

PSX.NET Orchestration & Ground Handling

Simple user guide

Based on the current source, 6 September 2026. This describes simulator behaviour, not real-aircraft operating procedures. Features depend on enabled settings and connected applications. Live behaviour has not been re-tested as part of writing this guide.

1. What each application does

Application	What you use it for
EFB	Your normal controls: Services, Turnaround, Pushback, Ground Services and De-icing. Shows progress and equipment states.
BACARS	Gets flight, passenger and fuel context from INIT DATA and coordinates loading/fuel requests. Proposes handling companies from the airport defaults.
Orchestration	Controls the ground-handling sequence, doors, equipment readiness, pushback and service coordination. Owns the authoritative turnaround state.
MSFS Router and Client	Carry out the visual vehicle and jetway work in MSFS and return supported feedback.
GSX model installation	Supplies the vehicle models used by the visual system. Models must be installed on the MSFS computer.

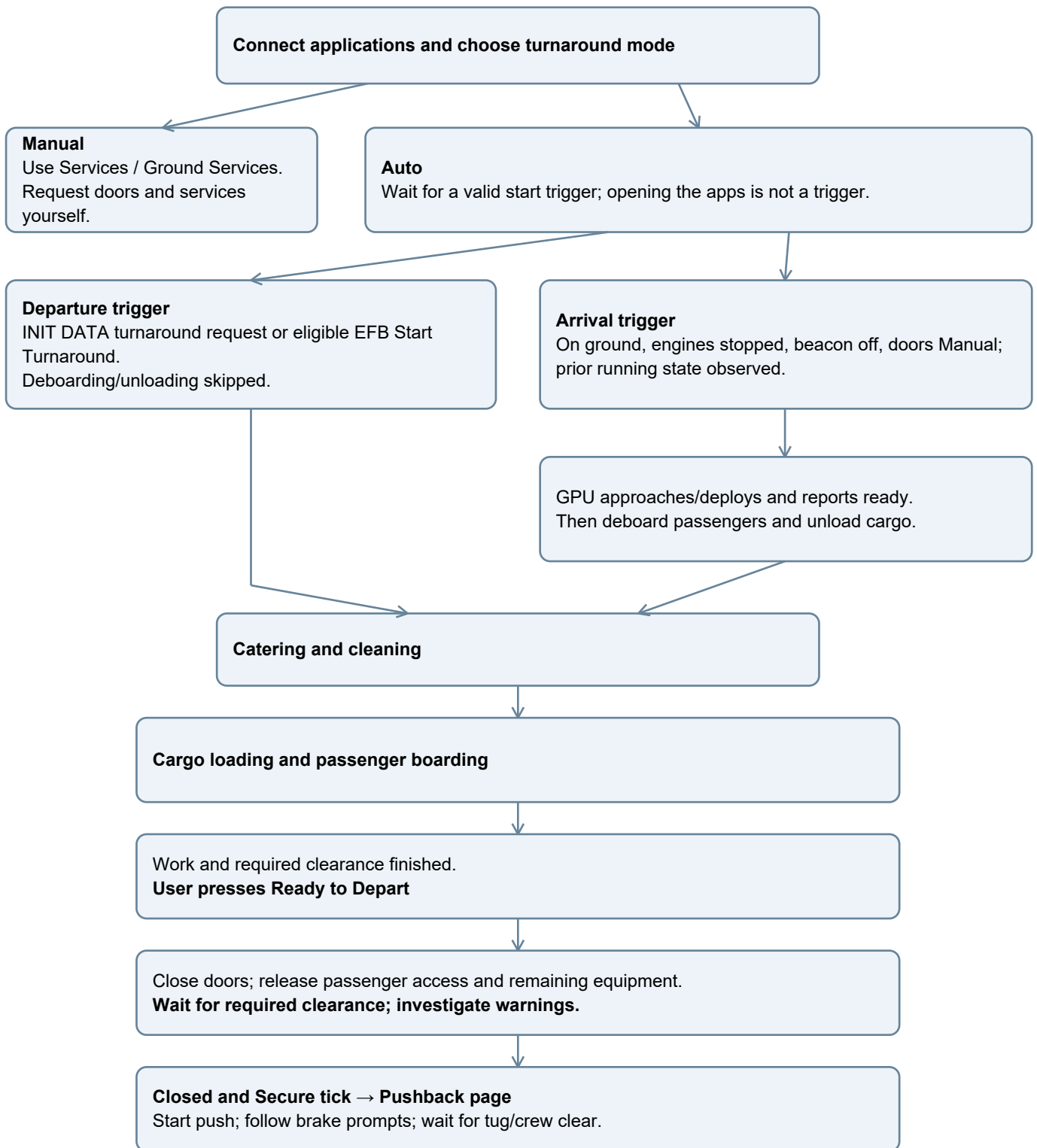
Start the required applications and check Orchestration shows PSX connected and the local router ready. In a shared cockpit, only the active owner controls PSX; other instances can reproduce local visuals.

Opening the applications alone does not start a turnaround. If the EFB says it is waiting for Orchestration, restore the connection before using automatic controls.

2. Three different meanings of Auto/Manual

- **Turnaround Auto:** Orchestration runs the stand-service stages. Manual pauses this choreography and retains current doors/equipment; it is not a reset or a stand-clear command.
- **Pushback Auto:** uses the automatic pushback workflow/plan. It is separate from turnaround mode.
- **Passenger doors Auto/Manual:** the aircraft door mode, separate from whether turnaround choreography is automatic. Arrival automation requires applicable passenger doors to be Manual.

3. Main flowchart



Next Stage skips current work, not clearance. Fuel and external services run alongside this flow.

Fuel and external power/air run alongside this flow; they are not additional passenger/cargo stages. External power can remain available after the turnaround close-up. Check services separately before moving.

4. Automatic turnaround: what triggers what?

Function	Trigger / what you do	What follows
Departure turnaround	Obtain INIT DATA that issues the turnaround start request, or press eligible Start Turnaround in the EFB with flight context, on ground and Auto selected.	Prepares the cycle. Deboarding and unloading are skipped for a departure-only start. Repeated starts do not reset an active cycle.
Arrival turnaround	After a running/beacon-on state has been observed: on ground, engines shut down, beacon off, applicable passenger doors Manual; arrival automation enabled.	Starts a new arrival cycle. GPU readiness gates the automatic arrival services. Simply loading a parked situation does not manufacture a prior arrival transition.
Passenger access	Automatic cycle needs access, or a supported manual door/access request.	Searches for a usable jetway and requests attachment. If none is found within 5 seconds, uses remote access: stairs and passenger bus. A found jetway has a separate attachment-confirmation wait; discovery is not attachment.
Deboarding	Arrival cycle with passenger access ready.	Counts passengers off using available passenger context and stage progress. These are calculated counts, not individual MSFS passenger detection.
Cargo unloading	Arrival unloading stage.	Baggage equipment prepares; applicable cargo doors and work follow readiness. Work completion leads to door closure and equipment clearance.
Catering and cleaning	Previous phase finishes, or departure-only cycle begins its work.	Catering vehicles service the aircraft; cleaning is represented as a timed stage, not a dedicated cleaning truck.
Cargo loading	Loading phase begins.	Baggage vehicles deploy and cargo work progresses. Cargo doors close before equipment is released.
Passenger boarding	Boarding phase and passenger access ready.	Counts towards the supplied passenger total. Boarding can display complete when passengers are onboard, while cargo continues. Passenger access stays in place until close-up.
Next Stage	Press while current work can be advanced.	Skips remaining work in that phase. Does not bypass equipment retraction, cargo-door closure or clearance sequencing. Repeated clicks are not a way to speed up a vehicle.
Ready to Depart	Available once boarding/loading completion meets the final-close-up requirements.	Explicitly starts door closure and passenger-access/equipment release. It does not start pushback. No early-departure confirmation is needed for the normal completed-work path.
Closed and Secure	Required closure and equipment-clearance checks finish.	Shows a completion tick. A 100% ring during clearance is not the same as completed clearance.

Baggage order: forward arrives/deploys first, then aft. Departure is aft first, then forward. Each marker shows its own state; the forward vehicle can remain Attached while aft departs.

5. Manual services and doors

Use the EFB Services/Ground Services pages. The automatic Turnaround page is hidden in Manual turnaround mode.

Control / function	Trigger	User-visible result or caution
Turnaround / Boarding / Final Call / Closed presets	Select the available door preset.	Runs a staged door sequence appropriate to the aircraft type and configured preset. Boarding requests passenger access. A preset is not the complete automatic turnaround programme.
Individual doors	Select a supported door control.	Opens/closes the selected managed door subject to authority and state checks.
Door Auto / Manual	Door-mode request.	Changes applicable passenger-door modes progressively, not instantaneously.
PA/PTT door-mode request	Recognised PA-selected PTT press/release on a supported audio panel.	Requests Manual passenger-door mode when on ground and door conditions permit. Not every microphone press triggers it.
Catering / baggage / fuel requests	Relevant manual service control.	Requests/releases the service through the handling system; do not expect an instantaneous vehicle toggle.
Jetway / stairs	Passenger-access request or available manual access control.	Jetway movement is requested through the MSFS bridge. Available does not mean Attached.
Chocks	Insert/remove/toggle control where exposed.	Updates the simulated chock/brake-pressure behaviour. Keep parking-brake prompts separate from chock state.

Do not operate a second legacy Doors/Ground Services authority alongside the active Orchestration controller.

6. External power, air and fuelling

Function	How triggered	What to watch
External Power 1 / 2	Services or Turnaround page button; also automatic arrival preparation.	Can wait for GPU preparation. Availability and actually connecting the aircraft to external power are distinct states.
External bleed air / conditioned air	Corresponding service button; bleed availability is also part of arrival preparation.	Check the button/status indication and aircraft connection state.
GPU departure	External-service requirements are removed and the handling system releases it.	Power/air requests are blocked while the cart is retracting/departing. Disconnect warnings/interlocks must be resolved rather than repeatedly clicking.
Fuel preparation and uplift	BACARS loading/fuel workflow or the available Ground Services fuel controls.	Fuel equipment preparation/readiness and actual fuel uplift are separate. Watch onboard quantity versus target and fuel status.
Stop fuelling / fuel equipment release	Fuel stop/completion workflow.	Stops/releases through the supported sequence. Cargo or passenger completion does not by itself prove fuelling is finished.
Load/weight settings	Ground Services/BACARS supported controls for fuel, ZFW, CG, trim and limits.	Updates the requested aircraft loading values. These are not animated baggage-count measurements.

7. Pushback and ground crew

1. Finish close-up, check external services and use the EFB Pushback page.
2. Select the available plan/direction and request pushback (or forward movement where offered).
3. Let the door checks/preparation and tug connection complete.
4. **Release parking brakes only when prompted.** Tug connection alone is not movement authorisation from the user.
5. Follow progress; use the supported Stop control when needed. Manual direction controls are available in the corresponding workflow.
6. When prompted, set parking brakes. Wait for tug drive-away and clearance.

The tug and ground-crew/wing-walker visuals follow the pushback lifecycle; they are not separate normal departure tasks you have to spawn. A genuine tow-state transition can trigger automatic door closure/arming; an initial telemetry snapshot should not.

8. Other Orchestration functions

Function	Trigger / user action
De-icing	Start from the EFB De-icing page with the supported fluid/conditions. Orchestration runs the operation and supplies holdover information to PSX. Cancel using the de-icing control. Simulator holdover values are not real-world dispatch guidance.
Weather objects / CB map	When enabled, responds to PSX weather/CB data automatically. Orchestration places supported storm visuals and provides diagnostic/map views; no turnaround button is needed.
Handling Agents	Choose airport or ICAO-prefix region and the handling/catering/fuel defaults. More-specific airport rules take precedence. These select liveries, not different operational timings or a booked real-world handler.
Connection / ownership recovery	Automatic when applications connect/reconnect. EFB waits for current authoritative state before enabling dependent controls. Reconnecting should not create a new turnaround by itself.
Diagnostics	Use Orchestration activity/runtime events and logs when a stage is waiting or a vehicle disagrees with the display. Debug commands are troubleshooting tools, not routine user steps.

9. Understanding the display

Requested = queued. **Approaching** = travelling towards the aircraft. **Deploying** = preparing to service. **Attached** = ready/in service. **Retracting** = packing away. **Departing** = leaving. **Clear** = the system has completed its release/removal path.

An amber/yellow work ring can be at 100% while clearance is still pending. A green tick indicates stage completion. Unknown/warning states should not be treated as readiness.

For spawned vehicles, successful removal transmission is not independent visual proof that MSFS removed the object. If the aircraft display and simulator disagree, check both and retain the logs.

10. If nothing happens

- **Controls unavailable:** check PSX connection, active Orchestration owner and EFB synchronisation, then flight context/on-ground/mode requirements.
- **Arrival does not start:** check engines stopped, beacon off, passenger doors Manual, arrival automation enabled and whether the system observed the earlier running state.
- **Passenger doors remain closed:** check passenger access readiness. Jetway Available is not attachment confirmation.
- **100% but no tick:** wait for required door/equipment clearance; inspect warnings rather than forcing repeated requests.
- **Next Stage but no Ready to Depart:** loading/boarding or clearance requirements are not yet satisfied.
- **Jetway stays attached:** inspect runtime events and MSFS feedback. Do not repeatedly toggle it, as a toggle can reverse the intended movement.
- **Wrong livery:** check exact-airport rules, region rules, saved overrides and installed models. Current WorldFlight defaults deliberately use fixed generic vehicles where no defensible available branding was established.

Implementation references

Checked against OrchestrationRuntime.cs (requests, cycle starts, services and close-up), GroundAutomationController.cs (arrival conditions), TurnaroundCoordinator.cs (phases), GatewayAttachmentController.cs (access search/attachment), AcpDoorController.cs and DoorTurnaroundController.cs (door triggers), and GroundCompanies.cs/GsxVehicleCatalogue.cs (livery selection). Older README descriptions that assign stage authority to BACARS are not used here: Orchestration is the current stage authority.