

FLIGHT SIMULATOR INNOVATIVE ADDONS

FSFO PRO II



 Flight Simulator First Officer (FSFO) Professional

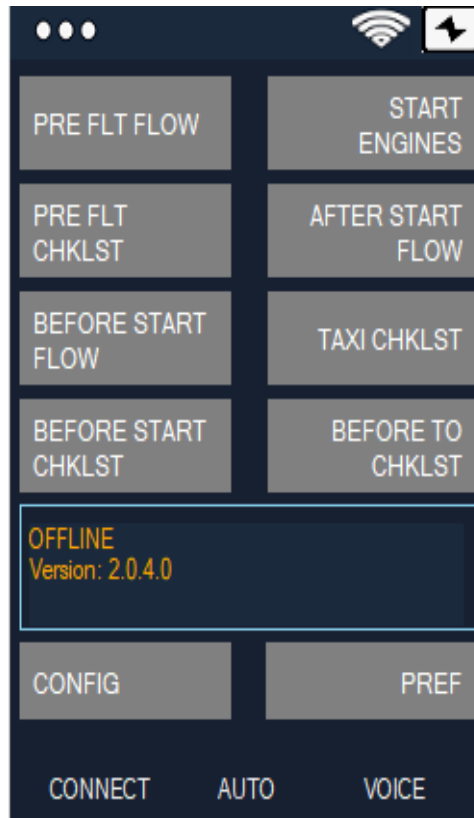
for

**Lockheed Martin P3D & Microsoft Flight
Simulator X**

December 2021 – Matthew King
Version 1.0



Introduction



Flight Simulator First Officer is a realistic and very flexible; yet, easy-to-use virtual First Officer. It's designed specifically for virtual pilots who value realism, but may not have the time to execute comprehensive preflight and/or post flight procedures. Despite its sophistication, it's also coded with novice pilots in-mind; FSFO will configure every switch according to the manufacture recommendations. With FSFO, you only need to program FMC/CDU, and even 90% of those tasks (PMDG only) can be handled by your first officer. **FSFO can be as complex or simple as you want; for example, FSFO can complete the entire Pre-Flight procedure, or only those functions you chose not to accomplish.** Regardless, he will check every switch to ensure it's placed in the correct position; using this methodology, you can fly complicated third-party aircraft without reading 200+ manuals. Just hit connect and fly with confidence that your First Officer is helping you fly these complicated aircraft. FSFO sets itself apart from the competition by not requiring strict adherence to scripts, reading lengthy manuals, building complex checklists, or using precise speech. Moreover, it uses real vice robotic voices.

Click to link below to see when your favorite plane is available

[3rd Party aircraft will be supported](#)

Matthew King

FSFO developer



Features

- **Speech Recognition**

- Command the First Office to set the flaps, gear, autopilot, takeoff thrust, and execute the flows and checklists. See the Voice Command section for a full list of commands
- Checklist can be controlled via voice or completely automated
- Control Push Back via Voice commands

- **Flight Deck Announcements**

- Welcome Aboard (message depends on weather conditions)
- Flight Attendants “Prepare for Takeoff”
- 10,000 ft chime
- We’ve reached our cruise altitude (message depends on turbulence)
- Descent Announcements (e.g., electronics off and night time landing messages)
- Flight Attendants “Prepare for Landing”
- Welcome to our destination (message depends on weather conditions)

- **Integrated Flows and Checklists**

- Flows - When activated, the copilot will check each system to ensure its set correctly for a specific flight phase; if it's not set correctly, he will configure said system. Using this system, FSFO will completely configure the aircraft for you, which will spare you the need to read 300+ page manuals.
- Checklist - When called, the copilot will call the checklist item
 - If using button mode - if the systems is set correctly, he will proceed to the next item; if it's not, he will wait for the pilot to configure the system before proceeding to the next call.
 - If using Voice mode – The Copilot will wait for a verbal response (e.g., checked, set, on, off, etc....)

- **Speed Calls:**

- Copilot call Power Set
- Copilot calls Speed Alive
- Copilot calls 80 Knots on takeoff and 100, 80 and 60 Knots on landing
- Copilot calls V1, Rotate, and V2
- Copilot calls “400 ft” and “Acceleration Altitude”
- Vref monitoring (i.e., copilot will advise the captain when the airspeed falls below the imputed value on landing)

- **Engine Callouts**
 - Calls “Engine x Started”
 - Calls “Engine x Cutout
 - Calls “All Engines Stable”

- **Safety Checks:**
 - Before Takeoff - Copilot checks the flaps, trims and autobrakes; if they're incorrect, he will warn you
 - After Takeoff - Copilot checks the landing gear and flaps; if they're incorrect, he will warn you
 - Before Landing - Copilot checks the landing gear, flaps and spoilers; if they're incorrect, he will warn you
 - Doors – Copilot will warn you anytime the engines are running and the main door is opened

- **Copilot Options:**
 - **Manages Autopilot** – Copilot can turn on/off Vnav, Lnav, A/T, and Master Autopilot
 - **Prgm FMS** – Copilot will program 90% of the FMS/CDU (PMDG only); all the pilot needs to do is set the runways, SIDS and STARS (must plan your flight via Simbrief and download your flight plan into the aircrafts’ flight plan folder)
 - **Manages Gear** – Copilot can raise/lower the gear at the designated altitudes
 - **Manages Flaps** – Copilot will raise/lower the flaps at the designated speeds
 - **Manages Altimeters** - Copilot can set altimeters based on flight parameters
 - **Speed Warns** - Copilot warns with IAS goes above 250 knots below 10K ft AGL, when Ground Speed is too high (30 mph), or when the IAS falls below VREF during landing
 - **Manages Lights** - Copilot can turn on/off ALL interior and exterior lights at the appropriate altitudes and time of day
 - **Systems monitoring** - Copilot can also callout flap changes, parking brake, landing and spoiler status. For example, if you retract the flaps from 10 to 5, the copilot will call “Flaps 5.” If the landing gear is extended, the Copilot calls “landing gear down”
 - **Manages Center Tanks** - Copilot will turn on/off the center fuel pumps when the fuel level falls above/below 1,000 lbs.
 - **Manages Copilot EFIS controls** – Copilot will set his controls based on flight parameters (e.g., App Mode when capturing the ILS and terrain map on takeoff/landing)
 - **Manages FMC** – Copilot will set his FMC based on flight parameters (e.g., LEGS page on Takeoff, PROG page in Cruise, sets VREF on descent and aligns IRS during the Preflight Flow)
 - **Manages Wipers** – Copilot will turn on/off wipers based on perception intensity
 - **Manages MCP** – Copilot will set IAS, HDG, LNAV, VNAV, A/T, HDG SEL and FDs.
 - * Some settings are not possible to set on certain aircraft due to SDK limitations.

- **Change Copilot/Pilot accents:**
 - Choose between English, French and German (more on the way)



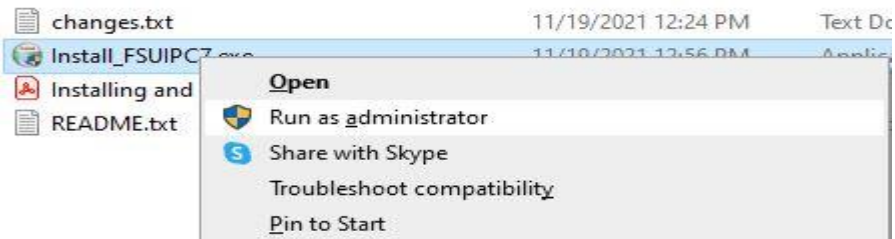
Installation

Requirements:

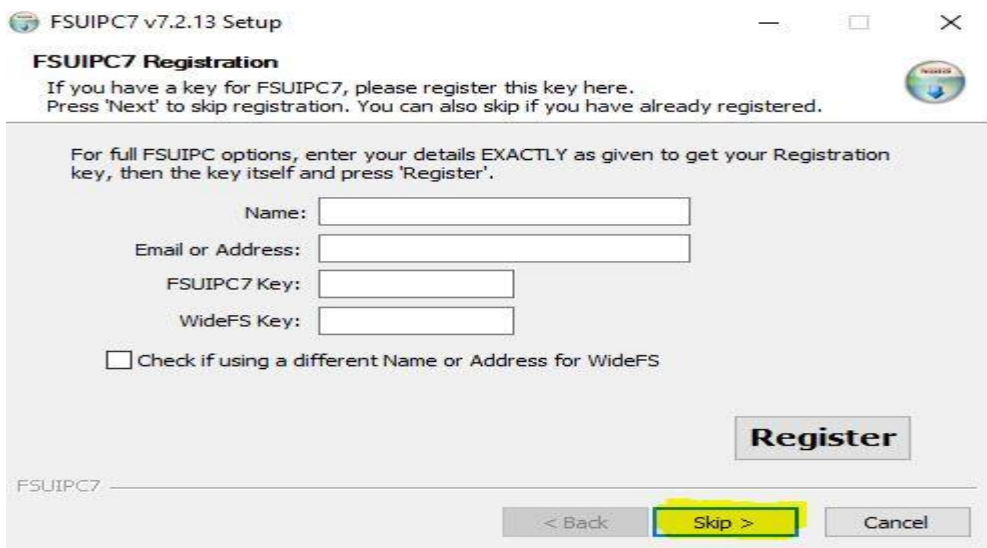
Windows 10 or 11

Peter & John Dowson's FSUIPC V5 or V6 (MSFS) (registered or unregistered (free): [CLICK HERE](#)
This file is completely harmless and is required for FSFO to read your flight simulators internal values. If you are an avid flight simulator user, chances are you already have this program installed. If you need ANY help with installation, please contact me!

1. Install FSUIPC 4, 5 or 6 :

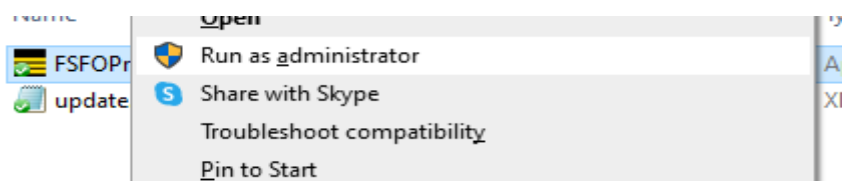


- P3D V5 requires FSUIPC v6.1.7 or higher
- P3D V4 requires FSUIPC v5.157 or higher
- FSX requires FSUIPC v4.977

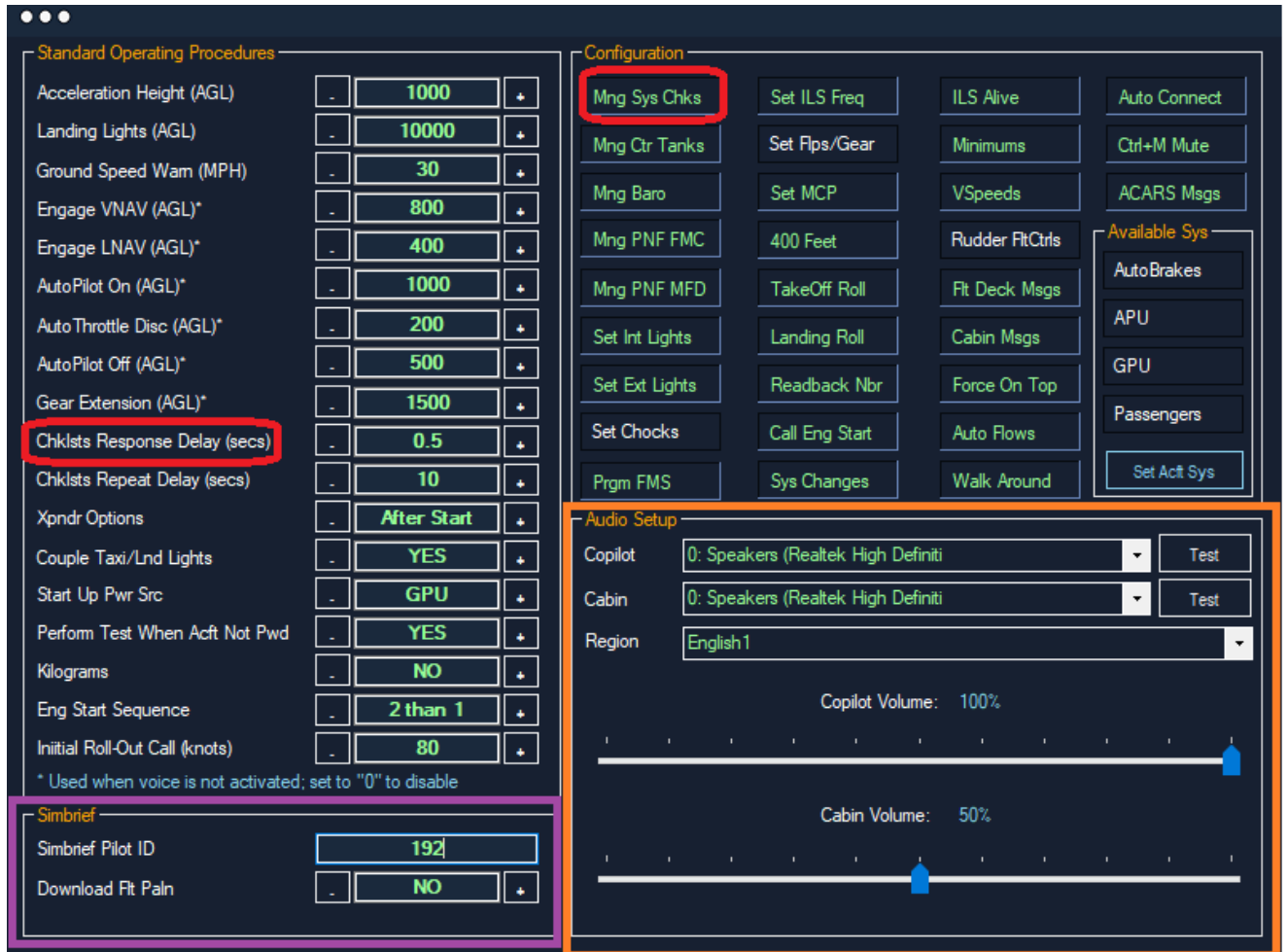
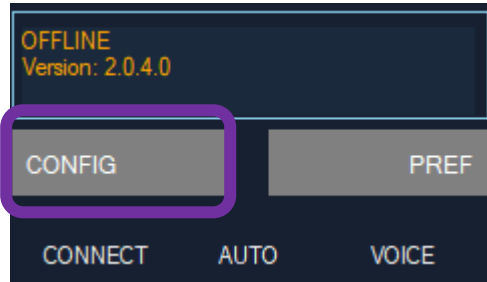


If you don't own a registry key, just click Skip

2. Install FSFO: **Right Click on FSFO.exe** and select “Run as Administrator.” Follow the onscreen instruction!



3. Configure FSFO to meet your needs:



- Place the cursor over any label to display a description of each option (red)
- **If using the “Prgm FMS” option, you must generate and download a Simbrief Flight Plan (PMDG Only)!**
 - Generated Simbrief flight plans must be downloaded to the PMDG\FLIGHTPLANS* directories
 - I recommend using the “SimBrief Downloader” available on their website
- Set your Simbrief data (Purple Block) to get the most of FSFO
 - Simbrief data is required if using the “Prgm FMS option” with PMDG aircraft
 - Pilot IDs can be found by navigating to Simbrief.com > Dispatch System > My Account > Simbrief Data
- **Do NOT forget to configure your Audio Output (Orange Block)**



4. Minimum Steps for Every Flight:

- a. Lunch FSX or P3D
- b. Set your flight up (e.g., select plane, airport and flight plan)
- c. **Once FSX or P3D is fully loaded, start FSFO**
- d. Link FSFO to MSFS via auto connect or connect button (lower left corner)
 - i. **Do not link FSFO to FSX/P3D until you're in the cockpit**
- e. **Click Pref and load a flight plan to FSFO**
 - i. Flight plans can be imported by clicking "GET FLT PLN" and selecting any P3D or FSX flight plan generated by Simbrief; alternatively, you can enter the 4-digit ICAO codes (e.g., KBOS) into both ARPT boxes and clicking CALC FLT DATA
 - ii. If you use the Download Flt Plan option, your flight information will be downloaded when you start FSFO
 1. **Make sure you generate your Simbrief Flight Plan BEFORE starting FSFO**
- f. Enjoy your flight!



FSFO Main Panel

Click to activate a Flow or Checklist; alternatively, you can use "auto flows" and/or voice commands.

Message Area:
Displays checklist readouts and what function your Copilot is performing during the flows.

CLICK to open the Configuration page



Click and hold to move the form

CLICK to open the performance page

Click to connect FSFO to MSFS:
Green = Connected

AUTO FLOWS are explained on the next page:
Green = Active
White = De-active

Click to activate voice recognition:
Green = active/listening
Orange = active, but not listening (ctrl + M)



Flow and Checklists:

The heart of FSFO are the Checklists and Flows. Flows are actions copilots perform without communication with the pilot; they're pre-coordinated responsibilities based on Standard Operating Procedures (SOP). When the copilot performs his flows, he configures the aircraft for a specific flight phase. Conversely, Checklist require interaction (i.e., Challenge and Response) between the Pilot and Copilot. With Checklists, the Copilot calls an item and the pilot checks to see if it's set correctly.

Difference Between Button and Voice Mode

Voice - If Voice is active, you will be required to provide a verbal response to each checklist item; for example, the copilot calls "Flaps" and you must say "set." ***EXPLICITLY LACKED; YOU CAN SAY ANY RESPONSE LISTED IN THE RESPONSE SECTION.*** Moreover, your copilot won't automatically perform those options identified via asterisk (*) on the Configuration manager screen (see below).

Button – If Voice is disabled, you must set the checklist item to the correct setting before your copilot proceeds to the next checklist item. ***TO BYPASS A CHECK LIST ITEM, HOLD THE CTRL KEY.***

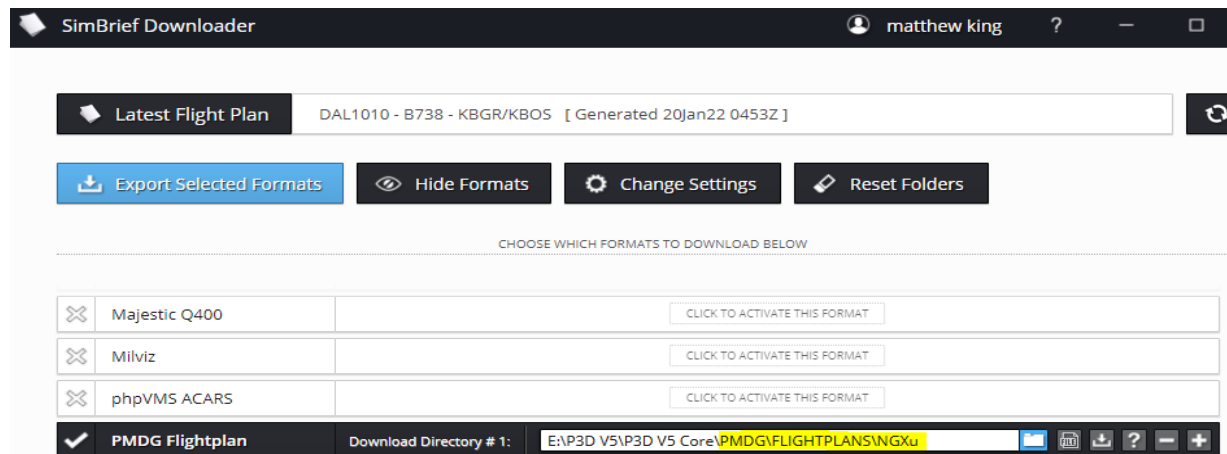
Auto Flows Explained

If selected via the Configuration Manager screen, the copilot will initiate his flows automatically based on the following parameters:

- **Pre-Flight Flow:** Initiated when FSFO is connected and the main door is open (Shift + E).
- **Before Start Flow:** Initiated when all doors are closed.
- **After Start Flow:** Initiated when engines are running and stable; ***it may take up to 2 mins for the engines to stabilize.***
- **After Landing Flow:** Initiated when the aircraft has landed and ground speed is falls below 15 MPH.
- **Shutdown Flow:** Initiated when the aircraft is at the gate and the parking brake is set.

Prgm FMC Explained

FSFO is capable of programing 90% of the PMDG FMC(s); however, your copilot needs to obtain critical information (e.g. cost index, wind data, transition altitudes, etc..) from Simbrief. You also need to download your Simbrief flight plan and place it in the correct folder:



Pre Flight Flow Actions:

1. FSFO will connect the Ground Power via FMS
2. FSFO will program will align your IRS via FMC Last Position Option
3. FSFO will input your CO RTE (e.g. KBGRKBOS); if you've downloaded your flight plan into the correct folder, the data will be loaded into the FMC
4. FSFO will set your Fuel and ZFW via the FMC; this data is obtained directly from Simbrief
5. FSFO will set your FMS INIT Page (e.g. weight, rserve fuel, cruise and transition altitudes)
Note – After the Copilot enters the FMS INIT data, he will instruct you to program the FMS; after, he will proceed to his walk-around. During this time, you should program your Rws, SIDS and STARs BEFORE he returns.
6. FSFO will set your N1 Limits
 - a. Note – you need to enter your Flaps, OAT and TO THUST settings via the FSFO PERF menu



7. Copilot will enter your CG and V1, VR and V2 Speeds

Descent Checklist Actions (All available aircraft):

1. FSFO will enter VREF speeds in the FMC



Voice Commands

Voice Commands must be spoken exactly as they appear in the Command Column

AUTOPILOT	
Autopilot On	
Autopilot Off	
Command A	Alternative Verbiage for engaging the master Autopilot
Command B	Only modeled for PMDG 737
Takeoff Power	Currently not working; holding for PMDG aircraft
Lateral Navigation	Sets LNAV for aircraft with that function; sets NAV for default turboprop
L-Nav	Sets LNAV for aircraft with that function; sets NAV for default turboprop
Vertical Navigation	Sets VNAV for aircraft with that function; sets VS mode for default turboprop
V-Nav	Sets VNAV for aircraft with that function; sets VS mode for default turboprop
Flight Level Change Mode	
Approach Mode	
Heading Select	Airbuses only
Managed Mode	Airbuses only
Open Climb	Airbuses only
Open Descent	Airbuses only
Managed Climb	Airbuses only
Managed Descent	Airbuses only
Cancel	Cancels the command
Set Vertical Speed	Must be proceeded with 3 or 4 numbers (e.g., "Set Vertical Speed (pause) 1500"); there's no need to say plus or minus; the copilot will figure it out based on the MCP and Aircraft current altitude
Set Speed	Must be proceeded with 3 numbers (e.g., "Set Speed (pause) 210")
Set Heading	Must be proceeded with 3 numbers (e.g., "Set Heading (pause) 082")
Set Altitude	Must be proceeded with 4 numbers (e.g., "Set Altitude (pause) 8000")
Set Flight Level	Must be proceeded with 3 numbers (e.g., "Set Flight Level (pause) 190", which equals 19000)
RADIOS & BARO	
Unicom	Sets the radio to Vatsim UNICOM 122.80
Set Standard Pressure	Sets altimeters to standard 29.92 pressure
Set Altimeters	Sets altimeters to the current outside standard pressure
SYSTEMS	
Anti-Ice On	
Anti-Ice Off	
Wipers On	
Wipers Off	
Seatbelt Sign On	
Seatbelt Sign Off	
Speed Brake Up	
Speed Brake Out	
Arm Speed Brake	

CHECKLIST AND FLOWS	
Let's Get Started	Alternate verbiage for the Preflight Flow
Preflight Flow	
Preflight Checklist	
Before Start Flow	
Before Start Checklist	
Start Engines	Instructs the Copilot to Start the Engines
After Start Flow	
After Start Checklist	Alternate verbiage for the Taxing Checklist
Taxi Checklist	
Before Takeoff Checklist	
After Takeoff Checklist	
Descent Checklist	
Landing Checklist	
After Landing Flow	
Clean Up Flow	Alternate verbiage for the After Landing Flow
Shutdown Flow	
Shutdown Checklist	
CHECKLIST RESPONSES	
Set	Any command can be used to proceed to the next item
On	Any command can be used to proceed to the next item
Off	Any command can be used to proceed to the next item
Cutoff	Any command can be used to proceed to the next item
Closed	Any command can be used to proceed to the next item
Tested	Any command can be used to proceed to the next item
Completed	Any command can be used to proceed to the next item
Up	Any command can be used to proceed to the next item
Down	Any command can be used to proceed to the next item
Checked	Any command can be used to proceed to the next item
Armed	Any command can be used to proceed to the next item
Auto	Any command can be used to proceed to the next item
Clear	Any command can be used to proceed to the next item
Continuous	Any command can be used to proceed to the next item
Rejected Takeoff	Any command can be used to proceed to the next item
Free And Zero	Any command can be used to proceed to the next item
Normal	Any command can be used to proceed to the next item
Takeoff, No Blue	Any command can be used to proceed to the next item
Landing, No Blue	Any command can be used to proceed to the next item
Notified	Any command can be used to proceed to the next item
Max	Any command can be used to proceed to the next item
Idle	Any command can be used to proceed to the next item



FLAPS, GEAR, AND BRAKES	
Increase Flaps	Increases the flap setting one notch
Decrease Flaps	decreases the flap setting one notch
Flaps Full	
Flaps Up	
Flaps*	For third-party aircraft, simply call the flap setting you want (e.g., Flaps Five); not available for default aircraft
Gear Up	
Gear Down	
Parking Brake On	
Parking Brake Off	
PUSBACK COMMANDS	
Ground From Cockpit	Command to contact ground (i.e., initiate pushback) - Ground Crew replies "go ahead"
Ready For Pushback	Command to inform ground you're ready for pushback - Ground Crew replies "Set parking brake" - If parking brake is set, Ground Crew replies "steering pin inserted, release brake" - If parking brake is released, Ground Crew replies "starting push"
Nose Left	Ground crew will maneuver the tug to move the nose left
Nose Right	Ground crew will maneuver the tug to move the nose right
Nose Straight	Ground crew will maneuver the tug to pushback straight
Stop Push Back	Command to stop push back - Ground Crew replies "stopping push" - Ground Crew instructs the pilot to "set parking brake." - Once parking brake is set, Ground Crew replies, "steering pin removed, have a great flight."
Abort Pushback	Terminates the pushback sequence
Cancel Pushback	Terminates the pushback sequence
Parking Brake Off	

TROUBLE-SHOOTING

Speech Recognition

FSFO uses Microsoft's embedded speech recognition engine, which includes: English (United States, United Kingdom, Canada, India, and Australia), French, German, Japanese, Mandarin (Chinese Simplified and Chinese Traditional), and Spanish. If your language pack is not included, you can try adding it:

support.microsoft.com/en-us/windows/install-a-language-for-windows-ccd853d3-9ecd-7da7-9ef0-72b4a055410a

If your language pack is included, you probably have a problem with your Window's Speech recognition setup. Please follow these steps to ensure your speech recognition is setup: support.microsoft.com/en-us/windows/use-voice-recognition-in-windows-83ff75bd-63eb-0b6c-18d4-6fae94050571#:~:text=Here's%20how%20to%20set%20it,re%20ready%20to%20use%20it.

Access to the path 'C:\Program Files (x86)\Flight Simulator First Officer Next\acft.dat' is denied.

This occurs when FSFO is installed in a protected Windows directory; I recommend installing FSFO (and all applications) on another drive. If you choose to keep FSFO in a protected directory, follow these steps:

Right-Clicking on FSFO > Select Properties > Select Compatibility tab > Check "Run this program as an administrator"

