PILOT'S


# Checklists | Cold & Dark Startup

v1.45

# INDEX

Dash 7 Preflight Checklist

**Crew Flow -> Challenge | Response - PNF**

| | |
|---|---|
| 01. Master Battery \| AC \| DC | On |
| 02. Left & Right Batteries | On \| Volts Checked |
| 03. DC Ext Power | On \| Volts Checked |
| 04. Bus Tie | Closed \| Light Out |
| 05. DC Generators | Off |
| 06. FDR \| ELT \| CVR | Normal \| Auto \| Test |
| 07. Panel Lighting | As Required |
| 08. Fuel " T " Handles | Pulled \| Check \| Push in Normal |
| 09. Fire \| Smoke Warning | Tested |
| 10. Windshield Wiper \| Heat | Off |
| 11. Ice Cont. \| Pitot & Static Heat | Off |
| 12. Battery Temp | Tested |
| 13. Anti-Collision \| Position Lights | Off \| As Required |
| 14. Ignition | 5 Normal |
| 15. Fuel Quantity | Tested \| Verified |
| 16. Aux Pumps \| Fuel Transfer | Off \| Off & Closed |
| 17. Engine Start | Off |
| 18. Cabin Press Control | Auto \| Auto \| Set |
| 19. AC External Power | Off |
| 20. Invertor Selector | Left Bus |
| 21. AC Generator | Off |
| 22. Engine Bleed | Off |
| 23. Temp Controls | Auto \| Set |
| 24. Fasten Seatbelt \| No Smoking | On \| On |
| 25. Emergency Light | Checked \| Off |
| 26. Slow \| Fast Indicator | Checked |
| 27. Clocks | Zero \| Set |
| 28. Flight \| Taxi Switch | Taxi |
| 29. GPWS \| EGPWS | Tested \| Check |
| 30. Yaw Damper | Guarded \| Normal |
| 31. Flight Director | Tested \| Standby |
| 32. Landing \| Taxi Lights | Off |
| 33. PFCS Switch Lights | Flush \| Normal |
| 34. Autopilot SYS CPLG | Selected |
| 35. Steering | Off |
| 36. Stall \| Overspeed Warning | Tested |
| 37. Flight Instruments \| DME | Set \| Checked |
| 38. Standby A/H | Uncaged |
| 39. Compasses | Slave |
| 40. HYD Quantity | Checked |
| 41. Static Source (Selector) | Normal |
| 42. Alt Set Preselector | Set |
| 43. Prop Autofeather | Off |
| 44. Engine Intake Deflectors | Retracted |
| 45. Engine Instruments | Checked |
| 46. Pitch & Roll Disc Handles | In \| Locked |
| 47. Radar & Transponder | Checked \| Standby |
| 48. GPS \| NAV \| COM Frequency | On \| Set \| Set |
| 49. Control Lock | Checked |
| 50. Trims | Checked \| Set |
| 51. Flight Idle Gate | Down \| Light On |
| 52. Autopilot \| Yaw Damper | Off |

| | |
|---|---|
| 53. Flap Selector | Matched |
| 54. Landing Gear Horn | Tested |
| 55. Caution \| Advisory Light | Tested |
| 56. Synchrophase | Off |
| 57. Anti-Skid | On \| Light Off |
| 58. Roll Spoiler Press Switch | Guarded \| Normal |
| 59. Avionic Cooling | Auto |
| 60. Crew Briefing | Completed |

## Dash 7 Before Start Checklist

**Crew Flow -> Challenge | Response - PNF**

| | |
|---|---|
| 01. Preflight Inspection | Completed |
| 02. Log Book \| Documents | On-Board |
| 03. Circuit Breakers | Checked |
| 04. Master Battery \| AC \| DC | On |
| 05. Left & Right Batteries | On \| Volts Checked |
| 06. DC Ext. Power | If On \| Volts Checked |
| 07. Bus Tie | Closed \| Light Out |
| 08. DC Generators | On |
| 09. Fire Warning \| Fuel Handle | Tested Push In |
| 10. Fuel Quantity | Checked |
| 11. Cabin Pressure Control | Auto \| Auto \| Set |
| 12. Engine Bleed | Off |
| 13. Fasten Seatbelt \| No Smoking | On \| On |
| 14. Flight \| Taxi Switch | Taxi |
| 15. Clocks | Zero \| Set |
| 16. Autopilot SYS CPLG | Selected |
| 17. Flight Instruments \| DME | Set \| Cross-Checked |
| 18. Standby A/H | Uncaged |
| 19. Alt Set Preselector | Set |
| 20. GPS \| NAV \| COM Frequency | On \| Set |
| 21. Trims | Set |
| 22. Crew Briefing | Completed |
| 23. Before Start Checklist | Complete |

# Startup Preparation

**Dash 7 Cockpit Centre Console**

In order for the engines to be in a start ready condition, please ensure the following:

1. The Throttle Levers must be pulled all the way back to idle.
2. The Propeller Condition Levers must also be all the way back to the Fuel Cutoff Position.

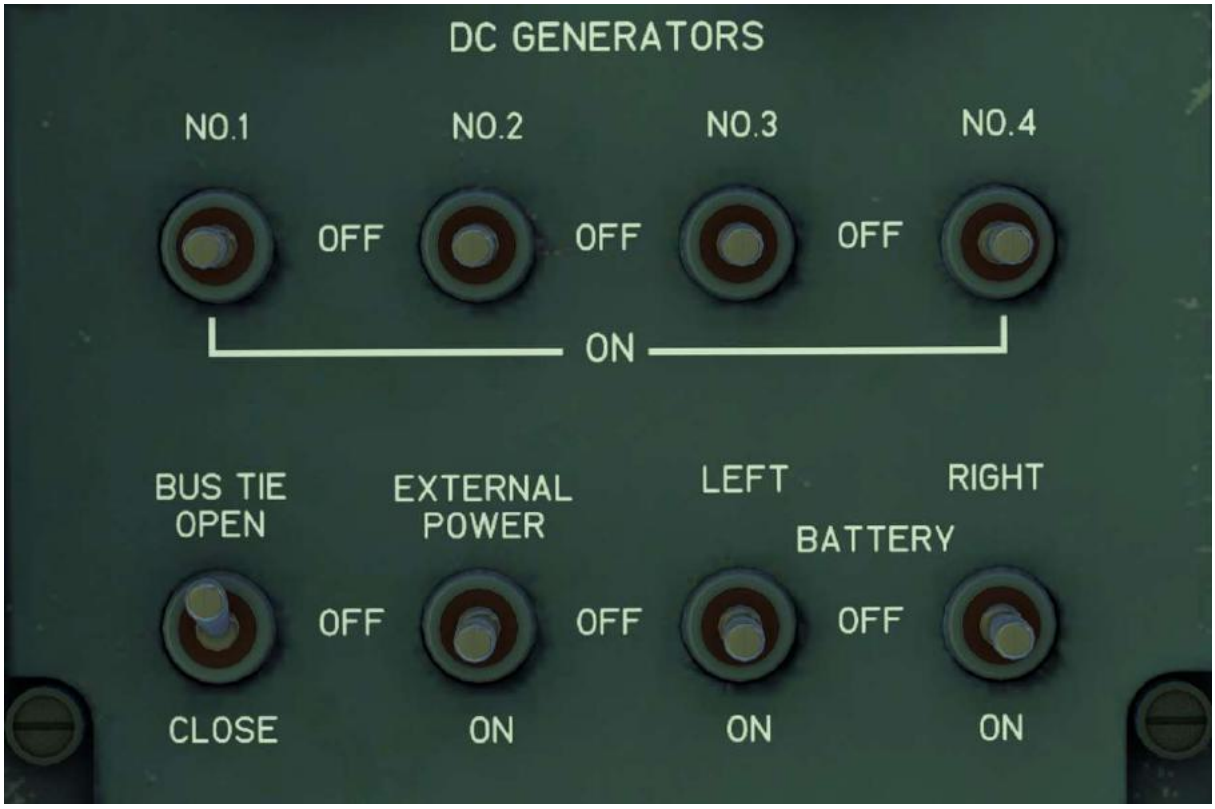
3. Engage the Gust Lock by moving the Gust Lock Handle backwards.


**Dash 7 Cockpit Overhead Panel**

On the Master Battery Control area to the right and Bus Switch area to the left, do the following:

1. Move the Master Battery, AC Gen and DC Gen Switches to the ON position.

2. Move the Left & Right Battery Switches to the ON position.
3. Move the Bus Tie Switch to the CLOSE position.
4. Should an External Power source be available, you may choose to select it.




Directly above the Bus Tie Switch you will find four DC Generator Switches:

1. Check that all four DC Generator Switches are in the ON position.

Just above the four Fuel Quantity Gauges are four Engine Ignition Switches:

1. Check that all four Engine Ignition Switches are in the NORMAL position.

Below the Master Battery Control Switches are four Engine Bleed Switches:


1. Check that all four Engine Bleed Switches are in the OFF position.

**Dash 7 Caution and Warning Light Panel**

Various lights should now illuminate on the panel to indicate the current status of numerous systems.

## Startup

The normal engine startup sequence is: Engine 3 | Engine 4 | Engine 2 | Engine 1

**Dash 7 Cockpit Overhead Panel**

Move the SELECT Switch to #3 and then press the START Button, which should illuminate after being pressed.

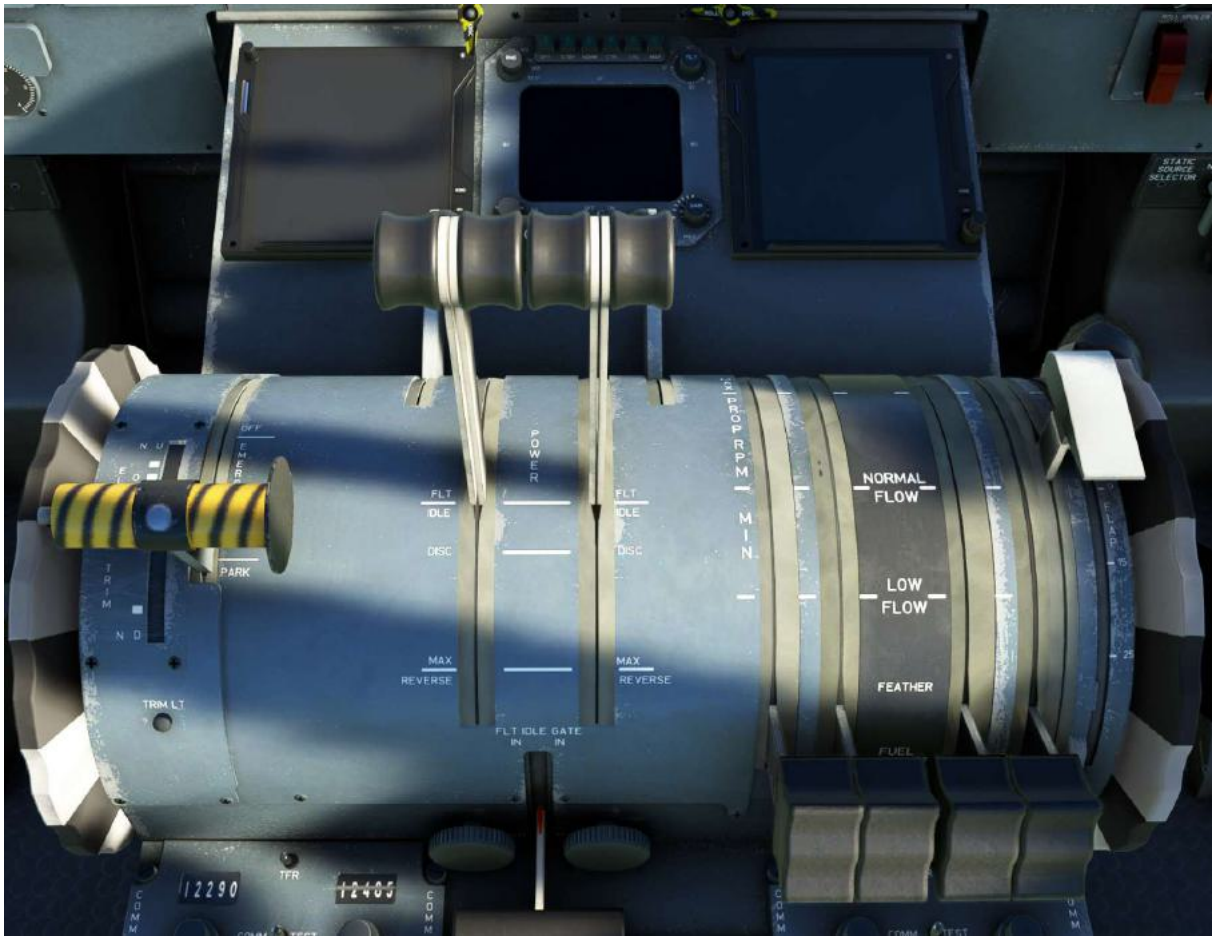
**Forward Cockpit Panel**

There should be an indication that the hydraulic pressure for Engine 3 is rising.


Observe the needle rising on the NG indicator, we are looking for between 12 to 20 % NG.

**Dash 7 Cockpit Centre Console**

Once 12 to 20 % NG is indicated, roughly where the visible green notch is on the NG indicator, we can introduce fuel to the engine by moving the condition lever to the START | FEATHER position.



**Forward Cockpit Panel**

Monitor the engine startup by checking the engine gauges using the following flow:

Monitor Oil Pressure
Monitor NG
Monitor Fuel Flow

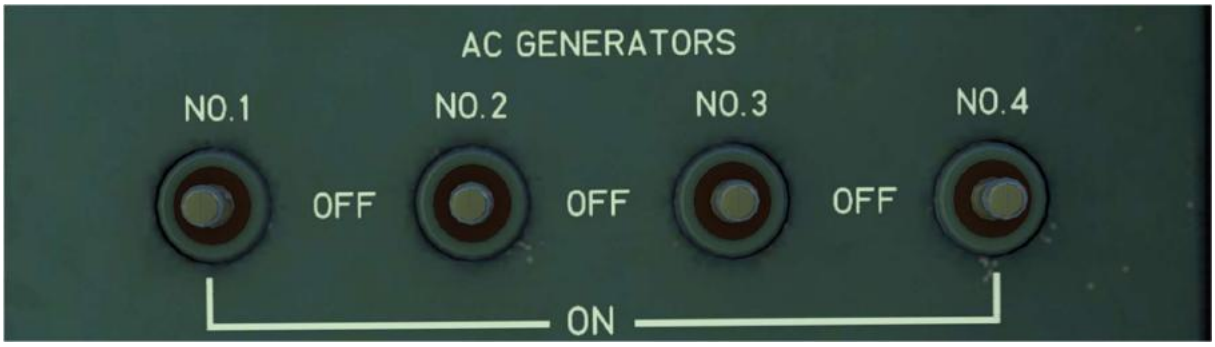

## After Start Checks

After all the engines have been started, the following actions and checks should be performed.

**Dash 7 Cockpit Overhead Panel**

On the overhead panel do the following:

1. Check that the Engine START Button is pulled out in the OFF position with no light showing.
2. The Engine SELECT Switch should be in the OFF position.
3. DC External Power must be set to OFF.
4. The Engine Bleed Switches should remain OFF until lined up for departure.




5. All four AC Generator Switches should now be in the ON position too.
6. Once lined up and ready for departure, ensure that the Gust Lock is once again disengaged.

# Cockpit Clickspots & Doors

## Dash 7 Cockpit Clickspots

To facilitate a clearer view of the front panel that may be favourable during certain flight conditions, we have integrated two cockpit clickspots that allow the flight control yokes to be hidden, they are located at the vent areas:



When the mouse cursor hovers over this area the vents will highlight in blue, clicking on the vent itself will hide/show the relative yoke. The cockpit door can be opened and the jump seat folded out by clicking on them.

**Dash 7 Main Aircraft Exit**

To open the rear main aircraft exit, leave the cockpit and move through the cabin towards the rear of the aircraft, until you are facing the exit as shown in the screenshot below:


Clicking on the door will unlock and open it.

# Dash 7 GPS Units

## Dash 7 – TDS GTNXi

The PILOT'S Dash 7 is delivered with a GPS equipped variant that supports the TDS GTNXi that is available here – https://tdssim.com/tdsgtnxi


If you own the TDS GTNXi, then our Dash 7 will allow you to operate a GPS variant that features dual GTNXi units in the cockpit.

## Dash 7 – Working Title GNS 530

The PILOT'S Dash 7 is also delivered with a GPS equipped variant that supports the Working Title GNS 530. The dual GNS 530 cockpit setup allows the units to be operated and used independently.

**Dash 7 – PMS50 GTN**

The PILOT'S Dash 7 is also delivered with a GTN unit by PMS50, which is available here – https://pms50.com/msfs/

## Autopilot & Yaw Damper

**Autopilot Buttons**

The Dash 7 is equipped with a Sperry autopilot that offers the following functions:

HDG Button - Heading Hold
NAV Button - Navigation Guidance via Nav1 or GPS
APR Button - Approach Guidance
BC Button – Back Course Guidance
VOR Button – Localizer Guidance
ALT Button – Altitude Hold
ALTSEL Button – Arm Selected Altitude
VS Button – Vertical Speed Hold
IAH Button – Indicated Airspeed Hold
SBY – Standby
FD – Flight Director

**Autopilot Engage | Disengage**

The Sperry Autopilot can be switched on by pressing the ENGAGE Button above the AP indicator:

Switching on the Autopilot will automatically also switch on the Yaw Damper, and both the AP and YD Buttons will light up to indicate that they are active:


Should you wish to only engage the Yaw Damper, you may either press the YD Button when both the Autopilot and Yaw Damper are off and both the AP and YD Buttons are unlit, or push the lit AP Button once again, as this will turn off the Autopilot, and keep the Yaw Damper active:


If only the YD Button is lit, the Yaw Damper can be turned off by pressing the lit YD Button. The Yaw Damper cannot be turned off when the Autopilot is active.

During critical moments of flight, it can be cumbersome to have to look down and reach for the switch on the center pedestal to turn on the Autopilot. To facilitate an easy access while in forward view, we have added a clickspot to one of the screws on the front panel:


**Navigation | GPS Guidance**

For the Dash 7 models equipped with either GNS or GTN avionics, there is a button that will allow you to toggle between Nav1 and GPS guidance:


The GPS units feature a function that mirrors this, selecting VLOC on the GPS unit is essentially the same as pushing the NAV | GPS button shown above.

**Autopilot Functionality**

If the Dash 7 is in a powered-up state and the Flight Director, as well as the Autopilot and Yaw Damper systems are not active, the main Autopilot Panel will display a green SBY:


Pushing the FD Button will switch on the Dash 7's Flight Director system:


If the Flight Director is off and the AP Button is pushed to switch on the Autopilot, the Flight Director will automatically be active too.

On the front panel a heading can be selected by turning the Heading Knob to the desired heading:


The Heading Knob is show above on the bottom right.

With a particular heading selected, pressing the HDG Button will activate heading guidance:

The dial to select an altitude is located immediately below the front Autopilot Panel:


Once you have a desired altitude selected here, pressing the ALTSEL Button will ARM this altitude, an orange ARM will light up to indicate this:


Pressing the VS Button will switch on Vertical Speed Hold:


With VS Mode active, you can now adjust your vertical speed through the Autopilot VS Adjustment wheel, that is located next to the AP and YD Buttons:


If you have ToolTips activated, your VS Mode Vertical Rate will be indicated as shown above, and will change as you move the mouse wheel up or down.

As the aircraft approaches the selected altitude, the orange ARM will change to a green CAP, to indicate that the altitude is being captured by the Autopilot. Once captured, Altitude Hold will be active, as indicated below.


Both the Autopilot and Yaw Damper can be disconnected via the Yoke:

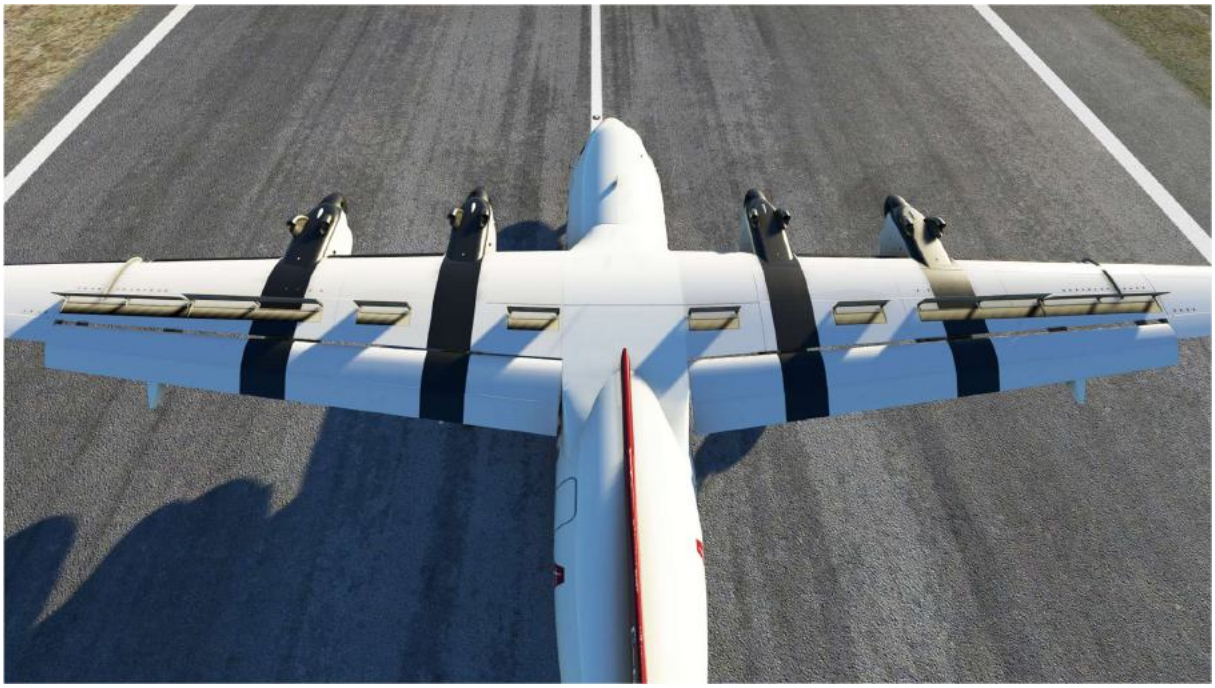

A quick left-click on the Red Button will disengage ONLY the Autopilot, left-clicking and briefly holding the left-mouse button will disconnect BOTH the Autopilot and the Yaw Damper at the same time.

## Spoilers

**Flight | Taxi Switch**


The Flight | Taxi Switch has the following two functions:

The FLIGHT position selects roll spoiler flightmode and arms the roll and ground spoilers for full deployment on landing.



The TAXI position will retract the roll and ground spoilers after landing.

With the Flight | Taxi Switch at the FLIGHT position, the roll and ground spoilers will deploy if weight is on the main gear and the throttle levers are retarded below 80% Ng.

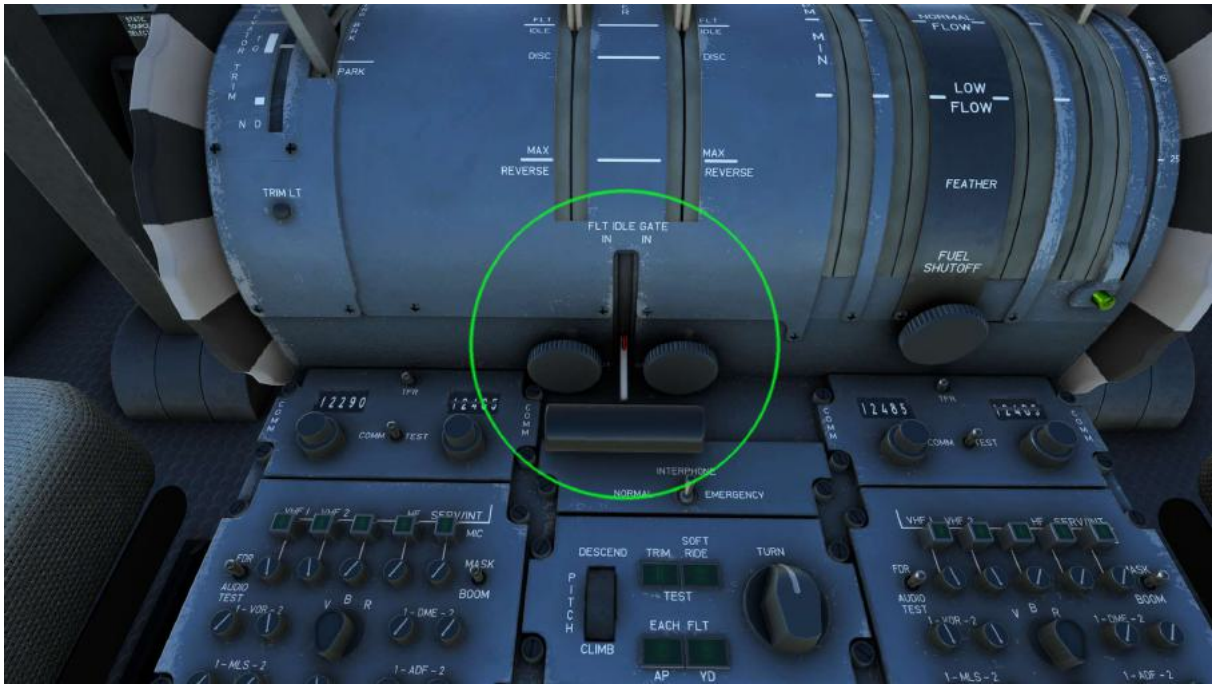

Part of the pre-takeoff checklist is to ensure that the Flight | Taxi Switch is at the FLIGHT position prior to starting the takeoff roll.

If the Flight | Taxi Switch is at the TAXI position prior to take-off, pushing the throttle levers above 80% Ng will automatically return the switch to FLIGHT position, as required for take-off, and also retract the roll and ground spoilers.

# Flight Idle Gate

**Flight Idle Gate Sound**

The Dash 7's is equipped with a Flight Idle Gate that is designed to prevent the thrust levers being moved into reverse by accident during flight.




It is automatically triggered by the wheels leaving the ground at take-off, the wheels touching the ground upon landing. The Flight Idle Gate snapping open or shut produces an odd clunking sound that can be heard very distinctly from within the cockpit.

This was info provided to us by Air Tindi, who currently operate the largest fleet of Dash 7s. The sound you hear was taken from an actual real-world flight in the Air Tindi Dash 7 cockpit and is 100% authentic.

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A very special thank you to our friends at Air Tindi for providing extremely valuable input and reference for the Dash 7. We look forward to re-creating the cargo variant in the near future.

A massive thanks to Drew Bolton for his work on the camera views. Last, but not least, our sincere gratitude to all of our Beta testers.

## *CONTACTING SUPPORT*

Support for this product is provided by PILOT'S GesmbH via e-mail at:

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