use actual performance data collected from real flights if there is a significant difference from the book values.

Enter low- and high-altitude fuel flow data for the climb and descent models, then scroll down to the cruise model table. The minimum requirement is to enter data for the lowest and highest altitudes in the table, the latter being defined by the aircraft's maximum ceiling. Beyond that you can enter data for whatever intermediate altitudes you want. ForeFlight uses a linear scale to calculate performance data for altitudes that you don't fill in, so filling in more altitudes will result in more accurate calculations. For each altitude that you fill in, you must enter values for all five fields; entering partial data for any altitude will result in errors while using that profile for flight planning.

[< Performance Profiles](#)**N0PC12 - MAX CRUISE THRUST**

CRUISE MODEL
Cruise Name
Max Cruise Thrust

Aircraft Max Ceiling (ft)
30,000

Note: Changing max altitude here will update the value for all performance profiles assigned to the aircraft.

PRESSURE ALT (FT)	CLIMB IAS (KNOTS)	RATE OF CLIMB (FPM)	CRUISE TAS (KNOTS)	FUEL FLOW (PPH)	DESCENT IAS (KNOTS)
0'	84	1,500	230	634	79
1,000'	124	1,200	233	625	94
2,000'	148	1,000	235	615	148
3,000'	158	1,000	238	606	187
4,000'	170	1,405	239	597	227
5,000'	167	1,395	241	588	227
6,000'	166	1,380	243	579	227
7,000'	164	1,370	246	572	226
8,000'	162	1,355	248	564	227
9,000'	160	1,345	251	557	227
10,000'	157	1,330	253	550	226
11,000'	156	1,305	256	546	226
12,000'	154	1,285	258	541	226
13,000'	152	1,260	261	537	227

CancelMake DefaultSave

4. PERFORMANCE ON THE WEB

Click Save in the bottom right to save the by-altitude profile. You can then access it during flight planning like any other performance profile.

NOTE: Some aircraft POHs provide different types of performance data in staggered altitude intervals, such as providing cruise TAS and fuel flow for every 2,000', but providing climb and descent IAS and rate of climb for every 5,000'. Since all data fields (columns) for a given altitude (row) must be filled in for it to be valid, the best solution for cases like these is to use a spreadsheet program to manually interpolate the data sets so you can get complete data for each altitude you wish to enter. You can then simply copy the values from the spreadsheet into the by-altitude table.

4.1.2 Manage Aircraft for Multi-Pilot Accounts

Multi-pilot account administrators can manage and distribute company aircraft profiles to all the pilots on an account, allowing for easier aircraft management and reduced setup time for large accounts.

The screenshot displays the ForeFlight web application interface. On the left is a dark blue sidebar with navigation options: Maps, Flights, Aircraft (selected), Logbook, Track Logs, Users, and Admin. Below these are 'Send Feedback' and 'Logout' links. The main content area is titled 'N0E545 - Legacy 450 (E545)' and includes buttons for 'Make Default', 'Copy', and 'Delete'. It is divided into two sections: 'GENERAL' and 'PERFORMANCE PROFILES'. The 'GENERAL' section contains fields for Tail Number (N0E545), Serial Number (Optional), Aircraft Type (Legacy 450 (E545)), Aircraft Category (Airplane), Primary Color (White), Color 2 (Optional), Color 3 (Optional), Color 4 (Optional), Aircraft Home (KAUS), and Airspeed Units (Knots). The 'PERFORMANCE PROFILES' section lists three profiles: Long Range Cruise, Mach 0.76, and Max Speed Cruise, each with a 'Details' link. A green 'Publish' button is located at the bottom right of the main content area.

To set up company managed aircraft profiles as the administrator of a multi-pilot account, sign in to ForeFlight's [web application](#) using your username and password, then click the Aircraft tab on the left-hand nav bar. Select an aircraft that you want to share or set up a new one with the necessary details. At the bottom-right of the page is a green "Publish" button. Click this button to share the aircraft with all users on the account. Once shared, a "Published" tag will

4. PERFORMANCE ON THE WEB

appear under the aircraft in the list view on the left, and the bottom of the page will show the date and time when you published the aircraft.



Any time you make changes to a shared aircraft, “(Unpublished Changes)” will appear in green at the bottom of the page, and a “Publish Changes” button will appear in the bottom-right. The changes will not be shared with users on the account until you publish them. Doing so will update the “Last published” date and time at the bottom of the page.

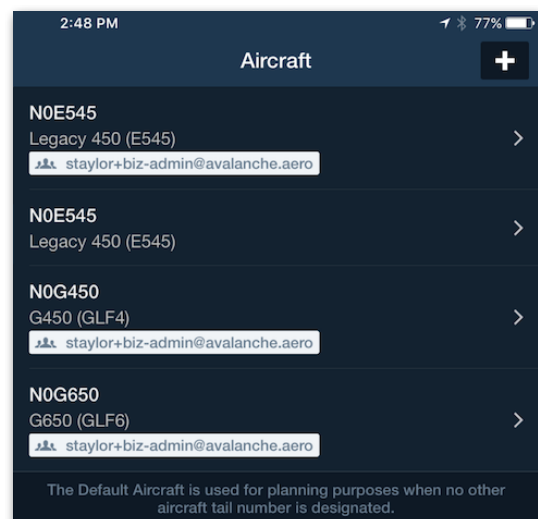


Clicking “Unpublish” will revoke access to the aircraft for all users other than the administrator, and they will no longer be able to see or use the aircraft for flight planning, although a record of the aircraft’s tail number will remain attached to flight plans made with that aircraft.

The administrator cannot delete a published aircraft - he or she must first unpublish the aircraft, then delete it.

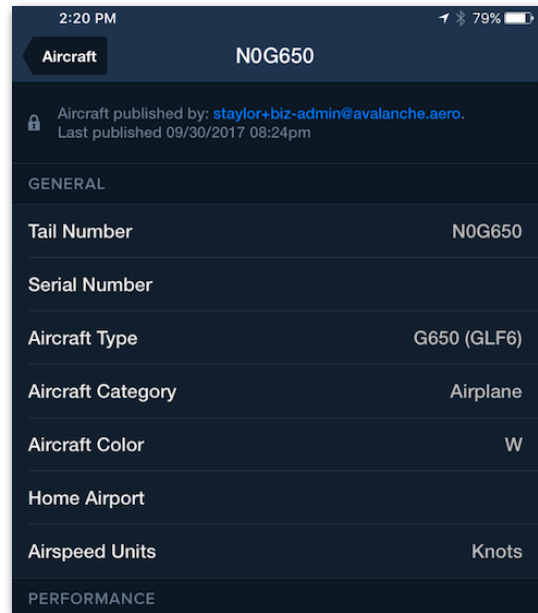
Aircraft that have been published by an account administrator will appear in the Aircraft list’s of all pilots on the account, along with a tag showing the email address of the administrator who published the aircraft. Pilots on the account can view the details of shared aircraft and use them for flight planning as they would their own aircraft, but all details of the aircraft are locked from editing by the pilots, including the performance profiles.

Published aircraft include a message at the top of the aircraft detail view with the email address of the administrator who published the aircraft and the time and date of last publishing. Users can tap the email address to create an email to the administrator.



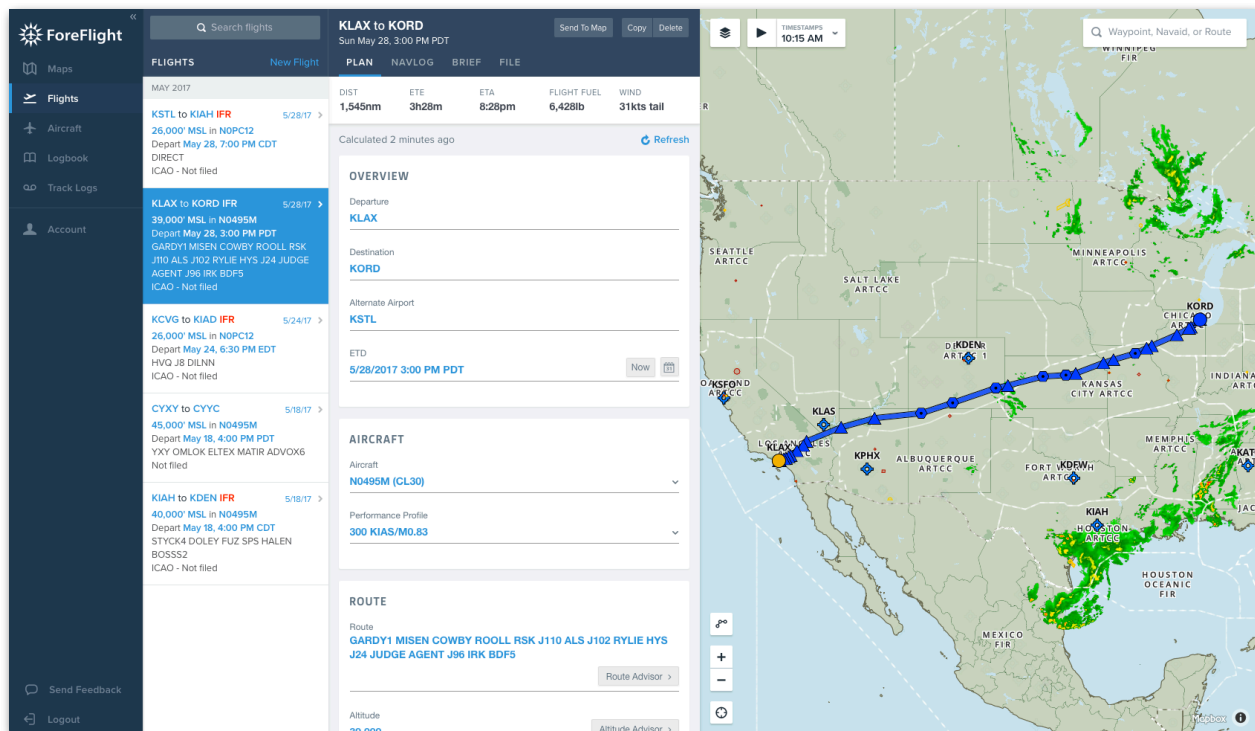
4. PERFORMANCE ON THE WEB

Pilots cannot delete shared aircraft, but they can use the buttons at the bottom of the aircraft detail view to make a shared aircraft the default for flight planning, and to copy a shared aircraft. Copying a shared aircraft creates an identical aircraft profile that they can edit, allowing them to make changes to the aircraft without affecting the original shared aircraft. Copies of shared aircraft are the same in all respects as new aircraft created by the pilot: they cannot be viewed or modified by the account administrator, and changes published to the original shared aircraft will not affect the copy.



4.2 Flights on the Web

In addition to setting up and editing aircraft, ForeFlight on the web allows you to plan flights using the same Performance Performance features that are accessible in the mobile app. Click the Flights tab on the left to edit an existing flight or start planning a new one.



4. PERFORMANCE ON THE WEB

Unlike the mobile app, the web application doesn't make you choose between form-based and map-based planning - the Flights tab on the web includes both the planning form from the mobile Flights view and a fully-interactive map on the right, with the same layer and setting options that you have on the web's Maps tab. Making route changes to either the form or the map will automatically update the other.

As with other aspects of ForeFlight on the web, any flight you create or edit on the web application is immediately synced to all the mobile devices on which you are signed in, allowing you to plan a flight on the web and pick it up seamlessly in ForeFlight Mobile on your iPad or iPhone before departure.

Navlogs and Graphical Briefings can also be created on the web. Click the Navlog and Brief buttons in the page header to view them, and use the refresh button in the bottom left to update them with new information. Click the Send To button in the bottom right to open the Navlog or Briefing in its own tab; from there you can print or save the HTML file by right-clicking on the page and selecting "Print..." or "Save As..." (these labels may vary depending on what web browser you're using).

KLAX to KORD
Sun May 28, 3:00 PM PDT

PLAN NAVLOG BRIEF **FILE**

FLIGHT PLAN TYPE Form Type: **ICAO**

Flight Rules: **IFR**

Flight Type: **G - General Aviation**

AIRCRAFT

Aircraft: **N0495M (CL30)**

Call Sign: Optional

True Airspeed: **476**

Airspeed Units: Required

Number of Aircraft: **1**

KLAX to KORD
Sun May 28, 3:00 PM PDT

PLAN **NAVLOG** BRIEF FILE

KLAX - KORD (May 29, 2017) in N0495M (CL30)

ETE	Distance	Avg Wind	ETD	ETA
3h14m	1545nm	31kt tail	1524Z	1839Z
Flight Fuel	Landing Fuel	Block Fuel	Reserve Fuel	Extra Fuel
7299 lbs	5000 lbs	12449 lbs	1430 lbs	1602 lbs

Route: GARDY1 MISEN COWBY ROOLL RSK J110 ALS J102 RYLIE HYS J24 JUDGE AGE

Waypoint	VIA	BRG	ALTITUDE	CUM TIME	FUEL REM	TAS	GS	WIND
KLAX		-	128	-	12299	0	0	235/003
-TOC-	GARDY1	026	FL390	0h17m	11280	423	432	265/013 (T9)
MISEN	GARDY1	026	FL390	0h19m	11207	471	480	265/013 (T9)
100COWBY	DCT	056	FL390	0h23m	11063	472	485	286/016 (T13)
COWBY	DCT	068	FL390	0h35m	10615	472	483	295/017 (T12)
100ROOLL	DCT	063	FL390	0h38m	10517	473	484	304/017 (T11)
ROOLL	DCT	074	FL390	0h50m	10071	474	485	303/017 (T11)

4. PERFORMANCE ON THE WEB

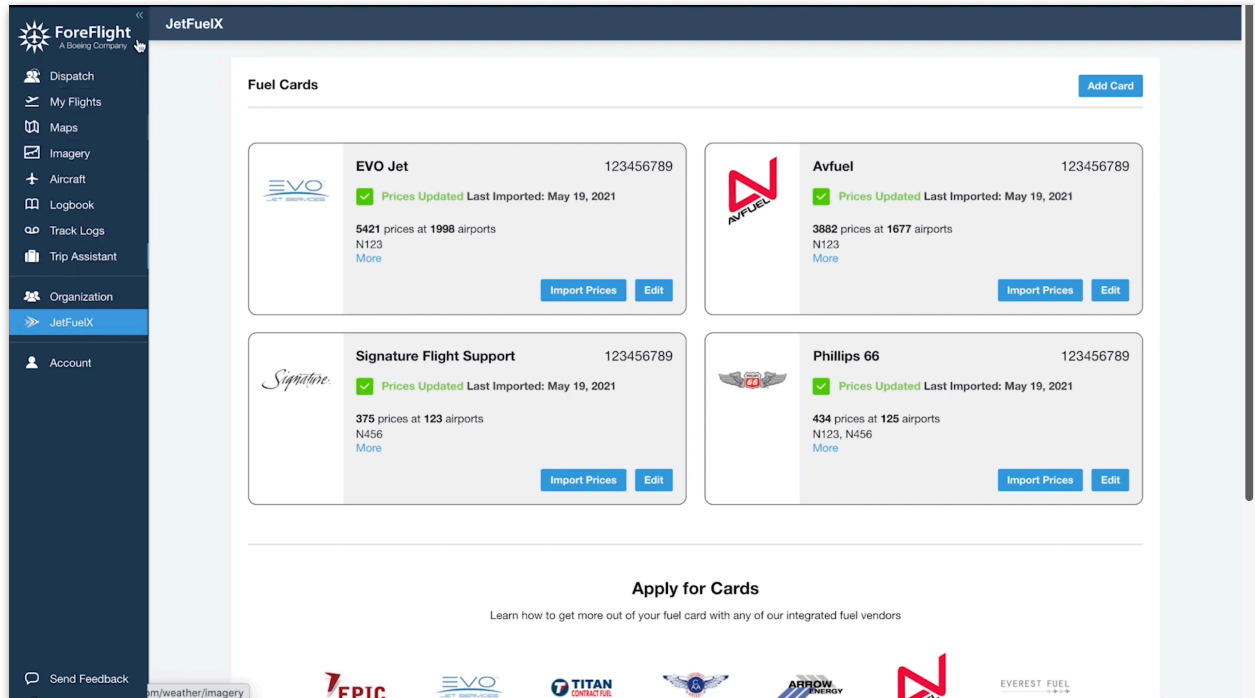
Click File in the page header to move to the filing form. As in ForeFlight Mobile, you will be prompted to update the filing form with new information if you made any changes in the planning form. Once again, all the fields available in the mobile app are on the web as well. If you have “Mobile Flight Notifications” enabled when you file your flight plan, any flight alerts will appear in the [Messages](#) tab in the mobile app.

JETFUELX

JetFuelX is now fully integrated with ForeFlight's Performance Plus and Business Performance subscription plans, and allows you to see contract jet fuel prices inside the mobile app and on the web, and issue [fuel orders and releases](#) to FBOs using fuel cards in your account.

5.1 Setting-up JetFuelX Fuel Cards

Sign-in to your account at <https://plan.foreflight.com> and click on the JetFuelX menu. Click the “Add Card” button in the upper-right to add an existing card, or scroll-down to the “Apply for Cards” section to click one the options to directly apply for one of the available fuel cards.

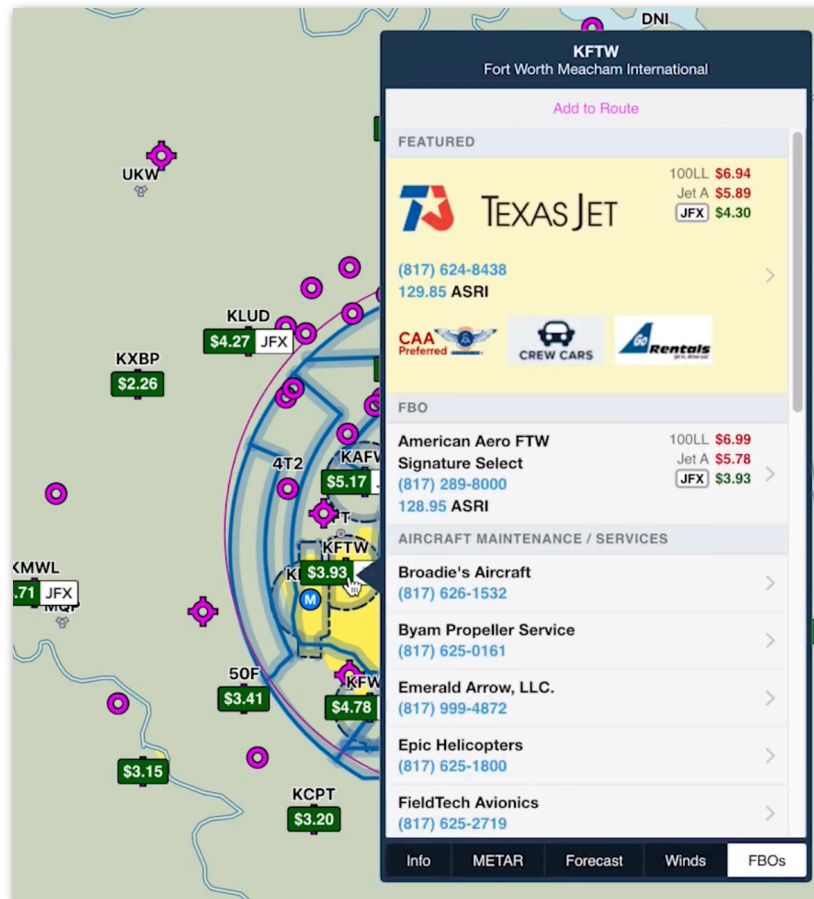


After adding a card, if needed click “Edit” to update information and assign aircraft to the card.

5. JETFUELX

5.2 Viewing JetFuelX Prices in ForeFlight

After setting-up your fuel cards you will be able to view JetFuelX prices inside ForeFlight by enabling the Jet A map layer.



NOTE: Due to how ForeFlight retrieves and caches fuel prices, it may take up to an hour for JetFuelX prices to appear in the app if you viewed the Jet A map layer shortly before linking the accounts. You can tap the timestamp in the upper-left corner of the map to see when prices were last retrieved - after one

Airports with FBOs offering contract fuel based on your fuel card memberships will include a “JFX” label in addition to the price, and the price shown will reflect the lowest contract price available from any FBO or vendor at that airport. Tap on a price marker to view a summary of the FBOs at that airport - JetFuelX prices are shown next to each FBO offering them, beneath the retail prices for 100LL and Jet A. Tap on an FBO to see a more detailed breakdown of the fuel offerings, including retail and contract Jet-A+ prices, if the FBO offers them.

5. JETFUELX

An FBO offering contract fuel will also have a JetFuelX tab in addition to the Info, Photos (if the FBO has uploaded any), and Comments tabs. This allows you to specify your aircraft and fuel amount for the flight - the aircraft shown here come from your JetFuelX account and are not associated with any aircraft in ForeFlight. Below this are Jet-A prices and price tiers for each vendor offering contract fuel based on your memberships. Make sure to check the dates above each price tier to see when those prices were valid - fuel vendor prices manually imported to JetFuelX in a CSV file will not update automatically and so may not reflect current prices. Tap the “i” button next to a fuel vendor to see any notes with additional information about pricing details or other important charges, as well as miscellaneous information.

Info	JetFuelX	Photos	Comments
Aircraft		N00FFM >	
Fuel (Gallons)		150	
JET-A PRICES (\$5.39/gal retail)			
\$2.73/gal CAA		Price Tiers (on 2/5/17): 1-500 gal: \$2.73/gal 501-1,000 gal: \$2.73/gal 1,001-1,500 gal: \$2.63/gal	
\$2.94/gal EVO Jet		Price Tiers (on 5/23/17): 1-100 gal: \$3.00/gal 101-500 gal: \$2.94/gal 501-64,111 gal: \$2.89/gal	

JetFuelX prices are also available in ForeFlight on the web, and are accessible in the same way as the mobile app. Turn on the Fuel: Jet A layer to see which airports offer contract fuel, and click any of the markers to see prices from each FBO and price tiers for each fuel vendor.

5. JETFUELX

5.3 Importing Fuel Prices

Click the Import Fuel Prices button on any fuel card to manually import a CSV file of fuel prices. This page also includes a unique email address to which you can forward emails containing your fuel price CSV files to be imported into your account automatically.

IMPORT PRICES
Last Price Import: Jul 21, 2021



Import File

Drop your CSV price file here
— or —
[Select it from your files to import](#)

Send via Email

Send or forward any emails containing fuel price CSV files to the address shown to import the prices to your ForeFlight account.
For a set-it-and-forget-it solution, consider setting up automatic email forwarding through your email client.

@fuel.jetfuelx.com

Copy

CHANGE HISTORY

Version	Date	Change Summary
14.0	February 2022	• Revision to organization and formatting.
13.7	August 2021	• Apply Bias to All Climb/Descent Profiles button added
13.5	June 2021	• Runway Analysis Engine Out Procedures Preview includes a map preview of the ground tracks of available engine-out procedures (EOPs), along with the EOP textual instructions. • JetFuelX integration with ForeFlight's Performance Plus and Business Performance subscription plans.
13.1	February 2021	• Runway Analysis calculations for a certain jets. • Runway Analysis includes Obstacle Analysis • Multiple options for Engine Out Procedures (EOP), Landing Factors, and Emergency Return analysis.
12.3	April 2020	• Flight planning to select a desired ETA and have the app calculate the required ETD
11.9	October 2019	• Takeoff & Landing Performance calculations include a per-aircraft Safety Distance Factor
11.4	May 2019	• Added integrated Takeoff & Landing Performance calculations. • Flights Navlog enhancements,

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ForeFlight

A Boeing Company

ForeFlight, LLC
2323 S Shepherd Dr, Houston, TX 77019
www.foreflight.com