



Speedy Copilot for ToLiSS

Speedy Copilot makes for you the steps normally done by the first officer and pilot monitoring, when you are pilot flying and captain of an Airbus as depicted by ToLiSS.

The Flight Crew Operating Manual of the Airbus makes a clear separation between actions from the left hand seat and the right hand seat. With this plugin designed for FlyWithLua, you endorse the role of the captain and Pilot Flying. The purpose of the plugin is to automate First Officer actions per the Airbus FCOM.

We hope to provide a simple solution yet powerful and freeware.

It was tested with the following software :

- X-Plane 11.55 – X-Plane 12.01 ;
- FlyWithLua NG 2.7 and FlyWithLua NG 2.8 on Windows and Ubuntu ;
- ToLiSs A319 1.8 ;
- ToLiSs A321 1.5 ;
- ToLiSs A340-600 1.2.1 ;

Earlier versions were also tested in conjunction with JARdesign Ground Handling Deluxe v.4.230618 and the addon Emergency slides add-on for the ToLiSS 321.

It's expected that it will work for the ToLiSS A320 Neo, as provisions for it were made in the code.

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How to use Speedy Copilot for Toliss

The copilot is doing the FCOM *procedures (not checklists)*. At the end of each procedure, we suggest that you run on your own the according checklist. Please see in the table below how to sequence the procedures.

◊ PRELIMINARY COCKPIT PREP	In the ISCS, call external power.
◊ PRELIMINARY COCKPIT PREP after park.brake ↪	Verify Parking Brake set to continue
◊ COCKPIT PREPARATION	Request with on-screen action. While you do the ext. walkaround, the FO will become PF for the time of this procedure.
	Secondary on-screen action : select TO FLAPS
◊ BEFORE START / START CLEARANCE RECEIVED	on-screen action
◊ Engines start monitoring	Automatic.
◊ AFTER START	ENG MODE selector.....NORM
◊ TAXI flow until flight controls check	Taxi light ON. (By the user as CM1).
◊ TAXI flow after flight controls check ↪	Perform flight controls check. Roll, Pitch and Yaw.
◊ BEFORE TAKEOFF	Since the 2021 Airbus procedures, Landing lights ON Quick glance at both approach path and runway stay available as an alternative trigger.
◊ TAKEOFF ROLL	Detects acceleration then monitors speeds, automatic
◊ TAKEOFF gear and flaps retraction schedule	Automatic.
◊ Flight 100 and CLIMB	Automatic.
◊ Flight 100 and DESCENT	Automatic.
◊ Approach, flaps extension schedule	Automatic.
◊ GO AROUND (reversion to Takeoff above)	Detects high trust and positive pitch, automatic.
◊ ROLL-OUT	Detects deceleration, automatic.
◊ AFTER LANDING	Ground spoilers disarm when away from RWY.
◊ Apron entry (lights and doors), optional	Request with on-screen action (2 min after landing)
◊ PARKING procedure until turn around state	Parking brake ON, engines OFF, BEACON light OFF.
◊ End of leg, preparation for next leg	Open the Options menu. Press "NEXT LEG".

PF actions trigger the PM duties. The "Securing the aircraft" procedure is not scripted.

Installation

Main component

1/ Please install FlyWithLua first. Speedy Copilot works with “[FlyWithLua 2.7 NG](#)”. Or “[FlyWithLua 2.8 NG](#)”.

2/ Extract the Speedy Copilot T319 archive content on top of previous files in the following folder :

\X-Plane 11\Resources\plugins\FlyWithLua\Scripts\

or

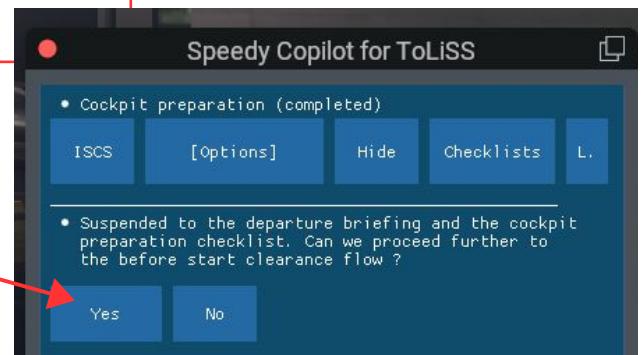
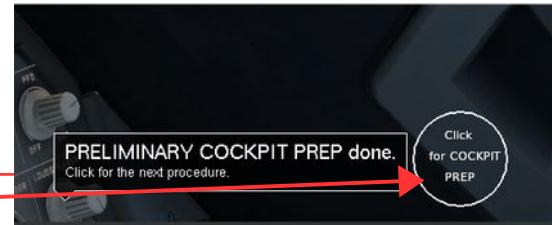
\X-Plane 12\Resources\plugins\FlyWithLua\Scripts\

Actions triggers

When Speedy copilot is active, some messages will be shown at the bottom of the screen during the progress of the flight. For instance a welcome message is displayed a few seconds before being automatically erased.

Some events must be triggered with **on-screen actions**. You must click inside the circle in order to start the next procedure.

A variant of the onscreen action is available when the user has chosen to display a windowed menu bar ("VR" option). You can answer yes to have a similar action than the click-to-action circle.



Prepare the FO for flaps-3

You can tell in advance to your F.O. that a **FLAPS 3 landing** is planned by configuring the overhead GPWS switch to FLAPS 3 LDG during the descent.

Cabin Ready

During the taxi to take off runway, the flight attendants have to report "Cabin Ready" to the cockpit crew. They can directly call the flight deck. In modern variants or retrofitted aircraft, there is a touchscreen in the cabin, namely the Flight Attendant Panel, which is used to signal "Cabin ready" to the captain. This flat display is part of the Cabin Intercommunication Data System (CIDS).

This indication is, on those more modern variants only, reported on the ECAM. When the "Cabin Ready" button is pressed on the flat display in the cabin, the ECAM line "CABIN READY" becomes green, and the Take Off test can be achieved.



With Speedy Copilot, **the cabin crew will report "cabin ready" both vocally on the interphone and with the CIDS**. However, as the cabin duties are simulated, do not expect the cabin to be ready in a few minutes. The time required to secure the cabin can be variable.

Synchronized Flight Directors

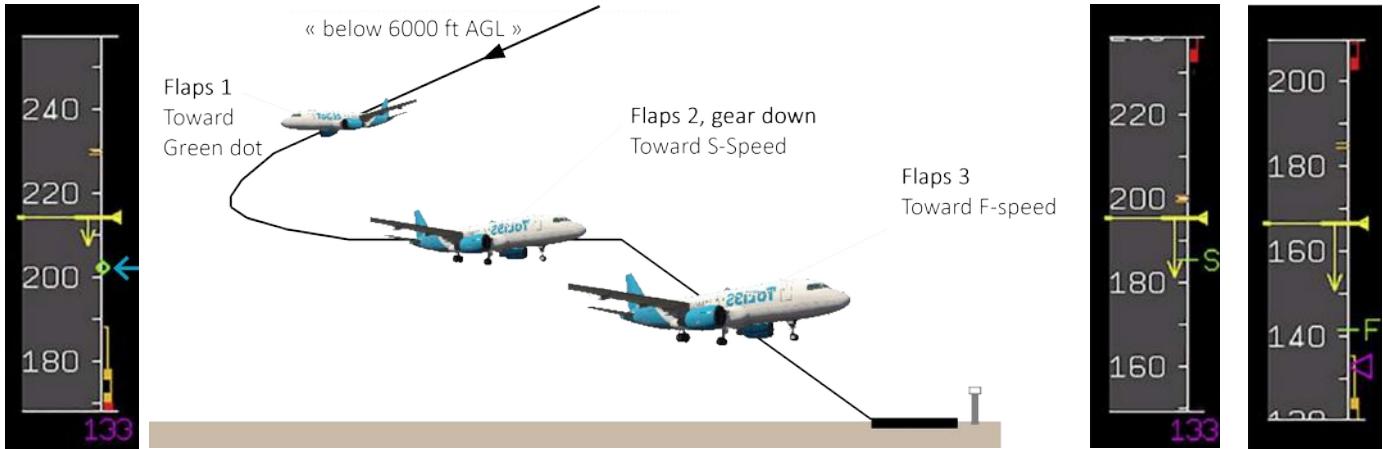
The opposite side FD is synchronized with yours.



Flaps schedule

If you have set the following option, then the copilot will trigger flaps and gear during takeoff and approach.

<p>● The PM sets FLAPS and moves the GEAR handle. By default is always ON at Speedy Copilot T319 load.</p>	<p>The Pilot Monitoring will handle gear and flaps retraction and extension on schedule, during take off and later in approach, as if under your command.</p>
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During the approach, simply manage the aircraft speed and attitude. The PM will naturally **deploy flaps and slats in response to the deceleration**.

The picture above shows that when your aircraft is approaching :

- Green Dot, Flaps 1 is deployed ;
- S-Speed, Flaps 2 is deployed ;
- F-Speed, Flaps 3 is deployed.

In theory your FO is conservative and you should be always below the $V_{FE\ NEXT}$ at the time of each next flap deployment¹. If the copilot is a little late to your opinion in a specific situation, **you don't necessarily have to wait for him**. You can also take over and deploy manually yourself the flaps and gear to smooth things in regard to your local conditions.

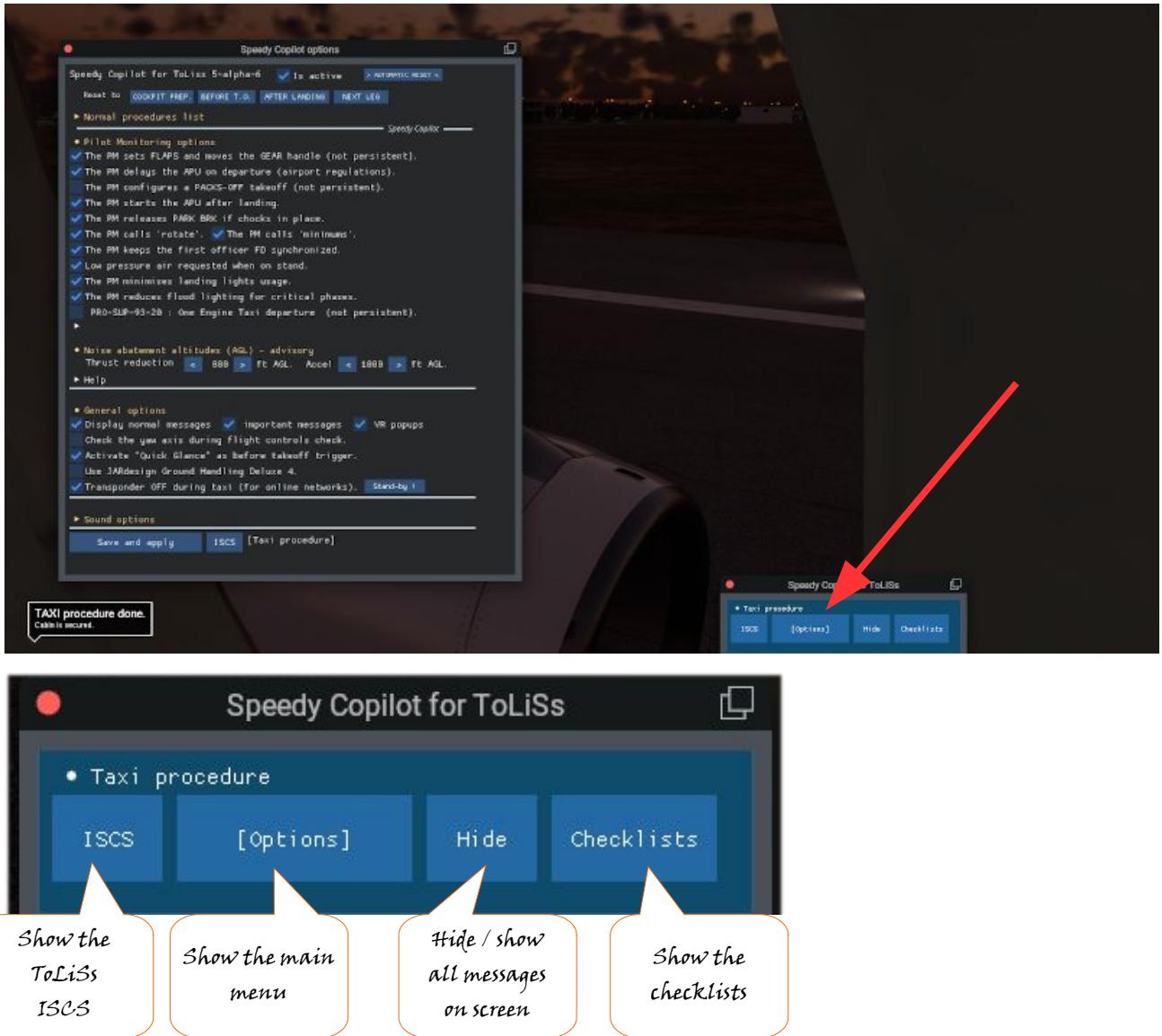
On the other hand, if you want to **delay flaps extension** you can go to *speed selected* and keep above green dot, S or F speeds.

In some editions of Speedy Copilot we use a flaps table hard encoded into our code, in other editions like here in Speedy Copilot 319, we take **the speed values computed from the FMGS** in real time.

¹ V_{FE} is the maximum speed with the slats or flaps extended. Therefore The aim of the $V_{FE\ NEXT}$ is to remind the flight crew the maximum speed at which they can extend the next Slats/Flaps configuration during approach.

Options

Options are set in a menu accessible when you move your mouse pointer over the bottom right corner of the screen then press [Options].



All options are explained directly in the menu, when you maintain the mouse click down on an option. The help will appear next to the mouse pointer.

<p>Speedy Copilot is active.</p> <p>Checkbox. By default active.</p> <p>AUTOMATIC RESET</p> <p>Click button.</p>	<p>Turn ON/OFF the PM and the flight following. ⚠ Speedy Copilot will be reset when turned ON.</p> <p>The copilot is automatically reset to detected flight phase, as much as we can do from the sensed attitude of the aircraft. Manual reset buttons to a precise procedure are also available and recommended.</p>
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Compatibility with animated jetways (Autogate)

Usually when chocks are in place, parking brake is released. On the other hand in X-Plane animated jetways made with the **AutoGate plugin** will be attached to the aircraft only if the parking brake is set. At anytime, on ground or on flight, you can tell the Pilot Monitoring to refrain touching the PARK BRK handle when chocks are set using the following option in the menu : ● The PM releases PARK BRK with chocks

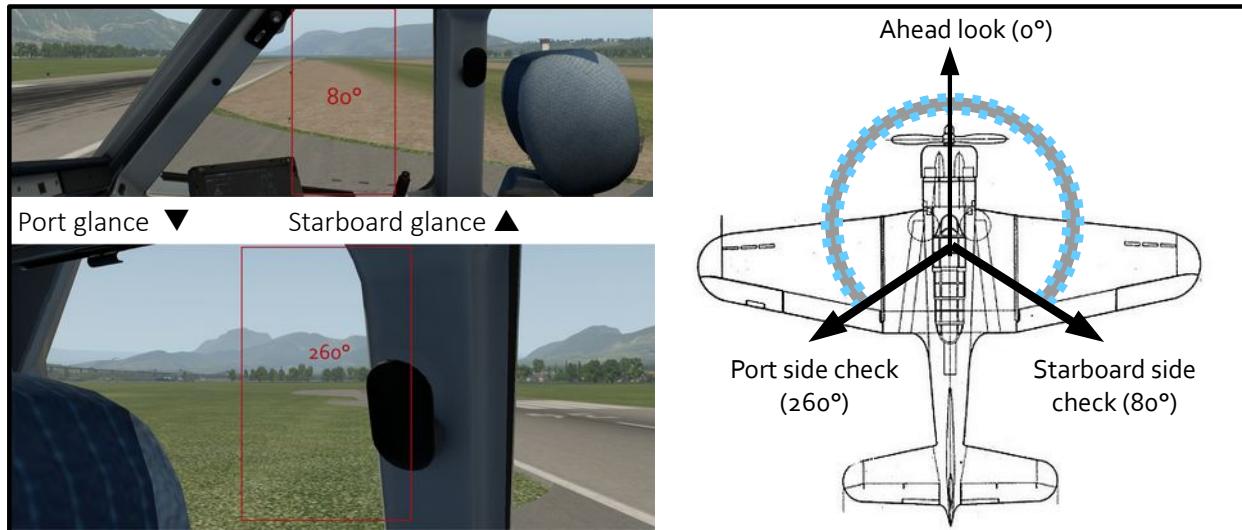
Compatibility with BSS sounds

● <u>Mute cabin PA related sounds</u> Not persistent!	When you mute cabin PA related sounds (not persistent, meaning it is not saved session after session) you will not hear the flight attendants announcements while in the cabin, nor will you hear the boarding music. That can simulate a ferry flight without passenger, or let other add-ons (like BSS) play those kind of sounds.
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Before takeoff "Quick Glance" trigger

Once the PM has obtained line-up clearance, the PF (the human user) will confirm the takeoff runway and intersection, collaboratively check with the Pilot Monitoring the approach path clear of traffic, and set the exterior lights for takeoff.

Once the taxi procedure is finished, we monitor your head direction. To begin the takeoff, move your head towards both port side and starboard side, in any order but **within 5 seconds**².



Directing your look towards the two areas will trigger the runway entry flow.

However, you can also use the FCOM Pilot Flying trigger, which is **setting a landing light on** (the job of the PF since the 2021 Airbus changes in the procedures).

You can disable *Quick Glance* as before takeoff trigger in the options to only retain the landing light trigger.

2 If you look at the two directions successively in an elapsed time longer than this few seconds, Speedy Copilot will not recognize this as the runway and approach check behavior. This is done to avoid (or at least limit) false runway entries during taxi.

Cabin crew

Cabin crew is handled by Speedy Copilot for ToLiss without user intervention according to phase of flight.

You can listen to the cabin Passenger Address (PA) and inflight entertainment when you explore the cabin.

UNLOCK the cockpit door to jump into a passenger seat.

Since Speedy Copilot for ToLiSS 6.1 (January 2023) you can also hear the passenger announcements made by Speedy Copilot for ToLiSS with the "PA" reception knob out and activated on any audio control panel (ACP).



According to the FCOM, when the PA reception know is active, the messages go to the loudspeaker. I have chosen to offer to regulate the volume of our sounds via the Captain loudspeaker knob.



Installation (more)

Automatic ground handling with Ground Handling Deluxe (optional)

Ground Handling is fully managed by Speedy Copilot for ToLiss provided you have installed Ground Handling Deluxe v.4.230618 or above³. (<http://handling.jardesign.org/>). To let Speedy Copilot for ToLiss handle the ground service, please install our custom vehicles set⁴:

X-Plane 11/Resources/plugins/GndHandling/Sets/Custom/A319withhighfid.set

X-Plane 11/Resources/plugins/GndHandling/Sets/Custom/A321withhighfid.set

This capability hasn't been tested recently though, so no promise with more recent iterations of the software involved.

Automatic ground handling with Simple Ground Equipment and Services (optional)

Speedy Copilot is also integrated with Simple Ground Equipment and Services, when SGES is installed and GHD not selected in the options (<https://forums.x-plane.org/index.php?/files/file/62296-simple-ground-equipment-services-low-tech-ground-services/>).

³ It will not work with old versions of JAR's Ground Handling.

⁴ It will not work with any other handling set because its tightly dependent of the numbering of the vehicles.

Updates

Version 1 from 2019-08-09

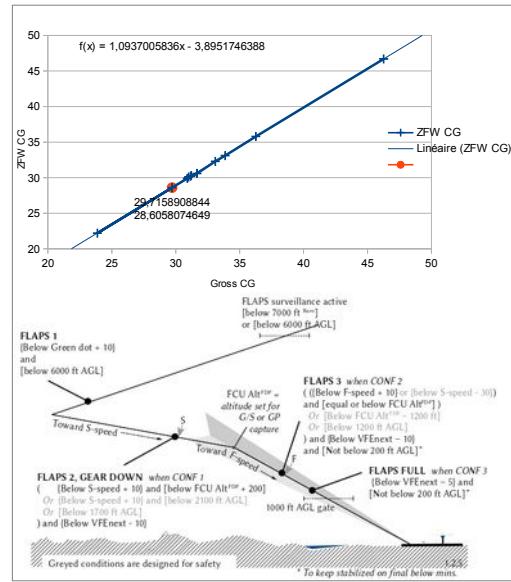
First release based on Version 4.5 from 2019-08-07 of Speedy Copilot 320.

Version 1.1 from 2019-08-12

* Corrected a bug in secondary sounds handling.

Version 1.2 from 2019-09-08

* Ground handling set reworked (bus route remade to avoid pop-up effect when called) * The copilot now enters the ZFW CG during preflight (calculated from gross CG as sensed). * Runway entry legacy trigger fixed (landing lights are able to trigger the runway entry procedures, instead of the "quick glance" to the left and right sides. * TCAS enforced to TARA when climbing after taking off with TA only (a logical safety net was added). * Added switching ON all three RMP during cockpit preparation flow * Relocated the ECAM status step in the Cockpit preparation flow, to follow the changes that happened in the real Airbus documentation between 2012 and 2016. * Added a reminder to adjust INITB page. (Bottom text info). * Redone the flaps extension logic, mainly added a formal VFE_{next} check to avoid early flaps extension. * Coupled the existing option "Adapt VHF to online networks." with the transponder OFF requirement as ruled by IVAO. The new option is titled "Adapt VHF to online networks (and transponder OFF during taxi)." When this option is selected, transponder is OFF when taxiing on ground and vacating runway, as required by the online network.
* Fixed secondary sounds setting which was incorrectly saved. * Tested with X-Plane 11.36.



Version 1.3 from 2019-09-09

* Fixed V-speed incorrectly called * Fixed speed triggers. These two bugs appeared by inadvertence in a previous version.

Version 1.4 from 2019-09-11

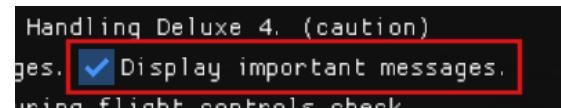
* Fixed Pack OFF take off sequence (Packs ON was not happening) * Fixed landing gear extension (was not reliable) * Fixed a reset condition where a critical variable was not set.

Version 1.5 from 2019-09-13

- Added more manual reset options * Changed ZFW CG equation parameters slightly to an increased mass of fuel reference.

Version 1.6 from 2019-10-09

- Added an option to hide all messages on screen to take screenshots for instance.



Version 1.7 from 2019-12-09

- Separated VHF adaptation to online network IVAO and transponder mode adaptation to online network in two separate options. This gives more flexibility for the end user.
- Activation of Ground Handling functions now protected : we will not try to load those actions when it seems Ground Handling by JARDesign is not installed.

Version 1.8 from 2020-02-26

- Added A321 variant, including CG and TRIM numbers that the FO inputs in the MCDU during preflight. The same script and options are in use for both the 319 and the 321
- New option "The PM minimises landing lights usage". : you will be able to adjust your SOP for drag reduction instead of visibility till FL100.
- New option "Mute cabin PA related sounds (not persistent)". : you will be able to use your favourite passenger add-on instead.
- Reworked GUI : undockable window.
- New on-screen trigger to delay takeoff flaps extension far later after engine start, for a better compatibility with passenger addons.

Version 1.9 from 2020-03-03

- The door position for catering for the rear wasn't opening or closing in the A321 [SOLVED]
- Critical bug corrected : when flying on IVAO it is now possible again to set a frequency via the IVAO client Altitude or directly in the radio panel. The frequency jumped from xxx,xx5 to xxx,xx0.

Version 2.0 from 2020-03-08

- Some users had dramatic drop of the frame rate when using the new graphical interface (undockable window with embedded pictures). Now you have a fallback to the legacy menu, which solved the issue for those users so far.

Version 2.1 from 2020-03-14

- Added *hidden options*. Hidden options can be made apparent to allow desynchronizing the FO-side flight director from the captain side FD. Also in the hidden options, you can tell the FO to skip resetting the VHFs frequency during the cockpit preparation flow. Instead of deactivating it, you can also change the preset frequency used at this step. All details in the Q&A in the PDF manual.
- Major rework of the take off and climb sequence taking accurately into account actual THR RED and ACC altitudes set in the MCDU, as well as actual F and S speeds.

Version 2.2 from 2020-03-19

- The minimum callout at MDA is in real life a customer option and the ToLiss Airbusses don't have it installed. So we use now the PM to do the callout on the barometric minimum altitude. This is from the APPR PERF PAGE.

Version 2.3 from 2020-09-03

- The script acts on load on the flight deck door Lock button in order to avoid jumping in the passenger cabin at initial load, when the button is already into the "unlock" position.

Version 2.4

- PWS, RAMP circle erased to make room for RED/ACC advisory text

Version 2.5 from 2020-10-24

- Speedy Copilot for ToLiss looks for occurrences of the string 'P2F' in this aircraft path inside the simulator folders. If it finds it, then this must be a freighter. This is made to accommodate my [Passenger to Freighter conversion \(P2F\) for the ToLiss 321](#). In this mod, we created a copy of the ToLiss 321 in a directory dedicated to the freighter and carrying the keyword P2F, now detected by Speedy Copilot for ToLiss.
- Restored clearing ATC code to 1000 before and after a flight.

Version 3.0 from 2020-12-12

- The Options menu will be automatically closed (and options saved) after 5 elapsed minutes to spare performances in case it was forgotten open.
- PACKS OFF takeoff by the PM added in the before takeoff steps. This option is not saved for a later flight. It must be selected in the options each time you want it. The PM shuts OFF both packs, unless APU BLEED is still available at this time.
- FMA and thrust surveillance vastly enhanced for take-off
- Speedy Copilot for ToLiss rollout phase updated, now based on metered deceleration
- Outdated option "adapt VHF to IVAO network" removed from the options menu. The option is still available from the configuration file ("TL_online_radio_option") if a user eventually wants to activate this manually.
- Keyboard command now offered from the X-Plane keyboard command menu to open our Options menu. At this time it can open but not close.
- Taxi procedure : if not already selected on any ND, FO selects Terrain on his side, removes Terrain after landing.
- One menu picture added, one sound added.

Version 3.1 from 2020-12-12

- Adjusted the approach phase

Version 3.2 from 2020-12-13

- When you forget to set APPR PERF Page winds during descent preparation, the PM will correct your error in final approach. It's critical to get the PERF page completed with the wind to allow correct deceleration to V_{APP} in final approach thanks to Ground Speed Mini function.

Version 3.3 from 2021-01-03

- Doors, except for 1L, stay closed when the script has detected an A321P2F variant versus a passenger aircraft.

Version 3.4 from 2021-04-12

- Handling the supplementary add-on "emergency slides for the ToLiss aircraft", to avoid deploying the slides. In this case, we handle the flight deck EMER EXIT LT sw finely (but non FCOM-ly) to avoid that.

Version 4.0 from 2021-04-14

- Handling the supplementary add-on “emergency slides for the ToLiss aircraft”, by delaying the door openings.
- Adjusted the cabin readiness delay for takeoff to shorter values.
- Added the SUP PROC 93-20 One Engine Taxi departure. To be selected each time in the options.

PRO – PROCEDURES
PRO-SUP – SUPPLEMENTARY PROCEDURES
PRO-SUP-93 – Green Operating Procedures
PRO-SUP-93-20 – One Engine Taxi

- Integrated [Simple and Nice Loading Equipment](#), when SNLE is installed and GHD not selected.



Version 4.1 from 2021-04-14

- The PM call for minimums was not said any more at the correct altitude. From now on, we derive our altitude from the copilot (right side) primary flight display. The call “Minimums” is therefore said correctly at the preset altitude (from the MCDU PERF APPR page) now.

This means that **you have to crosscheck the correct barometric settings on both sides** and ISFD, since the FO will make his call from *his* altimeter.

Since recent updates, ToLiss Airbus have the optional barometric minimums call installed. So at decision altitude, both the FO and the avionics will call for minimums now. It's my SOP to continue calling the decision altitude with the FO, since mixed fleet can happen in real life. So it's better to always make the call and not assuming it will be done for you by the system. You can shutoff the first officer call in the options if you wish.

Version 4.2 from 2021-10-17

- TRK/FPA Logic Issue when flying Raw Data Approaches repaired. Some ToLiss datarefs were sending spurious synchronization commands to the TRK and FPA values.
- Provisions for engines number 3 et 4 all across the code.
- Limited the *SUP PROC 93-20 One Engine Taxi departure* to narrow-body Airbus models

Version 4.3 from 2021-10-36

- Now supports the A340-600

Known problem: the PERF PAGE take-Off Trim value can be approximated, as filled by the First Officer in the MCDU during the cockpit preparation procedure. [1/UP1.2](#) instead of [1/UP1.5](#) can happen for instance, with a variation at the last digit. Take a look at the data and correct in case of strong discrepancy with the ISCS in regard to the take-off trim setting. This will be improved at a later point, this just requires some time to encode.



Version 4.4 from 2021-11-30

- Different transponders in the Airbus A319/321 and the A340-600 are now recognized.

On the left the A319 transponder panel, on the right hand side, the A340 one.



Version 4.5 from 2022-06-24

- A340-600 was updated by Toliss to version 1.1, therefore I've made the required adaptations.

Version 5 from 2022-08 to 2022-10 (2021 AIRBUS standard operating procedures)

- All Toliss airbus were updated so we needed to check compatibility
- X-Plane 12.00 beta was published, so we needed to code new stuff for compatibility.
- Old parts of the code were considered deprecated and were removed.
- Introduced another progress and sequence mechanism more suited to VR users.
- Airbus introduced at the end of 2021 new standard operating procedures and new checklists. We checked everything and coded again what needed to be coded again.
- Written a full explanation of the 2021 Airbus procedures and checklists in a new separate manual.
- Simplified the main manual with less information.
- Many hours of quality checks.

Version 6 from 2023-01-07

- Quality improvements : color of the font in the menu caused a crash on XP11
- Quality improvements : GUI functions caused a crash for an user
- Quality improvements : offer a second location for the bottom bar
- Quality improvements : answering “no” to an option temporary closes the question
- Code housekeeping, cleaned the speed messages on approaching
- Very slightly delayed A321 Neo XLR body landing lights extinction in climb, they don’t add drag.
- An option on screen to make the first officer request and insert the FLEX take off performance via AOC (requires the January 2023 version of ToLiSS aircraft to actually request the performance)

Version 6.1 from 2023-01-13

- Pictures inside the menu caused a FlyWithLua crash for some users. [Removed now]
- The landing light couldn’t trigger the takeoff flow in the A340-600, only the quick glance trigger (glancing left and light) could. [Repaired]
- Passenger Address receiver knob (PA) on any audio control panel (ACP) now makes the passenger address messages audible in the cockpit.

Version 6.2 from 2023-01-13

- Sounds weren’t correctly played in XP12, FWL2.8. [Converted everything to stereo – all sound files changed !]
- INT and CAB reception knobs now handled.

Version 6.3 from 2023-01-20

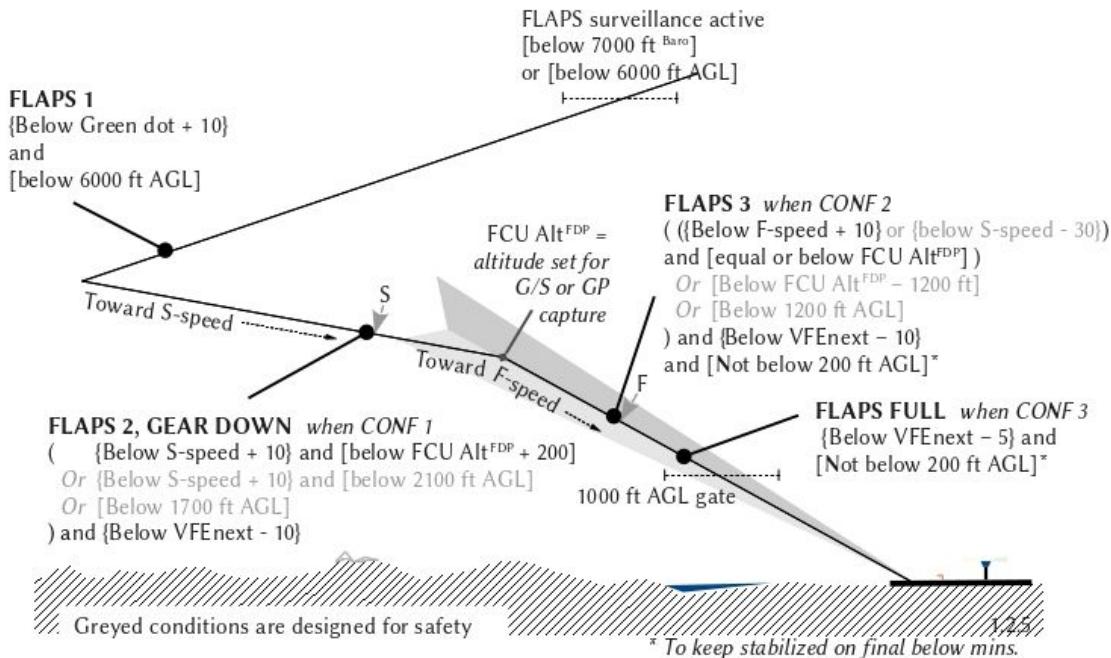
- New option to activate or deactivate the jump to the cabin via the cockpit door lock switch.
- New FlyWithLua option to totally hide the bottom bar (in the FlyWithLua menu).

Version 6.4 from 2023-01-21

- A320 CG and Trim position added in the code to support the upcoming ToLiSS A320 Neo during the First Officer preflight.

Q. & A.

Q. What altitude and speed will begin the flaps extension on approach?



Answer. The above picture described the Speedy Copilot for ToLiss mechanism.

Q. How to tell the copilots to set FLAPS 3 for landing (instead of FLAPS Full) ?

Answer. You can tell to F/O that a **FLAPS 3 landing** is planned by configuring the overhead GPWS FLAPS 3LDG switch to ON during the descent preparation !

Q. How to operate the navigation lights?

Answer. It's perfectly fine to put them ON when you board the aircraft and power it up at the beginning of the PRELIMINARY PREP. At the latest you should have them on during the COCKPIT PREP, because, after all, it is a preflight procedure. "EXTERIOR LIGHT AS RQRD" is an item of the cockpit prep : it's done by the PF at that time which is the FO because the captain is doing the ext. walkaround. Regarding the beacon, the first Officer will put it to ON before engine start. However, you can takeover at any time, if you prefer to have the beacon ON a little earlier. It won't hurt. To start the before pushback sequence, you have to press the INT microphone button or the external electrical source button on the overhead regardless of your beacon state.

Q. I requested low pressure refrigerant air but it doesn't work !

Answer. It is not because it is requested that the ground crew will provide it. Please wait for ideal environmental conditions which allow LP connection (*Image courtesy of your.heathrow.com*).



Q. Can we have spelling tasks while accomplishing ?

Answer. It's not realistic and it's noisy !

Q. Can we do Pack OFF takeoffs ?

Answer. Yes, out of the box. There is no configuration menu for it. The F/O will naturally put the Pack ON after takeoff. Still, it will be your responsibility to deactivate one or both packs before takeoff, as a simplification.

Q. Every time the PM finishes his after start flow, it seems stopped. How can I pass this ?

Answer. The PM does indeed the after-start procedure (ground spoilers, flaps, ECAM door page). You should perform the after-start checklist on your own at this point. Then, the very first item of the PF flow is to put the taxi-light ON. The PM will keep silent, but that triggers the taxi flow for him. One of the significant item that comes next is the flight controls check (see the QRH "taxi procedure").

Q. How to pass the flight control check ?

Answer from JackZ @ x-plane.org. To start the FCTL CHECK sequence, slightly move the stick, then follow the below routine (at a slow pace, but ensuring you reach full deflection each time), with a 1 sec pause between each movement :

1-FULL UP (stick full aft), FULL DOWN, NEUTRAL (Stick released)

2-FULL LEFT, FULL RIGHT, NEUTRAL

3-After depressing and maintaining presses the Rudder Disc Button which is located in the center of the tiller, select FULL LEFT (Rudder pedal Full left), FULL RIGHT, NEUTRAL. Then you may release the Rudder Disc

4- The F/O is then supposed to do the same check silently (side stick only)

Be advised that you have an option to disable the rudder FCTL CHECK (only the rudder check) for those not equipped with rudder.

Q. What do the acronyms CM1 and CM2 mean ?

CM is Crew Member. CM1 is the occupant of the left hand seat. CM2 of the right hand seat.

Q. The Ground handling comes out of sync sometimes. Can we solve this ?

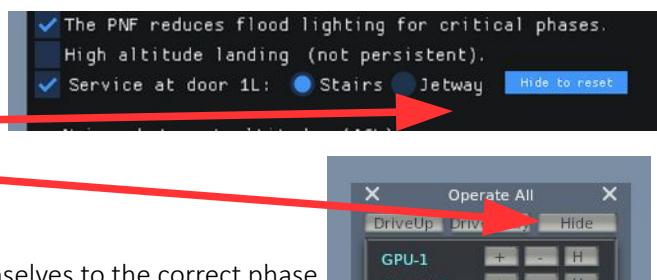
You can resync the ground handling in two clicks.

The method is to :

- 1) open the JARdesign control panel ;
- 2) click "Hide".

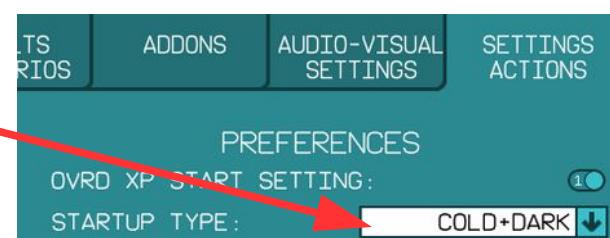
That's it !

The ground services should start to redispatch themselves to the correct phase.



Q. What is the recommended startup state ?

Speedy Copilot for Toliss was designed with Cold and Dark in mind, although it can work with all other startup types, from being in turnaround to having just landed on the runway !



Media

The following sound tracks are included with Speedy Copilot 320.

Title : Journey's Reflection

Author : Darren Curtis

Source : <https://darrencurtis.bandcamp.com>, <https://www.auboutdufil.com/index.php?id=499>

License : <https://creativecommons.org/licenses/by/3.0/deed.fr>

Title : Corporate Music

Author : Scott Holmes

Source : http://freemusicarchive.org/music/Scott_Holmes/

License : <https://creativecommons.org/licenses/by/3.0/deed.fr>

Producer

Speedy Copilot for ToLiSS is a product from Aérographe.

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