



iGoDispatch

JRollon's CRJ-200

iPad

WARNING

This application must not be used for real flight planning, aviation or navigation purposes.

All calculations performed by this application are based on navigation data provided by Aerosoft. Navdata provided by Navigraph is also compatible.

This application may contain bugs and may not perform as expected or promptly at all times.

The developer of the application declines any responsibility that may be caused by any use of the application under any circumstances other than X-Plane flight simulation.

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PREAMBLE

CRJ-200 is a simulation plane model developed by JRollon specifically for X-Plane. iGoDispatch CRJ-200 (hereinafter referred to as the Application) is an iOS application that helps you create a flight plan; estimate the required amount of fuel for your flight; load the plane with passengers, cargo and fuel; calculate various plane parameters, such as %MAC and Center of Gravity offset; track the flight on a map; dynamically adjust some of the plane's parameters (e.g. the current Center of Gravity); and monitor your flight performance. It also includes inflight public announcements in several languages.

IMPORTANT! In order to perform certain functions, the application must be connected to the flight simulator over the TCP protocol using the iGoConnect plug-in for X-Plane. Visit the following webpage to download the plug-in, read all documentation, and obtain a link to the support page:

http://igoapp.ca/page_igoconnect/igoconnect.html.

We will create a flight plan from Toronto Pearson International Airport to Miami International Airport with an alternate airport in Fort Lauderdale. Note that this flight plan is too long for CRJ-200 and is used for this tutorial only.

Our flight plan will be as follows:

CYYZ BETES1 AIRRA Q103 PSK CAE J51 SAV J103 OMN HILEY6 KMIA

iGoConnect

iGoConnect is a plugin for X-Plane flight simulator. iGoConnect (hereinafter referred to as the Plugin) acts as a server that connects X-Plane to iGoDispatch over TCP. The Plugin performs the following actions:

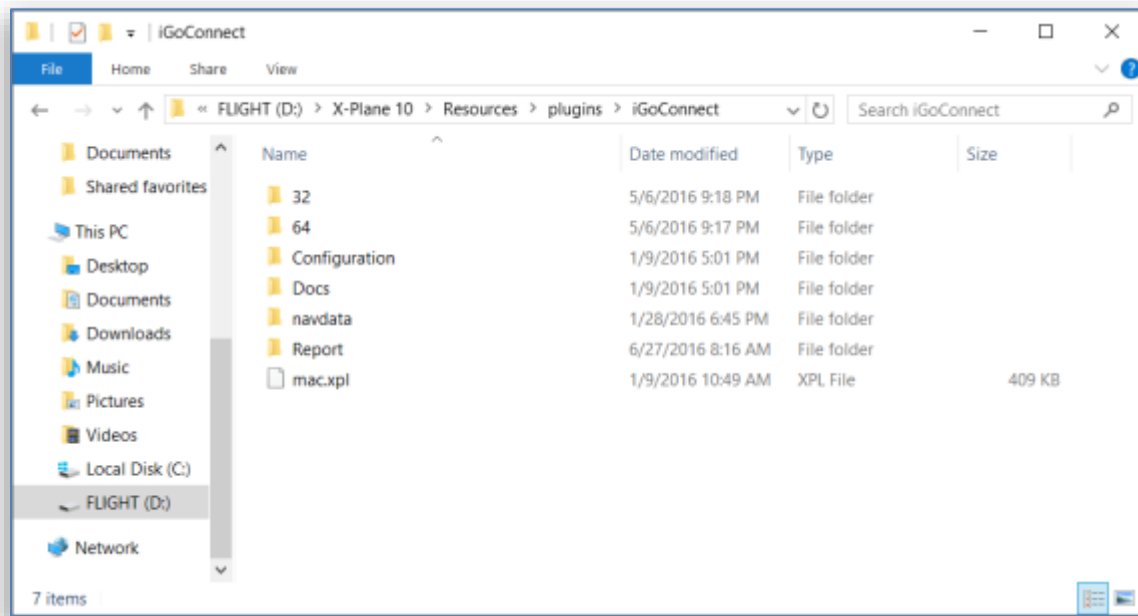
- The Plugin receives loading data from the Application (Center of Gravity offset, payload weight, and fuel weight) and loads the plane by changing the relevant datarefs in X-Plane.
- The Plugin sends to the Application a range of X-Plane datarefs (ACARS data), such as the plane's position (latitude and longitude); heading (true and magnetic); weight; available fuel; current fuel flow; ground speed; and altitude. In return, the Application sends back to the Plugin estimation of time and distance taking into account available fuel, %MAC, and the current CG offset.
- The Plugin dynamically adjusts the current CG offset received from the Application during the flight resulting in greater flight realism.
- The Plugin monitors the main flight parameters, such as G-force, turbulence, maximum speeds, lights, flaps, gear, etc., and determines if any of them have been violated or exceeded. It then creates a Flight Performance Report and sends it to the Application.

Install iGoConnect Plug-in

The Plugin is a so-called fat plugin, i.e. it includes all necessary files inside one folder called iGoConnect. In order to install the Plugin, perform the following:

1. Download the file iGoConnect_vX.X.zip from either website:
 - http://igoapp.ca/page_igoconnect/igoconnect.html
 - <http://forums.x-pilot.com/files/file/707-igoconnect/>
2. Unzip and move the **iGoConnect folder** to the following location:

- Your X-Plane 10 folder\Resources\plugins\



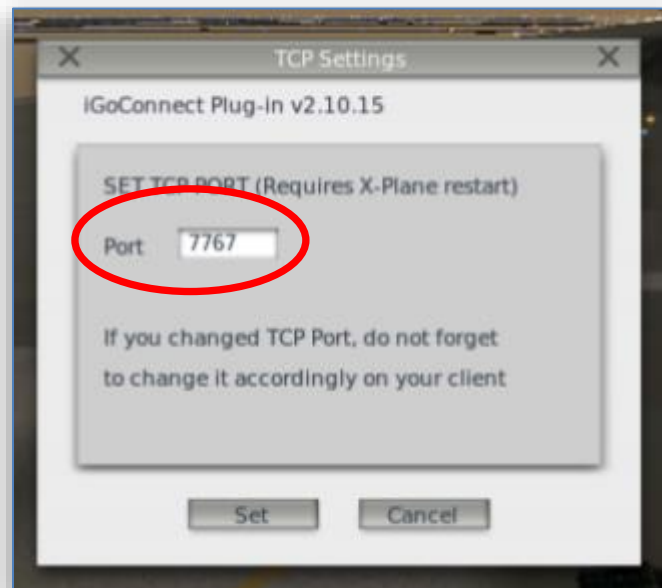
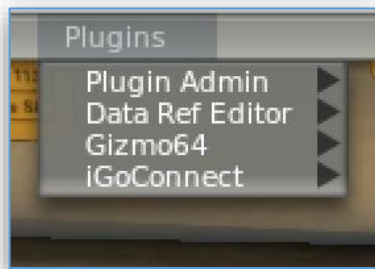
3. Make sure the Plugin folder includes the following subfolders:

- 32 – contains the 32-bit plugin files for Windows and Linux;
- 64 – contains the 64-bit plugin files for Windows and Linux;
- mac.xpl – plugin for Mac 32-bit and 64-bit;
- Configuration – contains the following configuration files:
 - preferences.cfg – stores the value of IP Port and other information;
 - planedata.cfg – stores plane technical characteristics used to monitor the flight performance, such as Vmo|Mmo, Flaps limitation speeds, VLE,VLOE, VLOR, Maximum Ramp Weight, Maximum Takeoff Weight, Maximum Landing Weight;
- Docs – contains License Terms, Manual, and other documents, if available;
- navdata – contains a navigation dataset from Aerosoft or Navigraph;
- Report – contains performance files that are passed to the Application to create a performance report;

How it works

The interface of the Plugin is extremely easy. In fact, you do not need to do anything. By default, both the Plugin and the Application have the same Port – 7767. You only need to modify its settings if, for some reason, you want another port assigned to the TCP connection.

In this case, go to the Plugins tab in X-Plane, select iGoConnect and in the opened TCP Settings window type the new TCP Port. Click on Set and restart X-Plane. Do not forget to change the Port value in the Application.



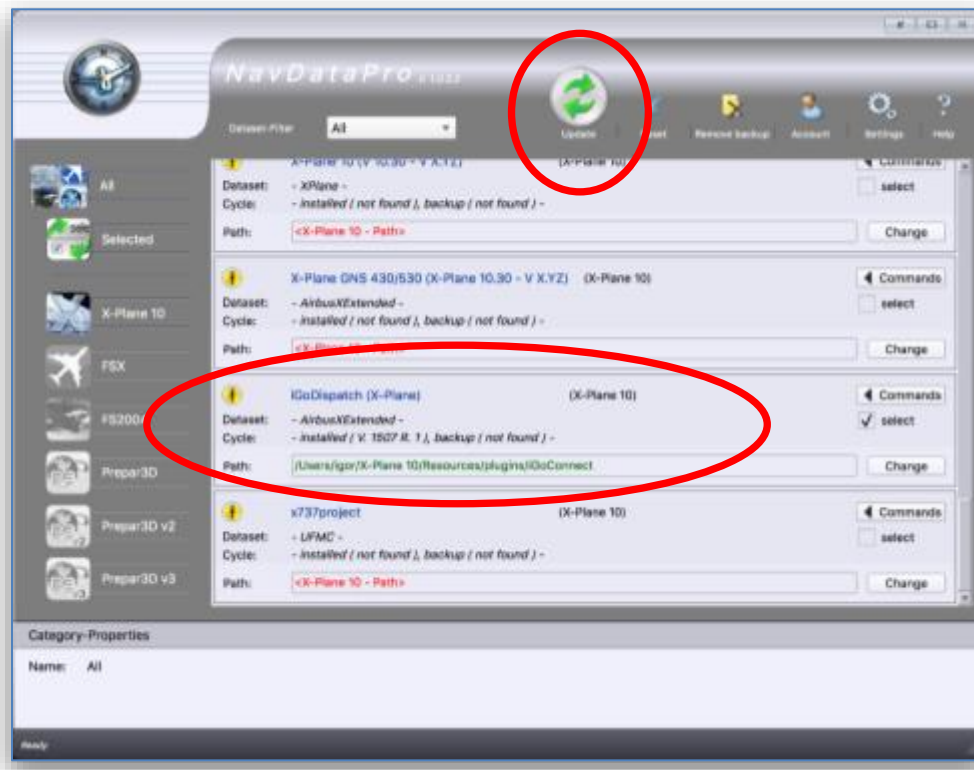
IMPORTANT!

If you have problems connecting the iGoDispatch application to the computer with X-Plane running, refer to Section “Troubleshooting Your Connection Problem”.

Update NavData

The Plugin comes with the default navdata from Aerosoft. It is possible (and recommended!) to update the dataset either using navdata from Aerosoft or Navigraph.

Updating Aerosoft navdata



1. Open the NavDataPro application;
2. In the X-Plane 10 tab, find **iGoDispatch (X-Plane)**.
3. Change the path to point to the location where the iGoConnect plugin is located.
4. Check the Select box and click on the Update icon.
5. Click on Download to download and install the updated navdata.

Updating Navigraph navdata

Wico A320 PIC for FS2002	No	2016-07-19	1	3.52 MB	Download
Wico CRJ Next Generation	Yes	2016-07-19	1	19.90 MB	Download
Wico Falcon7X	Yes	2016-07-19	1	9.12 MB	Download
Wico/Feathere 737/777, Legacy, Airbus Series	Yes	2016-07-19	1	19.71 MB	Download
Wico/Feathere CRJ	No	2016-07-19	1	4.73 MB	Download
World Traffic 2.0 (and above) - native**	Yes	2016-07-19	1	17.60 MB	Download
x737FMC - native**	Yes	2016-07-19	1	14.81 MB	Download
X-FMC 2.5 (and above) - native**	Yes	2016-07-19	1	16.33 MB	Download
X-Plane 10.30 (and above) - native**	No	2016-07-19	1	5.47 MB	Download
X-Plane GNS430, 777 Worldliner (Ext/Prof), Flightfactor B757 Professional, VMAX B767-300ER Professional, X-Crafts Embraer E-175 - native**	Yes	2016-07-19	1	14.53 MB	Download

* Contrary to other FMS Data files, access code are limited in time. An access code will enable use of the current AIRAC cycle during the current and the following cycle.

** A "native" version of a download is identical to the regular download, but there is no installer program. The data is provided in a ZIP file which needs to be extracted manually in the correct folder. This version is only recommended for advanced or non-Windows users.

Access to the data is determined by your **subscription** start date and end date, which is printed on your receipt. NOTE: We never provide access to previous cycles, neither data files nor access codes, and regardless of your previous purchases. We only keep the current cycle on the server, and if you have an active subscription, you may download.

1. Login to <http://www.navigraph.com>;
2. Go to **Products -> FMS Data -> Manual Install**;
3. Find FMS data for **"X-Plane GNS430, 777 Worldliner (Ext/Prof), Flightfactor B757 Professional, VMAX B767-300ER Professional, X-Crafts Embraer E-175 - native**"**
4. Click Download.
5. Unzip the downloaded file.
6. Copy the folder **"navdata"** in the unzipped file and paste it in **[X-Plane 10 folder]/Resources/ plugins/iGoConnect/**.
Replace the folder when prompted.

iGoDispatch

Set your IP Address and Port

Planning your flight requires that TCP connection be established via Wi-Fi with X-Plane through the iGoConnect plugin. Always make sure that the latest version of the Plugin is installed in X-Plane.

First, identify the IP address of the computer where X-Plane is installed. Refer to PC, Mac or Linux documentation to learn how the IP address can be identified. Enter the IP address in the textboxes.



For the TCP connection to be established, you also need to identify the Port number. The default port number for the Application is 7767 (displayed on the Application as “AUTO”). If any of your other programs already use this port, you may change it. If you change the port, make sure that the same port number is set on both the Application and the Plugin. Changing the port in X-Plane requires restarting the simulator.

Inflight Public Announcements and Units of Measurement


The Application includes an option to have inflight public announcements during the flight. To enable the option, move the Inflight Announcements switch to the On position. You may also select the language of the announcements by tapping on the **Language** button and selecting a language from the list. It is possible to change languages during the flight.

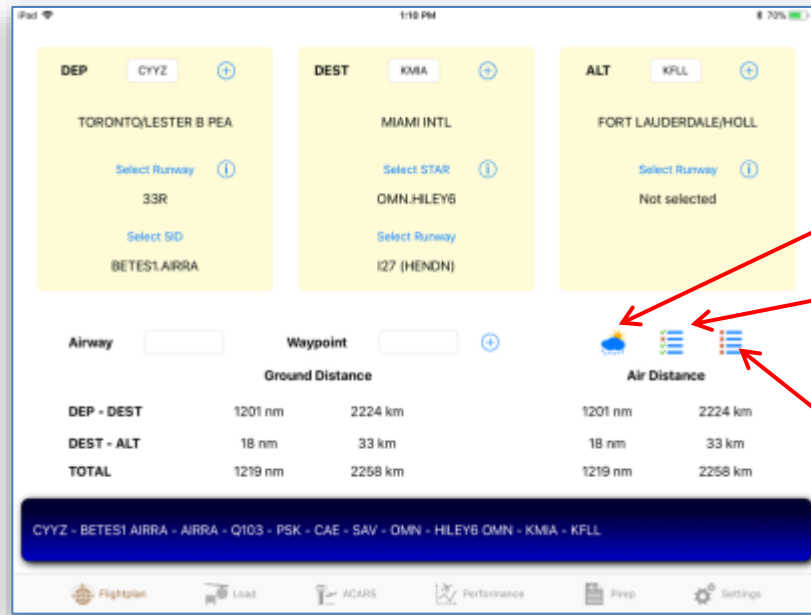
IMPORTANT! The ACARS connection with X-Plane is required for the inflight public announcements to work. If the Application is disconnected from the simulator, the announcements will be disabled even if the switch remains in the On position. Refer to section “ACARS” regarding establishing the connection.

You may also select the Units of Measurement displayed in the Application by selecting Metric or Imperial units using the Units switch. Metric units are selected by default.

The Settings panel also contains links to the support information for the Application, as well as the Terms and Conditions.

Enter Departure, Destination, and Alternate Airports

Go to the **Flightplan** tab and enter your airports. Type in the ICAO code for each of the airports and tap on button . **Make sure that X-Plane is running on your computer** to be able to extract navigation data for the airports and waypoints. Entering the alternate airport is optional.



METAR and winds aloft

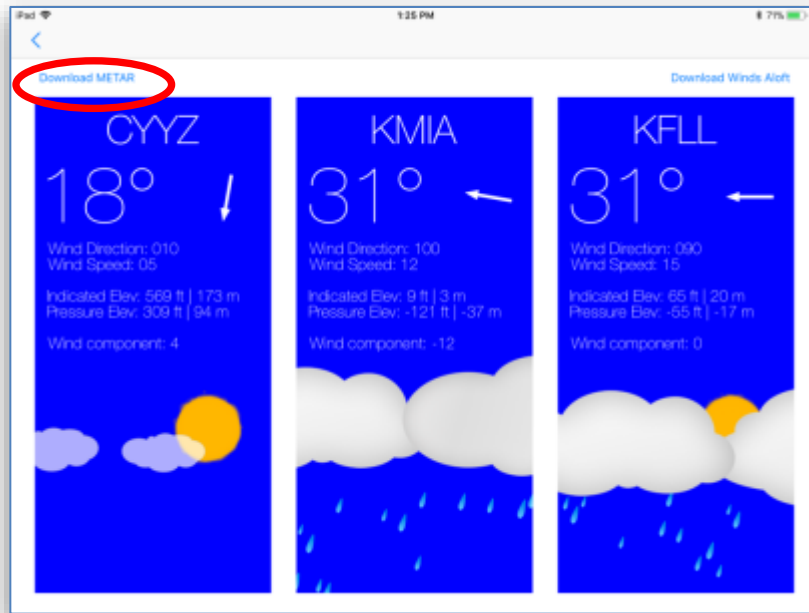
Edit flight plan

Erase flight plan

METAR reports


Once the airports have been entered, we need to provide with the SID, STAR, and the runways that we will be using. Our runways will be selected based on the current METAR information from the National Oceanic and Atmospheric Administration website (www.noaa.gov). Go to the

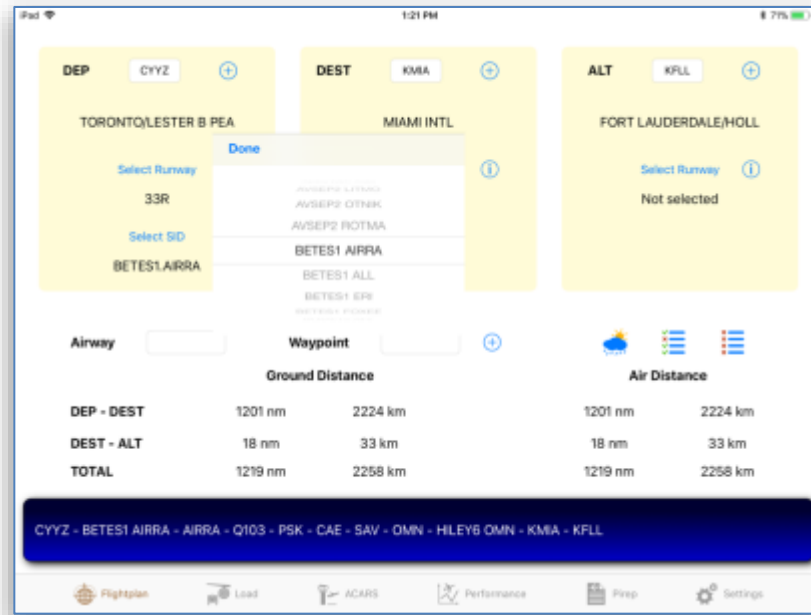
Metar panel by tapping on button  and click on **Download METAR**.



The individual panels for each airport will display the temperature, current winds information, indicated and pressure elevations, and wind component. Since we have not selected the runways yet, the wind component in our case is still 0.

Departure and Arrival Procedures

Tap on button  to go back to the **Flightplan** tab. Tap on **Select Runway**, choose the take-off runway, and then select your SID.



Select your STAR and arrival runway by tapping the corresponding button.

IMPORTANT! Entering Departure data requires that a runway be selected first followed by SID. The order of entering data for the Destination airport is different: selection of a runway follows choosing a STAR. Unless a Departure runway and a STAR are selected, your SID and destination runway cannot be selected. Your flight plan is updated only when all components are picked (i.e., the STAR and Approach information is not added to the flight plan unless the destination runway is selected).

Go back to the **METAR** panel. Our wind component for each of the airports has changed.

You may check the full METAR report by tapping once on any of the METAR view rectangles.



Waypoints and Airways


Waypoints and airways can be entered in the corresponding textboxes. It is not mandatory to enter an airway. If your next waypoint is a direct leg to the next waypoint, leave the airway textbox blank. Do not write “DIRECT”.

However when you have an airway, you **must** include the destination waypoint within your airway. If the waypoint is not identified as part of the airway, the airway will be not be added to the flight plan.

If the original and final waypoints within the same airway are located next to each other (no other waypoints in between), the application currently removes the airway name and treats it as a DIRECT leg from one waypoint to another. This will be revised in future releases.


If navdata includes more than one waypoint with the same name, a list containing all of these waypoints will be displayed so that the required waypoint can be selected. The waypoint closest to the last point in the flight plan will be displayed first and pre-selected.



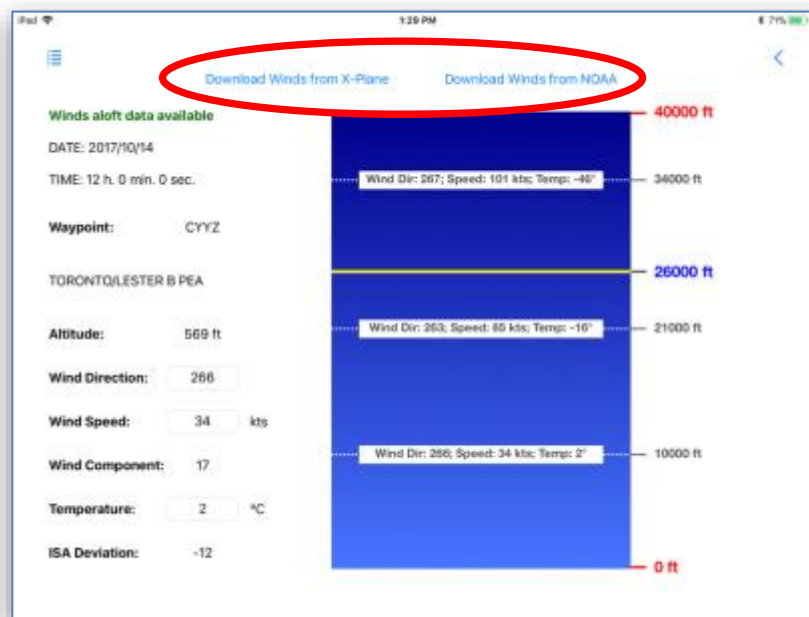
Once completed, the flight plan can be reviewed or edited by tapping on button . Click **Edit**, select the waypoint that you want to delete and click **Delete**.



Winds Aloft

Tap on button . There are three ways to manage winds aloft data in the application: the data may be downloaded from the National Oceanic and Atmospheric Administration (NOAA) servers; the data may be downloaded from X-Plane (useful when custom winds are set by the pilots); and the data may be manually edited in the application for each waypoint in the flightplan.


Tap on **Download Winds Aloft Data from NOAA** to download the current winds and temperatures information from the NOAA servers. The information is downloaded for three altitudes: 10000 feet, 21000 feet, and 34000 feet. Temperature, winds speed and direction are then interpolated for each waypoint in the flightplan based on its altitude. If the plan has been modified (for example, a new waypoint or an alternate airport have been added), the winds data will be erased; it must then be downloaded again. This does not apply to selecting or modifying SIDs and STARs.

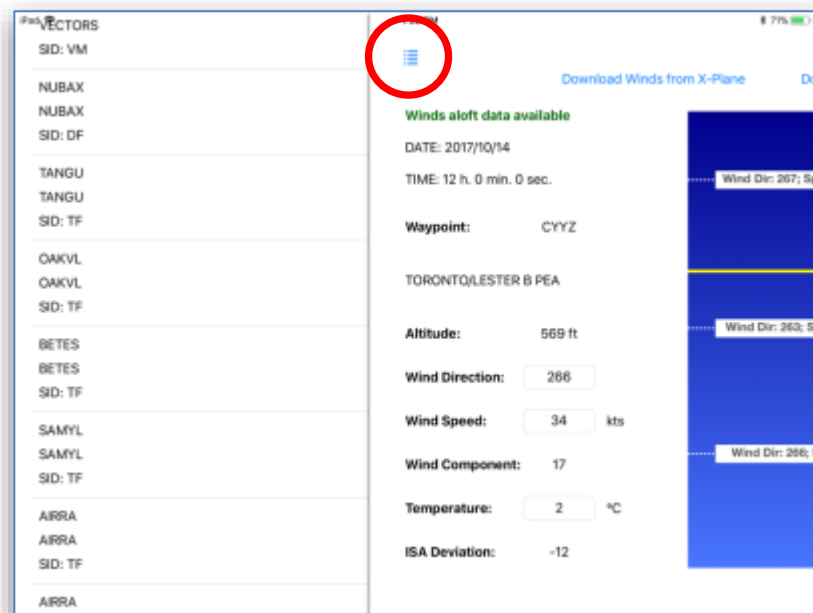


Tap on **Download Winds Aloft Data from X-Plane** to download the current winds information from X-Plane. Similar to the data downloaded from the NOAA servers, winds information from

X-Plane is also available for three altitudes and is interpolated for each waypoint in the flightplan based on its altitude. Wind direction and speed, as well as the altitude level can be modified directly in X-Plane. The X-Plane data does not include temperatures at the selected altitude; therefore the ISA Dev will not be calculated in this case.

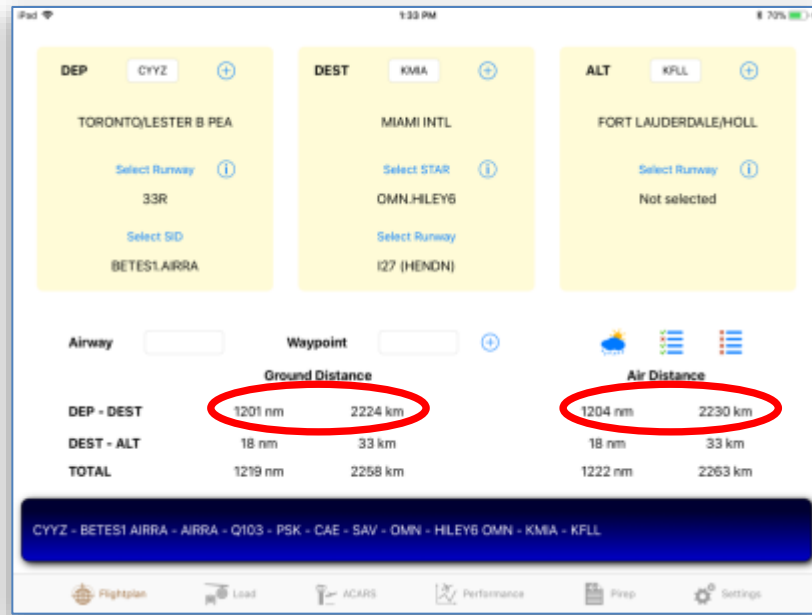
Once winds aloft data have been downloaded, the application will also display date and time when these data were acquired.

Tapping on button  allows you to see detailed winds information for every waypoint in your flight plan.




Wind direction, speed, and temperature can also be manually edited for each waypoint in the flightplan. The edited information will be applied only to the selected waypoint.


Downloading winds aloft data results in recalculating your flight distance and presenting the air distance where wind component for each leg of your trip is taken into account. The air distance will be used to calculate the required trip fuel and time. If neither wind direction nor speed is entered, the air distance will equal the ground distance.



Other Flightplan Tab functions

Obtaining detailed information about the selected runways can be done by tapping on button  next to the **Select Runway** button. Information includes the runway heading, length, width, elevation, and ILS. My understanding is that the surface type information is not accurate in the provided navdata datasets, so this can be disregarded.

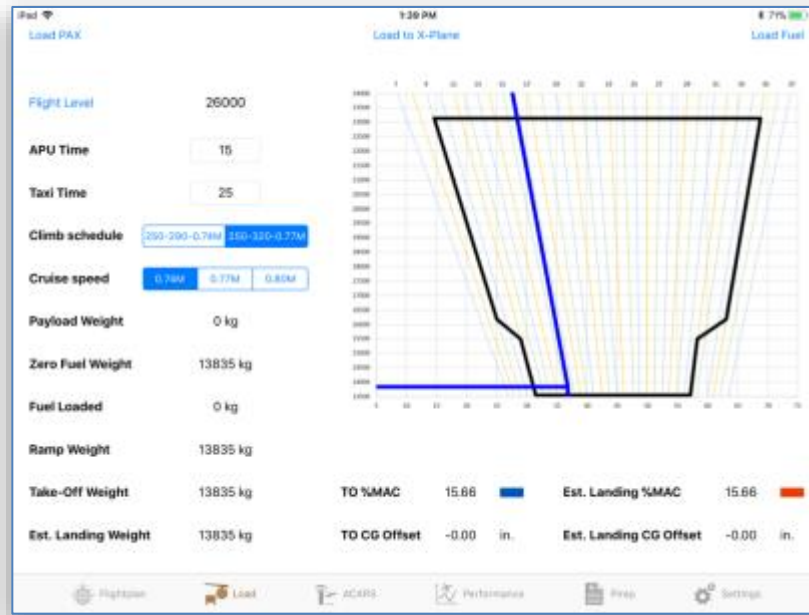


Deleting the flight plan can be done by tapping on button  .

IMPORTANT! Once the flight plan has been deleted, all related information including the route and METAR will be permanently removed.

Loading Plane

The **Load** panel allows you to load the plane with passengers and/or cargo and calculate your payload weight, Zero Fuel Weight (ZFW), ramp weight, as well as the plane weight and Center of Gravity (CG) during takeoff and landing. The panel also calculates the required fuel and allows you to load fuel to the plane by passing the data to X-Plane.



You may select your Climb schedule and Cruise speed for more precise fuel and time calculation. The tab also displays detailed information about your weights (payload, zero fuel weight, ramp weight, as well as estimated take-off and landing weights), and center of gravity.

Load Passengers and Cargo

There are two ways to load your passenger plane. The first way is to click on a seat where you would like to have a passenger seated. Tapping on a button once will select a male (weight of 200 lbs. per person), twice – a female (179 lbs.), three times – a child (82 lbs.), and four times – an empty seat again.

The other way to load passengers is to move the slider under the image of the plane. As the slider is being moved, the application randomly selects the seats and passengers.

When you load the plane with passengers, the cargo compartment is also automatically adjusted – the weight of luggage is added. You may increase or reduce the cargo weight by dragging the cargo slider.



The application displays the number of passengers and their weights in each of the four passenger zones, the total cargo weight, empty weight, total payload weight, and zero fuel weight.

The panel also displays the estimated Take-off MAC% which is automatically adjusted while you load passengers or cargo. If the estimated MAC% is outside of allowed limits, it becomes highlighted in red.

Load Fuel

The application estimates the required fuel taking into account the following:

- Fuel required for taxi and ground APU;
- Trip burn fuel – fuel required for flying from Departure to Destination;
- Contingency fuel – usually 5% of the trip burn fuel;
- Final reserve fuel;
- Fuel required for flying from Departure to Alternate.

Select how much fuel you would like to load by moving either the left, right or center slider representing fuel tanks. Changing any of the wing sliders automatically adjusts the other wing slider. Alternatively, fuel may also be loaded manually. Enter the amount of fuel (in pounds or kilograms) in the corresponding textbox.



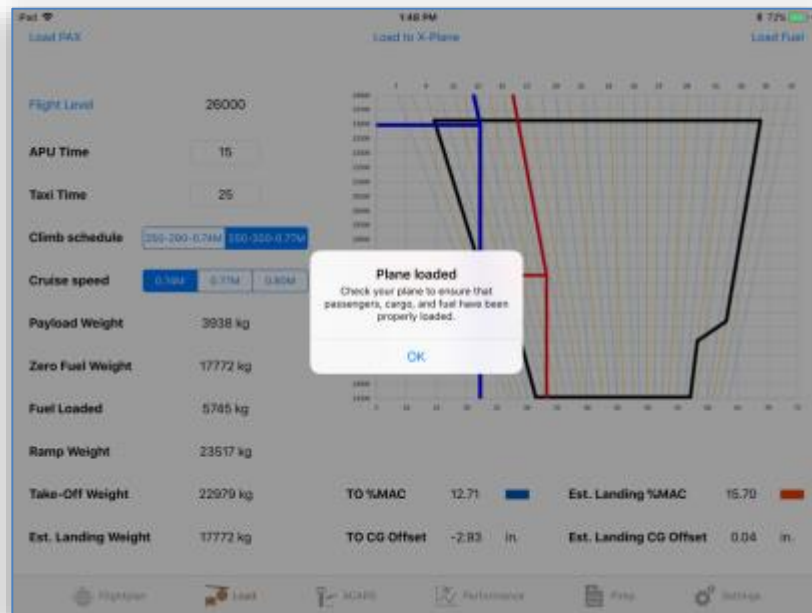
Amount of fuel impacts the center of gravity of the plane. As in the case with loading passengers, the Application estimates the take-off MAC% with the current fuel load.

Parsing Load Information to the Plane

Go back to the Load Panel and tap on **Upload to X-Plane** button to parse the estimated take-off center of gravity offset, as well as the payload and fuel weights to X-Plane.



Once the passengers, cargo, and fuel have been loaded and the CG offset has been adjusted, the Application will display a Notification message.

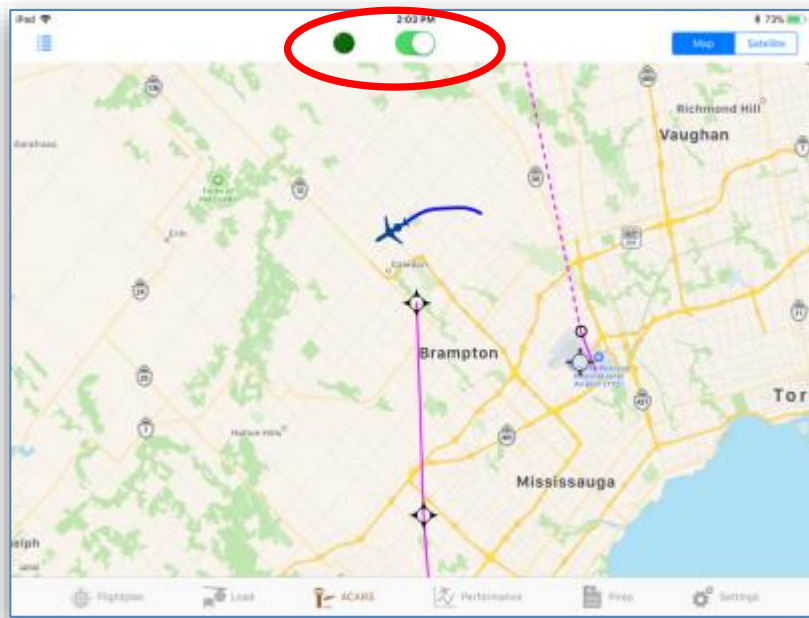


ACARS

The **ACARS** panel displays the current flight information and tracks the position of your plane on the map. The most recent version of iGoConnect must be installed in X-Plane for correct sharing of data between the Application and the simulator.


The Map-Satellite selector allows you to switch to the Satellite image of the area.

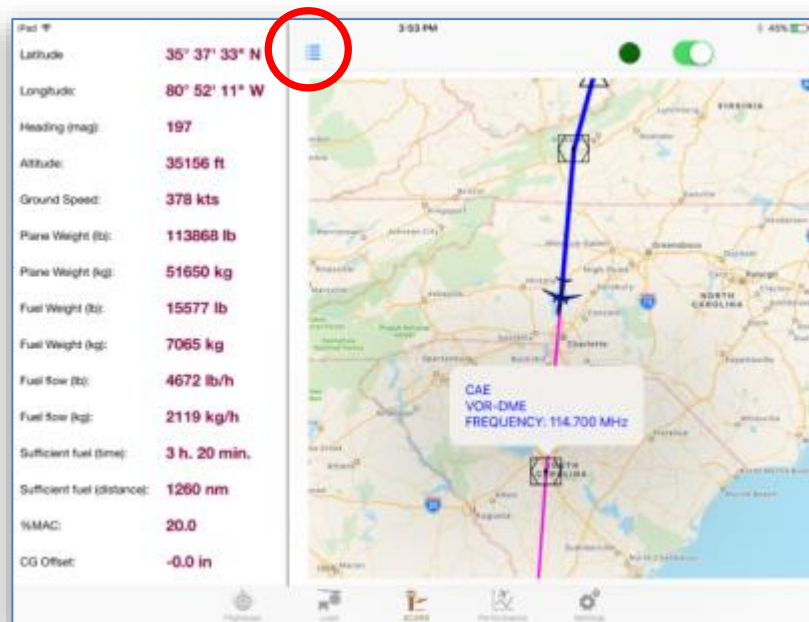
IMPORTANT! By default, the Application is not connected to X-Plane. When you upload the flight plan to FMC, download winds aloft data or pass the weight and CG information to the simulator, a temporary connection is established only for the duration required for sharing the data between the server and the client. In order to receive the ACARS data on the panel, the permanent connection with X-Plane must be set by moving the connection switch on top of the panel to the On position. Once the connection is established, the panel light will change from red to green.



The following data will be transmitted to the Application:

- Current position of the airplane (latitude and longitude);
- Heading (true heading is used to display the plane image on the map and the magnetic heading is displayed for your information);
- Current total plane weight (in pounds and kilograms);
- Fuel weight and flow (in pounds and kilograms per hour);
- Ground speed (in knots);
- Remaining time and distance at the current fuel flow;
- Current altitude (in feet);
- Current %MAC and CG offset.

Tap on button  to open the menu with these parameters.

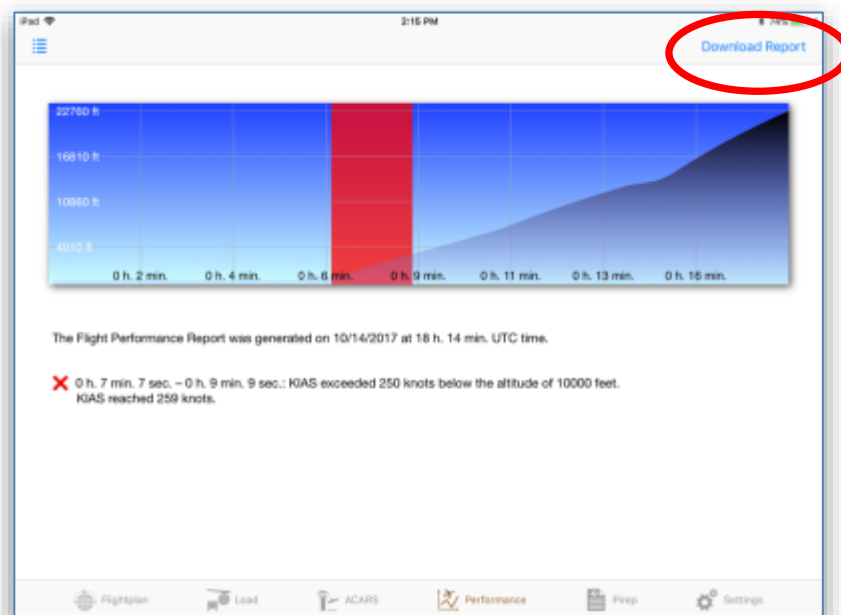


The CG data (%MAC and offset) are dynamic values, i.e., they are constantly changing during the flight as CG is dependent on the weight of fuel. The application re-calculates the current CG offset and dynamically adjusts this value in X-Plane, which results in more flight realism.


Flight Performance

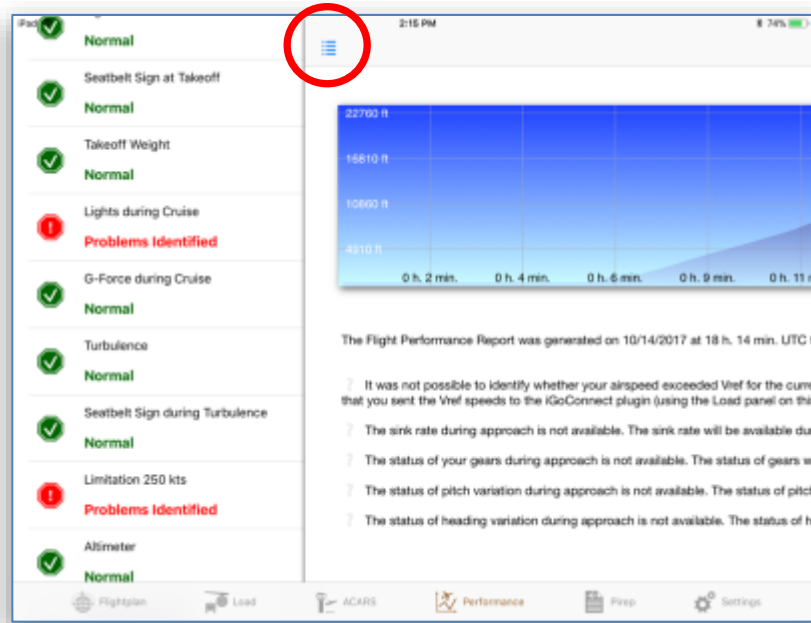
The **Performance** panel allows you to assess your flight performance based on over 30 parameters. The Plugin must be installed in X-Plane. Tap on the **Download Report** button.

IMPORTANT! Download your performance report **BEFORE** exiting from your flight or closing X-Plane. As soon as the flight has been reset (e.g., a new plane has been loaded after your flight) or you have closed X-Plane, the performance report will be reset to a new flight and all data pertinent to the previous flight will be erased.



The option to save the previous reports is not available at this time so your old report will be deleted.

Tap on button  to open the menu with performance information and select a parameter. The application will display problems identified, if any. The time when the problems occurred will also be presented on the chart.



PIREP

The PIREP panel displays various values relevant to your flight calculated by the Application during the flight preparation process. It is a convenient way to see the basic flight information in one place.

The panel displays pressure altitude and altimeter at the departure, destination, and alternate airports; ground and air distances between the airports; and estimated flight time. The panel presents altimeter both in hPa (hectopascal or millibar) and inches of mercury.

The panel displays required and loaded fuel, as well as the estimated plane weights.


		PRESS ALT:	ALTIMETER:		GROUND DISTANCE:		AIR DISTANCE:		FLIGHT TIME:	
DEP:	CYYZ	309 ft	30.18 Hg	1022 hPa	1201 nm	2124 km	1204 nm	2230 km	2 h, 53 min.	
DEST:	KMA	-121 ft	30.05 Hg	1018 hPa	18 nm	33 km	18 nm	33 km	0 h, 13 min.	
ALT:	KFLL	-55 ft	30.04 Hg	1017 hPa	TOTAL: 1219 nm 2258 km		TOTAL: 1222 nm 2263 km		3 h, 7 min.	
FUEL TOTAL REQUIRED:		17013 lb	7717 kg		FUEL TOTAL LOADED:		12665 lb		5745 kg	
TAXI&APU:	1157 lb	BURN:	12412 lb	CONTING:	622 lb	FINAL RES:	2150 lb	ALTERNATE:	642 lb	
WEIGHT:	PAX:	6562 lb	2976 kg	CARGO:	2119 lb	951 kg	PAYLOAD:	8681 lb	3938 kg	
	DOW:	30500 lb	13835 kg	ZFW:	39181 lb	17772 kg	TOW:	50659 lb	22979 kg	
	%MAC TO:	12.7	CG OFFSET TO:	-2.9	PITCH TRIM TO:		7.6			
DEPARTURE REFERENCE SPEEDS					LANDING REFERENCE SPEEDS					
		FLAPS 8		FLAPS 20		DESTINATION		ALTERNATE		
V1:	147	134		Vref Flaps 0:		160		Vref Flaps 0:		160
Vr:	147	138		Vref Flaps 8:		148		Vref Flaps 8:		148
V2:	156	144		Vref Flaps 20:		142		Vref Flaps 20:		142
Vfto:	185	185		Vref Flaps 30:		138		Vref Flaps 30:		138
				Vref Flaps 45:		130		Vref Flaps 45:		130
				Vref V20A:		137		Vref V20A:		137
NI Thrust Limit:	90.8									

Finally, the panel displays the takeoff reference speeds for the current weight and weather conditions: V1, Vr, V2, and Vfto for flaps 8 and 20. It also displays landing reference speeds for all flap combinations at the Destination and Alternate airports.

Have a safe flight!

TROUBLESHOOTING YOUR CONNECTION PROBLEM

If you cannot establish TCP connection with X-Plane via the iGoConnect plugin, try the following steps:

1. Make sure that X-Plane is running when you try to establish connection. Your plane has to be loaded in X-Plane.
2. Check the IP Address of your X-Plane computer. Make sure that this address is correctly entered on the Settings panel of the Application.
3. **Check the IP Address of your X-Plane computer again and whether it is correctly entered in the Application.** This is not a typo. Ninety nine percent of all cases where a problem with connection is reported account for entering the wrong IP address.
4. If you changed the port number on the application, do NOT forget to change it in the plugin. After the number has been changed, reload X-Plane.
5. Once the IP Address and the Port number are checked, type an ICAO code (e.g., **KLAX**) in the Departure textfield on the Flightplan panel. Tap on button  to upload the airport information. Has the information been successfully uploaded? If yes, you have no problem with the connection – everything works as it should.
6. If you still have problems connecting, you may have your firewall blocking the port and not allowing the Application to establish connection through it.
 - Start your X-Plane and wait till a plane finishes loading.
 - In Mac, open Terminal. In Windows, open Command Prompt window.
 - Type “telnet”, followed by the IP Address of the X-Plane computer (the one you need to enter in the Application), and the Port number. Do not use quotes, for example:

```
telnet 192.168.1.99 7767
```

7. If the connection was not established, you probably use a firewall that blocks the port and the port must be opened. Disabling your firewall completely is not necessary and is not recommended. You may temporarily disable your firewall to confirm that it causes your connection problem. Once the port opening rule is set, the firewall can be turned on again. In order to open the IP Port using default Windows and Mac firewalls, the following can be done:

For Windows:

- 1) Go to Control Panel > Windows Firewall
- 2) Click on "Advanced Settings" in the left-hand pane.
- 3) Click on "Inbound Rules" and then "New rule".
- 4) Select "Port", click next, select "TCP", and enter "7767" as the local port.
- 5) Click next, and allow the connection.
- 6) Click next again, and ensure that "Domain", "Private" and "Public" are all ticked.
- 7) Name your firewall rule, e.g. "iGoConnect", and then save it.

For Mac:

- 1) Go to System Preferences, and choose the Security and Privacy Tab.
- 2) Click on the Firewall Tab, and the Firewall options button.
- 3) The page will show you the applications that are allowed access through your firewall
- 4) Add new applications to the list by clicking on the plus icon.

If you have third party firewalls, please refer to their manuals.

8. If nothing worked:
- Go to the Settings panel and send me an email from there to igodispatch@igoapp.ca.
 - Send me another email to the same address with a Log.txt file attached.

We will fix it together!