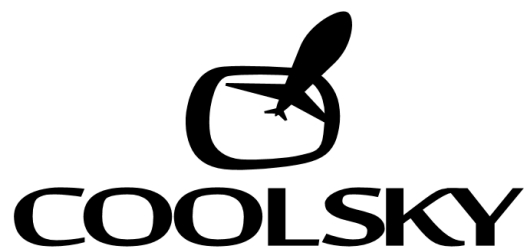


Super 80

Professional

User Manual

By CoolSky, 2008
Version 1.0.2



Super 80 Professional – User Manual

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Introduction

First Things First

What is the name of this aircraft? There seems to be a bit of confusion about the name of the DC-9-80/MD-80 series of aircraft. Up through the years, different marketing names, series names and Type Certificate names have been used. And the fact that operators sometimes decorate their aircraft with an identification anomaly only adds to the confusion. Let's try to sort this out.

The MD-80 was not an entirely new aircraft. It was in effect an extension of the DC-9 line of aircraft. Therefore the Type Certificate of the first aircraft appeared as DC-9-81, DC-9-82 and DC-9-83. The names Super 80 and DC-9 Super 80 were simply marketing names used to sell the aircraft. The name DC-9-80 was used to describe the whole series of DC-9-8x aircraft.

In 1983, the McDonnell Douglas Corporation decided that the DC-9-80 series would be designated MD-80. Again, the name MD-80 is used to describe the whole series of MD-8x aircraft. No aircraft has ever been certificated as DC-9-80 or MD-80. The Type Certificates were amended with the new MD designator in parenthesis, appearing as DC-9-81 (MD-81). Now you had aircraft of the same type with name plates stamped as DC-9-81 and others as DC-9-81 (MD-81). The DC-9-81 (MD-81), DC-9-82 (MD-82) and DC-9-83 (MD-83) were now marketed as the MD-81, MD-82 and MD-83 respectively.

The MD-87, developed a bit after the first three models, was certificated as the DC-9-87 (MD-87). No aircraft were certificated as DC-9-87. For the MD-88, the application for Type Certificate amendment was made after the earlier changes. There never was a DC-9-88 or DC-9-88 (MD-88), only the MD-88.

Why the -80? The last DC-9 was the series 50. Why did they not name the new aircraft -60 or -70? There actually was a DC-9-60 proposal, but this design was rejected. The new aircraft was scheduled to enter service in 1980, and MDC saw the opportunity to market the new aircraft as the Series 80 or Super 80 – an aircraft for the 'eighties'.

Over the years the MD-80 has earned many nicknames from the pilots flying it. One of the most notable nicknames is Mad Dog.

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DC-9 Family

The DC-9 series of aircraft was developed to meet the demand for a short-range jet airliner and to complement the larger long-range DC-8. The DC-9 was launched in the early 60's and became an instant success. The DC-9-10 entered service in December 1965 and by the end of 1966 total sales had reached 424 aircraft.

The DC-9 was designed from the outset with stretched larger capacity developments in mind. The DC-9-30, -40 and -50 were stretched and fitted with an enlarged wing to handle the larger fuselage. The DC-9-20 had the original -10 fuselage but was fitted with the new wing for increased hot and high performance.

Total sales of the DC-9 series reached 976 aircraft.

The Super 80

The DC-9 Super 80 is a stretched and improved development of the DC-9 series of aircraft made by the Douglas Aircraft Company. The aircraft was born out of a need for an aircraft that could carry more passengers and fly farther than the current DC-9 series aircraft. The new aircraft would also have to be quieter and have better fuel economy than the current lineup. It was decided that a stretched DC-9 with a larger wing paired up with the new Pratt & Whitney JT8D-209 engines would meet this requirement. The DC-9-80 program was launched in October 1977.

New Design

The largest aircraft in the DC-9 range is the series 50. The new Super 80 received a number of enhancements and improvements over the -50.

The wing root was enlarged to increase wing area and fuel capacity. The wing tip was extended by 2ft to increase wing aspect ration and improve performance. The wing's high-lift system was also improved. The trailing edge flaps were enlarged to lower stall speeds. The leading edge slats were redesigned to lower drag on take-off and to improve climbout characteristics at higher gross weights.

New and better engines were required for the new aircraft. The Pratt & Whitney JT8D-209 engine, which at the time was under development, was selected to power the new aircraft. This engine would offer increased thrust and substantial reductions in noise and specific fuel consumption.

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MD-80 Series

Five different models of the MD-80 series aircraft were made. The first aircraft was the DC-9-81 (MD-81). The second model was the DC-9-82 (MD-82) with up-rated engines for better performance at high density altitude operations. Then, the DC-9-83 (MD-83) followed with increased range and reduced fuel consumption. Contrary to the trend at MDC, the fuselage of the basic model was shortened to make the DC-9-87 (MD-87). The MD-87 had the fuselage length of the popular DC-9-30 and even longer range than that of the MD-83. The final model in the MD-80 series is the MD-88. This model had improved cockpit avionics with EFIS, flight management systems and other interior improvements.

In Service

Swissair and Austrian Airlines were the first operators to fly the Super 80 in service (1980). Pacific Southwest Airlines was the first US carrier to operate the Super 80.

Sales of the Super 80 were slow but steady the first few years. In 1984, American Airlines placed an order for 67 aircraft, with a further 100 on option. American Airlines became the largest operator of the MD-80 with a total of 260 aircraft in its fleet.

After the American Airlines order, the aircraft series went on to become a huge success. A total of 1191 MD-80 series aircraft were built.

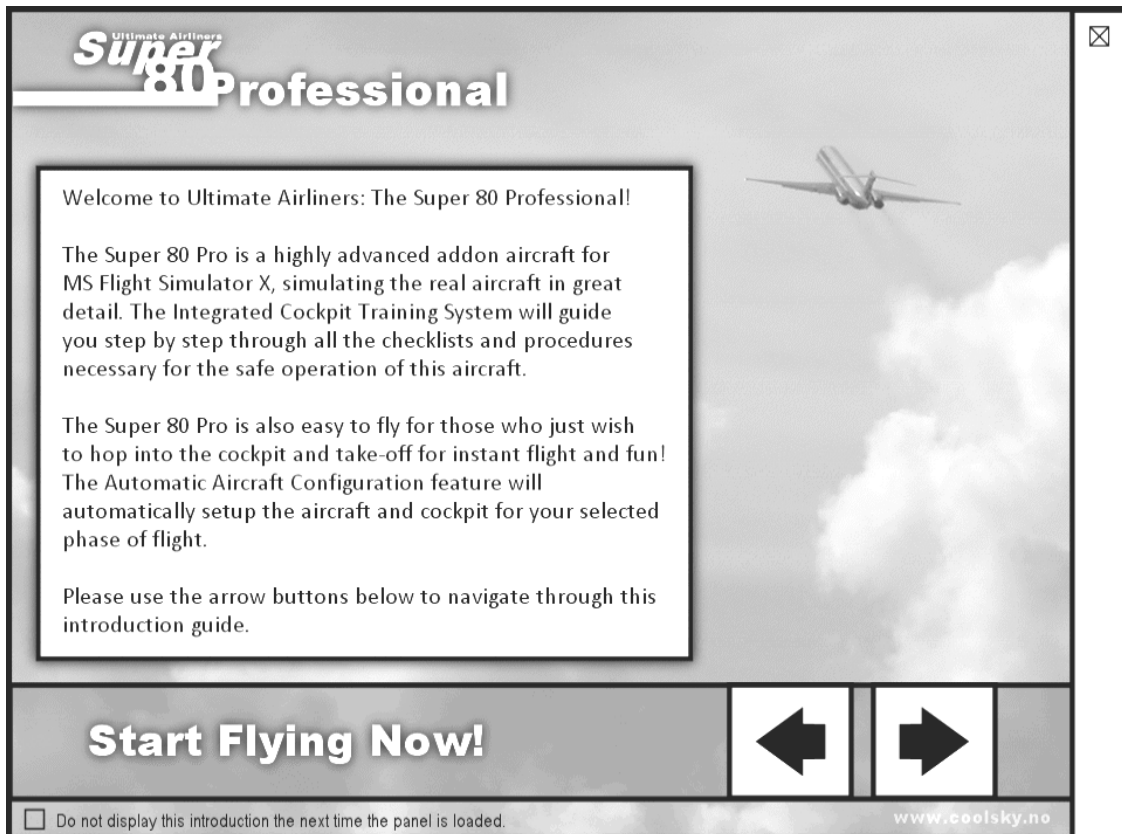
Public Opinion

The MD-80 aircraft was very well received by the flying public. Airline passengers around the world gave the MD-80 high scores on quietness, ride quality, personal roominess and cabin décor. In surveys, the MD-80 was compared to its main rivals, the Boeing 727 and 737. The surveys showed an MD-80 preference of 3-to-1 over the Boeing 727 and almost 8-to-1 over the Boeing 737.

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Start Flying Now!

The first window to pop-up when you start the Super 80 Professional for the first time is the Start Flying Now! window. This window will show you have to get started flying the Super 80 Professional.



Use the arrow buttons on the lower right to navigate forward and/or backward.

To prevent the Start Flying Now! window from popping up every time you start the Super 80 Professional, simply check the box in the lower left hand side corner. This window can later be enabled again in the Options window.

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Window Select Menu

In the lower left hand side corner of your screen is a small red arrow. Move the mouse cursor over this arrow to expand the Window Select Menu. This menu allows you to easily access all the windows in the Super 80 Professional panel. Simply click the icon of the window you wish to open. This will close the Window Select Menu and open the selected window. To close the Window Select Menu without selecting a new window, simply move the mouse cursor over the arrow at the bottom of the menu.

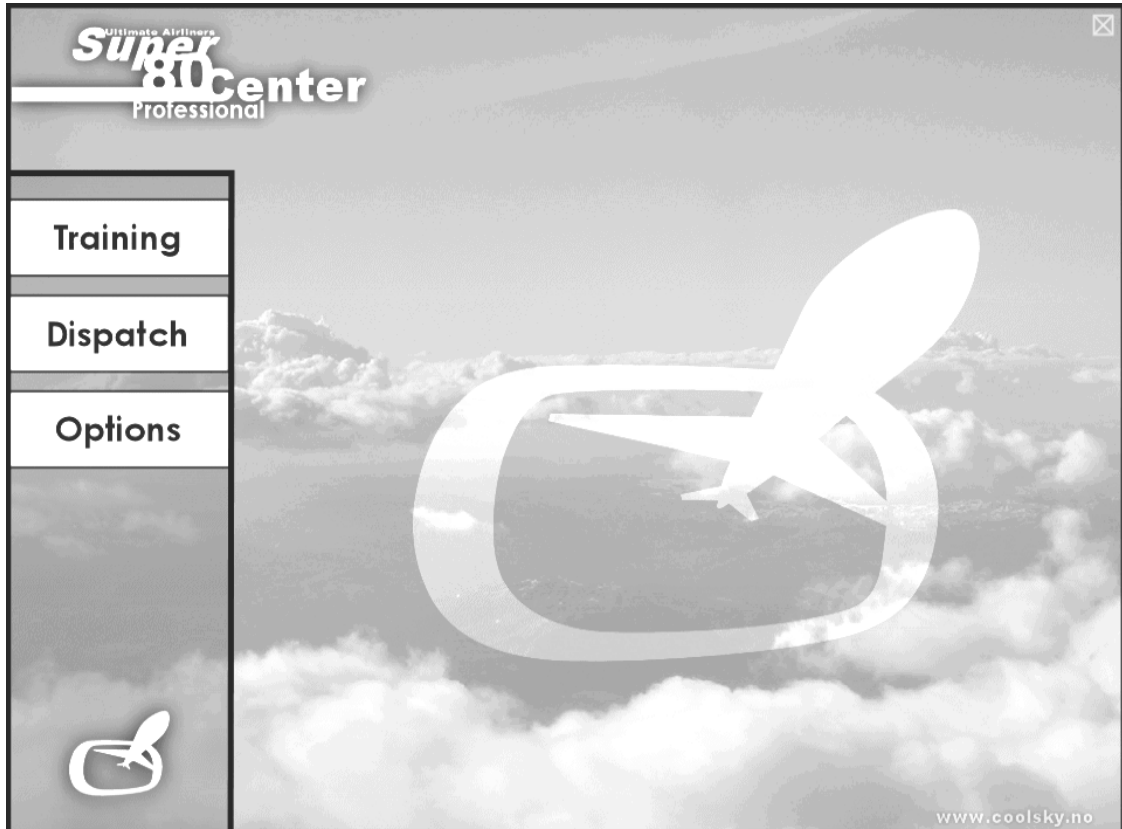


1. Open the Pushback and Startup request window.
2. Open the Super 80 Center window.
3. Open the checklist.
4. Open the Speed Booklet.
5. Open the main forward panel view.
6. Open the centered main forward panel view.
7. Open the upper overhead panel.
8. Open the lower overhead panel.
9. Open the upper pedestal view.
10. Open the lower pedestal view.
11. Open the Flight Management System.
12. Open the Captain's side panel.
13. Open instruments located on the First Officer's panel.

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Super 80 Center

The Super 80 Center is a resource center that houses three main sub sections; Training, Dispatch and Options.

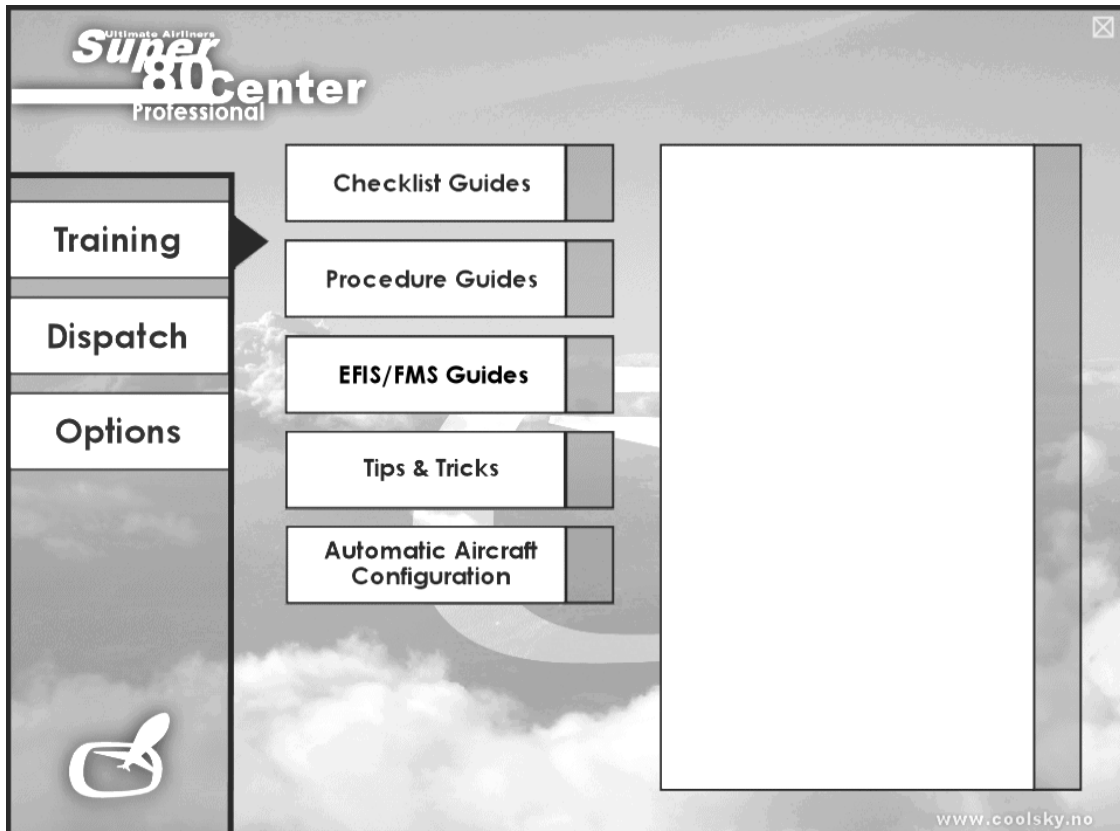


Click the white boxes on the left hand side of the main window to access the three sub sections.

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Training

The Training center is the starting point for all interactive training. You will find training guides for the checklists, various procedures/operations, and cockpit systems. In the Training Center you will also find the Automatic Aircraft Configuration feature for automatic setup of the aircraft and cockpit systems.

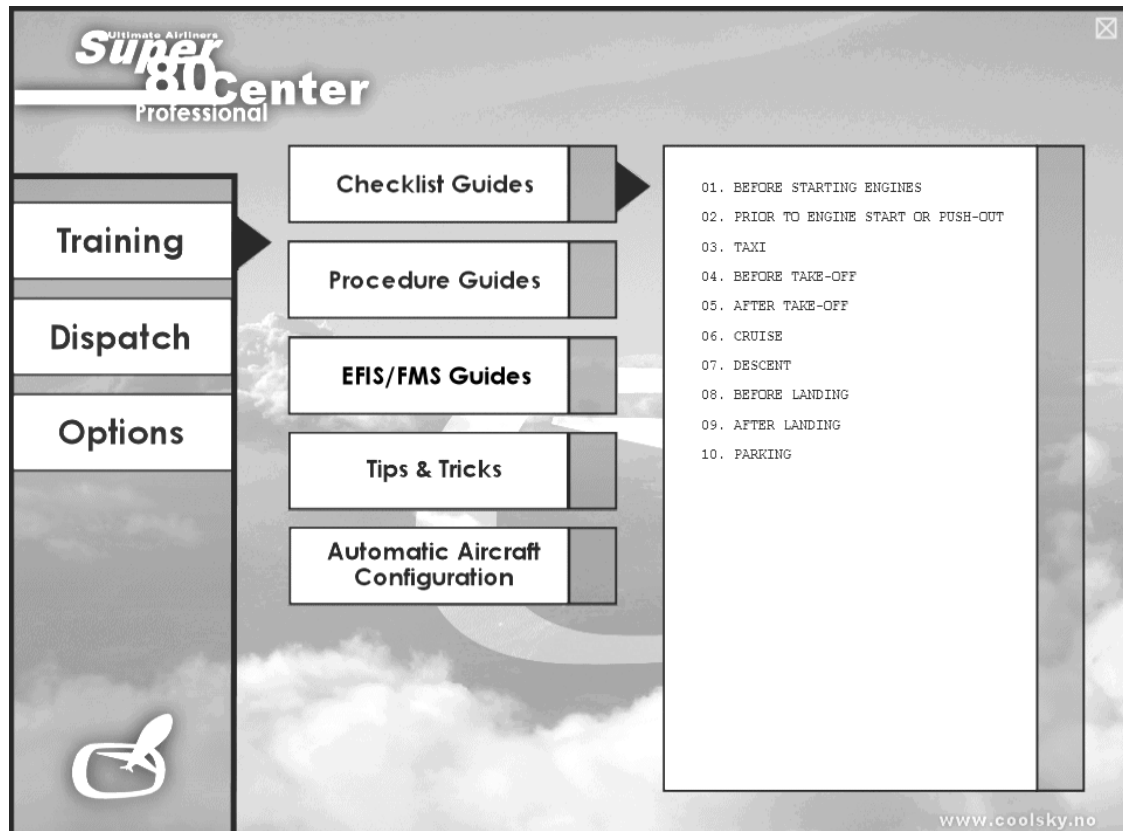


Click the white boxes to access the sub sections in the Training center.

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Checklist Guides

The Checklist Guides will show you step by step which procedures to carry out, which instruments to check, which switches to set, for each and every item in the checklist.



Click the items in the list box to start the Checklist Guides.

Available Checklist Guides

1. Before Starting Engines

This checklist is the first checklist performed. Normally you are still at the gate, maybe waiting for boarding to complete. Note that you should perform either the Origination Pre-flight Inspection or Cockpit Clean-up Inspection prior to executing the Before Starting Engines checklist.

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2. Prior to Engine Start or Push-out

All the passengers are now onboard and the gate has closed. All the cargo and fuel has been loaded, and you are basically ready to leave the gate. Before you contact your ground crew to request pushback and startup, you should go through the Prior to Engine Start or Push-out checklist.

3. Taxi

The first part of the Taxi checklist should be performed just prior to releasing the brakes for pushback or taxi. The second part of the Taxi checklist is normally performed while taxiing out to the runway or holding point.

4. Before Take-off

The Super 80 is equipped with a mechanical checklist. Use the top switch to select the Before Take-off checklist. Then flip each switch as you go through the checklist until all the lights are out. The Before Take-off checklist is normally performed at the holding point or just prior to entering the runway for take-off.

5. After Take-off – Climb

You are airborne, you have cleaned up the aircraft (gear, flaps and slats retracted), and you have established the aircraft in cruise climb. As soon as time and workload permits, go through the After Take-off – Climb checklist.

6. Cruise

Once you are established on your first cruising altitude, go through the Cruise checklist. This checklist includes some routine first flight of day checks, but you do not need to perform these checks on every flight.

7. Descent

The Descent checklist should be performed prior to reaching your Top of Descent (TOD) point.

8. Before Landing

Use the mechanical checklist to accomplish the items in the Before Takeoff checklist. The Before Landing checklist should be performed and completed before passing over the outer marker or final approach fix.

9. After Landing – Taxi

The After Landing – Taxi checklist should not be performed before the aircraft is completely clear of the runway. Normally items such as autopilot, autothrottle and ABS are turned off immediately after the aircraft has slowed down and while still on the runway. But the rest of the checklist should be done after leaving the runway.

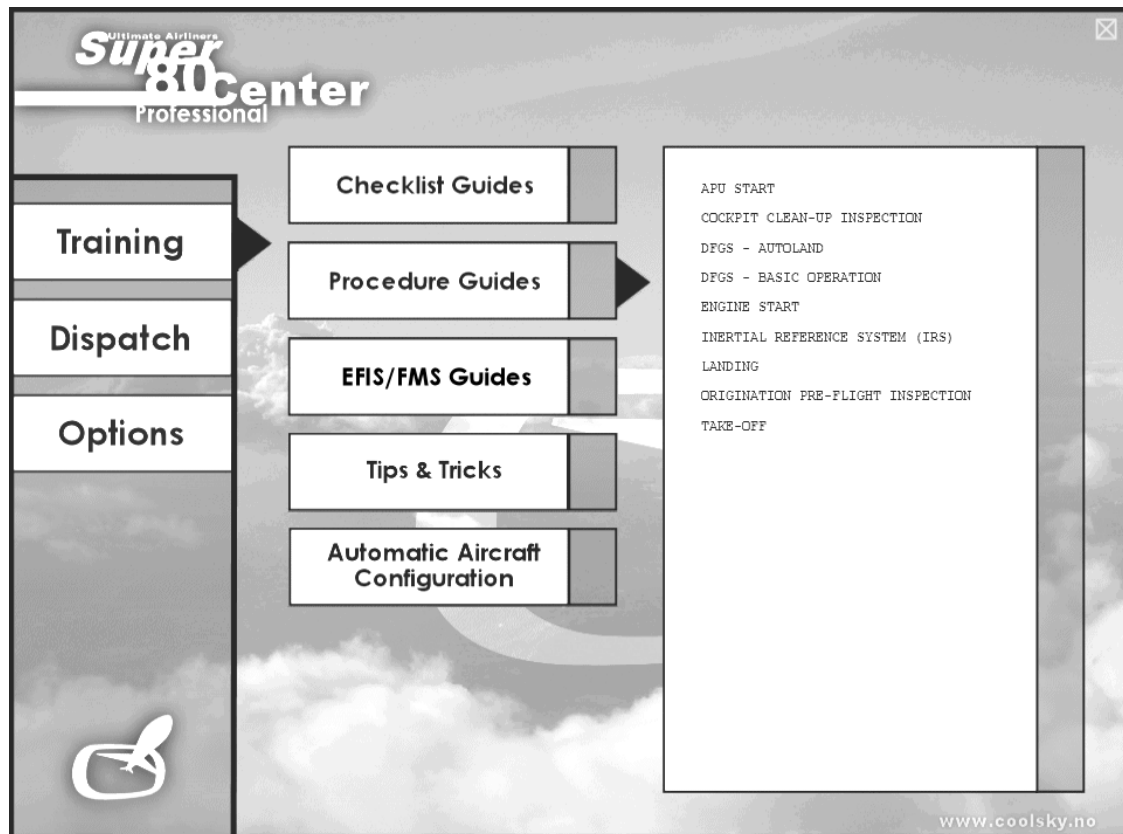
10. Parking

As soon as you have pulled into the gate, set the parking brake and go through the Parking checklist immediately. The Seat Belt Sign switch is on the Parking checklist – and passengers do not like to wait!

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Procedure Guides

The Procedure Guides will guide you through some of the more important procedures that you need to be familiar with in order to properly operate the aircraft. The Procedure Guides will also show you basic operation of some of the more complex cockpit systems.



Click the items in the list box to start the Procedure Guides.

Available Procedure Guides

- **APU Start**
The APU Start procedure guide shows you how to start and operate the APU (Auxiliary Power Unit).

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- **Cockpit Clean-up Inspection**

The Cockpit Clean-up Inspection is a short version of the Origination Pre-Flight Inspection and is performed before all flights other than the first origination flight of the day.

Note: There is no need to perform both the Origination Pre-Flight Inspection and the Cockpit Clean-up Inspection. Only one of them is required to prepare the aircraft.

- **DFGS – Autoland**

This procedure guide will show you how to properly execute an autoland procedure using the DFGS (Digital Flight Guidance System).

- **DFGS – Basic Operation**

The Digital Flight Guidance System (autopilot) is a complex system, and operation is slightly different compared to the default MSFS autopilot. This procedure guide will show you some basic DFGS operation.

- **Origination Pre-Flight Inspection**

The Origination Pre-Flight Inspection procedure is carried out before the first origination flight of the day. The aircraft has had an overnight stop and you are making the first flight of the day – that's when you perform this procedure. This procedure makes sure that all the switches are in the right positions and the aircraft is ready for flight. The Origination Pre-Flight Inspection procedure should also be performed whenever the condition of the cockpit or aircraft is in doubt.

- **Engine Start**

The Engine Start guide will show you how to start the engines. Note that the guide only goes through the procedure for starting the left engine. However, the procedure for starting the right engine is the same as for the left engine.

- **Landing**

Landing is also one of the most critical phases of flight. The Landing procedure guide will show you what to do once the wheels touch down. You are not home free just because you are back on the ground. You need to slow the old gal down before you can start relaxing.

- **Take-off**

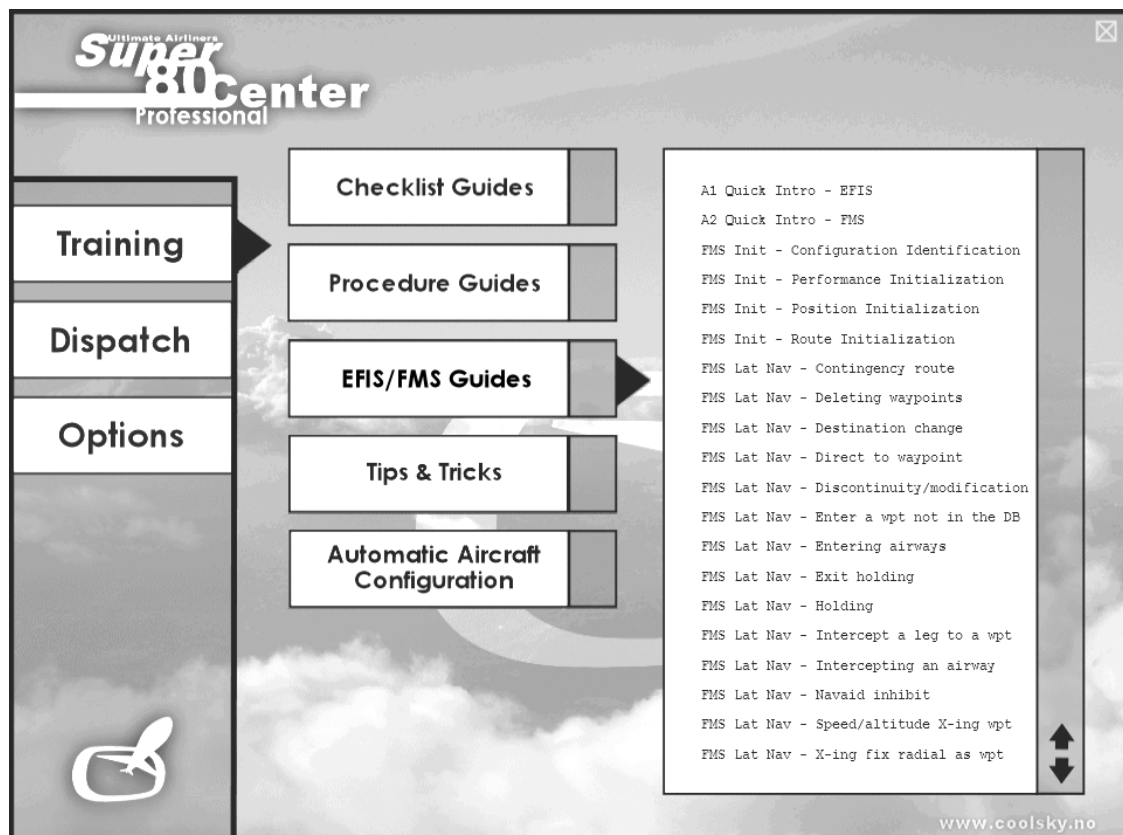
Take-off is a critical phase of flight. You need to know what to do and when to do it. The Take-off procedure guide will take you through a take-off step by step. You will be shown what to do all the way from runway alignment through to cruise climb.

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EFIS/FMS Guides

The EFIS/FMS Guides (Electronic Flight Instrument System/Flight Management System) will show you step by step how to operate the complex FMS, the Primary Flight Display and the Navigation Display.

The FMS is by far the most complex system in the aircraft. However, these step-by-step guides will have you working the FMS like a pro in no time at all.



Click the items in the list box to start the EFIS/FMS Guides. Use the arrows on the lower right to scroll the list box up/down.

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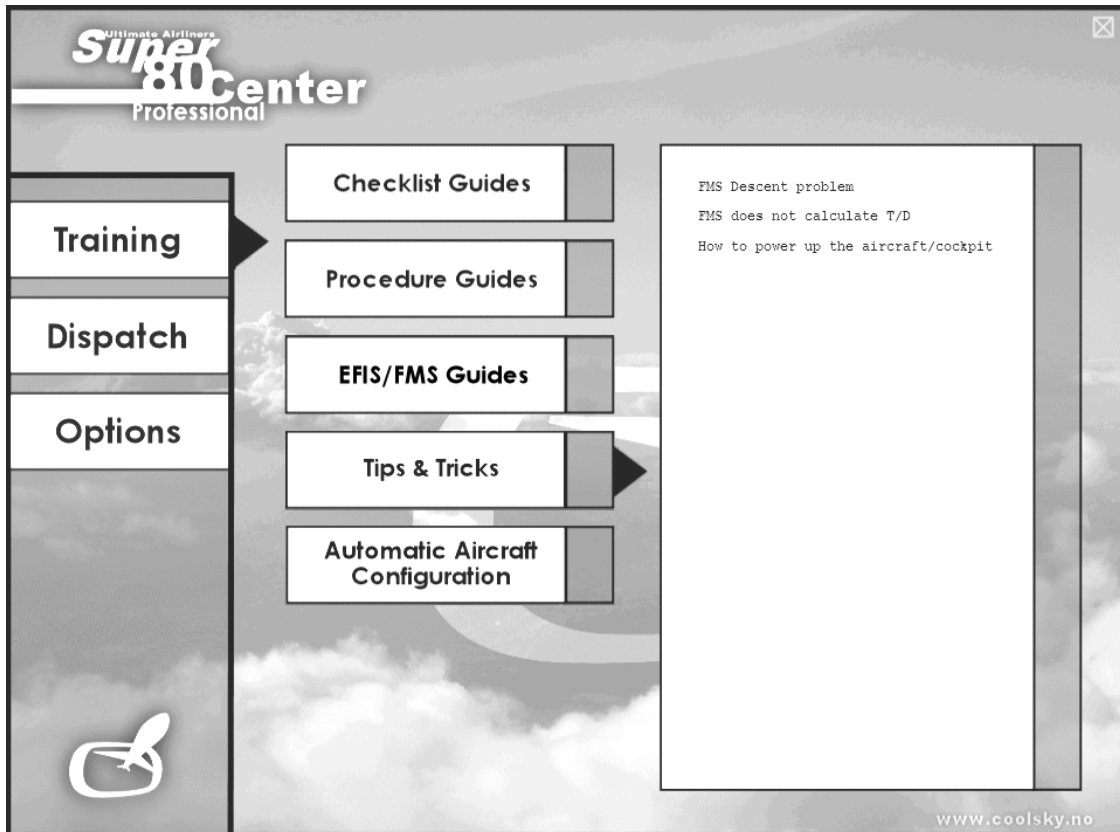
Available EFIS/FMS Guides

- A1 Quick Intro – EFIS
- A2 Quick Intro – FMS
- FMS Init – Configuration Identification
- FMS Init – Performance Initialization
- FMS Init – Position Initialization
- FMS Init – Route Initialization
- FMS Lat Nav – Contingency route
- FMS Lat Nav – Deleting waypoints
- FMS Lat Nav – Destination change
- FMS Lat Nav – Direct to waypoint
- FMS Lat Nav – Discontinuity/modification
- FMS Lat Nav – Enter a wpt not in the DB (database)
- FMS Lat Nav – Entering airways
- FMS Lat Nav – Exit holding
- FMS Lat Nav – Intercept a leg to a wpt
- FMS Lat Nav – Intercept an airway
- FMS Lat Nav – Navaid inhibit
- FMS Lat Nav – Speed/altitude X-ing wpt
- FMS Lat Nav – X-ing fix radial as wpt
- FMS Performance – Descent forecast
- FMS Performance – Step climb evaluation
- FMS Progress – DTG/ETA to downpath wpt
- FMS Progress – Distance to cross fix radial
- FMS Progress – Flight progress data
- FMS Vert Nav – Climb or descent direct
- FMS Vert Nav – Climb/cruise/descent speed
- FMS Vert Nav – Cruise altitude change
- FMS Vert Nav – Descent
- FMS Vert Nav – Resuming climb/descent
- FMS Vert Nav – Speed/altitude constraint
- FMS Vert Nav – Speed/altitude transition
- FMS Vert Nav – Temporary altitude restriction
- FMS Vert Nav – Temporary speed restriction
- IRS Operation
- Loading MSFS flight plans into the FMS

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Tips & Tricks

In the Tips & Tricks section you will find various useful guides with tips & tricks on how to operate the aircraft.



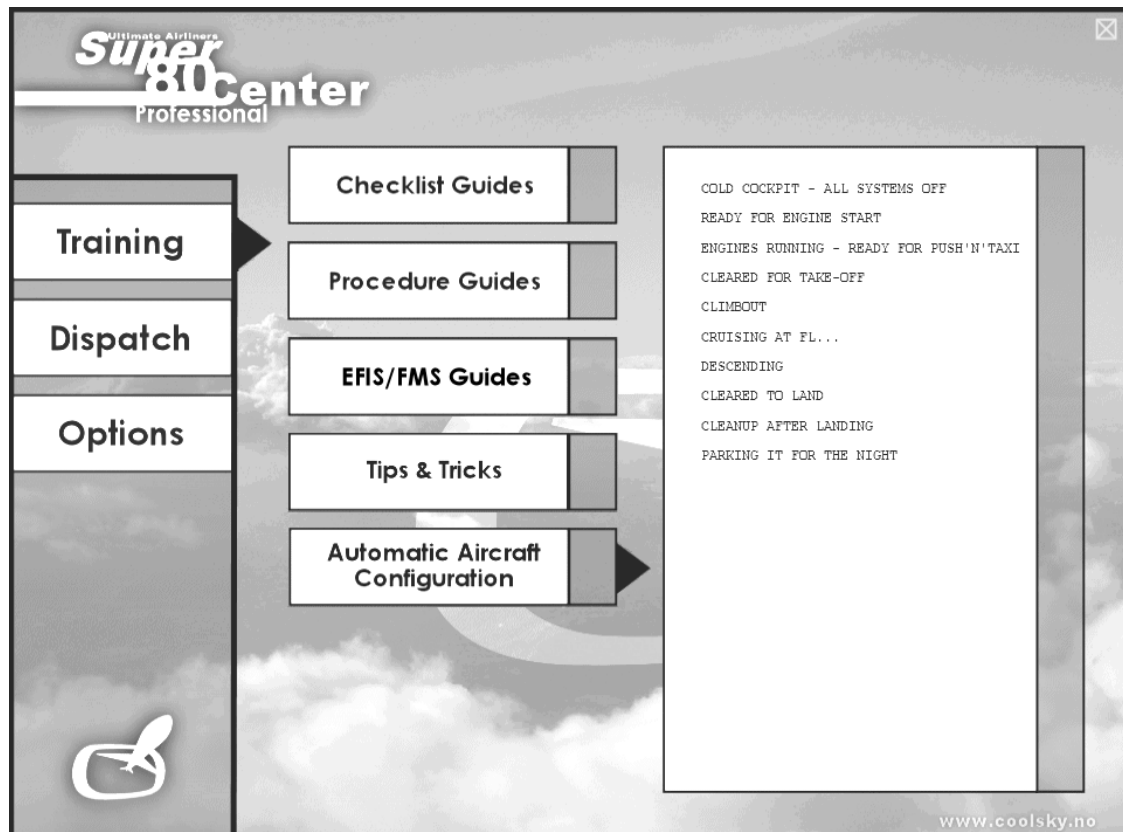
Click the items in the list box to start the Tips & Tricks Guides.

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Automatic Aircraft Configuration

The Automatic Aircraft Configuration feature is designed to automatically configure the aircraft for the flight phase of your choice. Simply select a flight phase and all the buttons, switches, levers and so on, will be positioned to suit the selected situation.

This feature is useful for both beginners, as well as the experienced simmer. Beginners may use the Automatic Aircraft Configuration feature for instant flight and fun! Experienced simmers may use this feature in part of their training. For example, to practice shooting ILS approaches, position the aircraft, hit "Cleared to Land", and off you go!



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Available Automatic Aircraft Configuration situations

1. Cold Cockpit – All Systems Off

Select this situation to turn off all systems in the cockpit. All buttons, switches and levers are positioned where you would expect to find them on the first origination flight of the day.

2. Ready for Engine Start

The aircraft has been configured to be ready for engine start. All the pre-flight inspections have been done for you.

3. Engines Running – Ready for Push & Taxi

The engines have been started up for you, and you are ready to depart the gate and taxi out to the runway.

4. Cleared for Take-off

ATC has cleared you for take-off and you are ready for departure. Select this auto configuration and the aircraft will be ready to go.

5. Climbout

Select this configuration and the aircraft will automatically be cleaned up and set for cruise climb.

6. Cruising at FL...

It is time to sit back and get comfortable. You are at your cruising level and the aircraft will be configured accordingly.

7. Descending

Unfortunately, all good things must come to an end – it is time to get back to earth. Select this auto configuration to ready the aircraft for the descent into your destination.

8. Cleared to Land

You have received your final approach instructions and you are number one to land. Select this configuration just prior to passing the outer marker or final approach fix, and the aircraft will be ready for a stabilized approach.

9. Cleanup after Landing

You just made the smoothest landing ever! Or, at least you're down. Either way, select this configuration to have the aircraft cleaned up and ready for the taxi in to your assigned gate.

10. Parking if for the Night

When you have parked the aircraft safely at the gate and it is time to call it a day, select this configuration to turn off and shut down all systems.

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11. Start APU

Starts up the APU and connects it to the electrical system.

12. Connect Ground Power Unit

Plugs in the Ground Power Unit to the aircraft when on the ground and connects it to the electrical system.

Note for beginners:

You can use the Automatic Aircraft Configuration feature as a checklist help. Think of it as your First Officer doing all the administrative work of setting up the aircraft properly for the current flight situation. The auto configuration situations are setup to follow the order of the checklists. Simply select the next auto configuration as your flight progresses.

If you simply wish to take the aircraft up for a quick spin right away, select the "Cleared for Take-off" configuration and the aircraft will be ready for instant flight!

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Recommended Training Sequence

For basic operation of the aircraft the following sequence of training guide lessons will have you up and flying in no time at all.

1. Origination Pre-flight Inspection (Procedure guides)
 - a. APU Start (Procedure guides)
 - b. Inertial Reference System (IRS) (Procedure guides)
2. A1 Quick Intro – EFIS (EFIS/FMS Guides)
3. Before Starting Engines (Checklist guides)
4. Engine Start (Procedure guides)
5. Taxi (Checklist guides)
6. Before Take-off (Checklist guides)
7. Take-off (Procedure guides)
8. After Take-off (Checklist guides)
9. Cruise (Checklist guides)
10. DFGS – Basic Operation (Procedure guides)
11. Descent (Checklist guides)
12. Before Landing (Checklist guides)
13. Landing (Procedure guides)
14. After Landing (Checklist guides)
15. Parking (Checklist guides)

Some additional lessons for basic operation of the aircraft:

1. How to power up the aircraft/cockpit (Tips & Tricks)
2. Checklist (Tips & Tricks)
3. Speed Cards (Tips & Tricks)

Once you have mastered the basic operation of the aircraft and feel comfortable flying it, you are ready to move on to advanced systems operation.

1. IRS Operation (EFIS/FMS Guides)
2. A2 Quick Intro – FMS (EFIS/FMS Guides)
3. Loading MSFS flight plans into the FMS (EFIS/FMS Guides)
4. Preflight planning phase:
 - a. FMS Init – Configuration Identification (EFIS/FMS Guides)
 - b. FMS Init – Position Initialization (EFIS/FMS Guides)
 - c. FMS Init – Route Initialization (EFIS/FMS Guides)
 - d. FMS Init – Performance Initialization (EFIS/FMS Guides)
 - FMS Lat Nav – Speed/altitude crossing waypoint (EFIS/FMS Guides)
 - FMS Lat Nav – Enter a waypoint not in the DB (EFIS/FMS Guides)
 - FMS Lat Nav – Entering airways (EFIS/FMS Guides)
 - FMS Lat Nav – Crossing fix radial as waypoint (EFIS/FMS Guides)
 - FMS Lat Nav – Navaid inhibit (EFIS/FMS Guides)

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2. Climbout phase:

- FMS Vert Nav – Climb/cruise/descent speed (EFIS/FMS Guides)
- FMS Vert Nav – Climb or descend direct (EFIS/FMS Guides)
- FMS Vert Nav – Speed/altitude constraint (EFIS/FMS Guides)
- FMS Vert Nav – Speed/altitude transition (EFIS/FMS Guides)
- FMS Vert Nav – Temporary altitude restriction (EFIS/FMS Guides)
- FMS Vert Nav – Temporary speed restriction (EFIS/FMS Guides)
- FMS Vert Nav – Resuming climb/descent (EFIS/FMS Guides)

3. Enroute phase:

- FMS Lat Nav – Direct to waypoint (1) (EFIS/FMS Guides)
- FMS Lat Nav – Direct to waypoint (2) (EFIS/FMS Guides)
- FMS Lat Nav – Intercepting a leg to a waypoint (EFIS/FMS Guides)
- FMS Lat Nav – Intercepting an airway (EFIS/FMS Guides)
- FMS Lat Nav – Discontinuity/Modification (EFIS/FMS Guides)
- FMS Lat Nav – Deleting waypoints (EFIS/FMS Guides)
- FMS Lat Nav – Deleting block of waypoints (EFIS/FMS Guides)
- FMS Lat Nav – Destination Change (EFIS/FMS Guides)
- FMS Lat Nav – Contingency route (EFIS/FMS Guides)
- FMS Lat Nav – Holding (EFIS/FMS Guides)
- FMS Lat Nav – Holding Exit (EFIS/FMS Guides)
- FMS Vert Nav – Climb/cruise/descent speed (EFIS/FMS Guides)
- FMS Vert Nav – Cruise altitude change (EFIS/FMS Guides)
- FMS Vert Nav – Speed/altitude constraint (EFIS/FMS Guides)
- FMS Vert Nav – Speed/altitude transition (EFIS/FMS Guides)
- FMS Performance – Step climb evaluation (EFIS/FMS Guides)
- FMS Progress – Flight progress data (EFIS/FMS Guides)
- FMS Progress – DTG/ETA to downpath waypoint (EFIS/FMS Guides)
- FMS Progress – Distance to cross fix radial (EFIS/FMS Guides)

4. Descent phase:

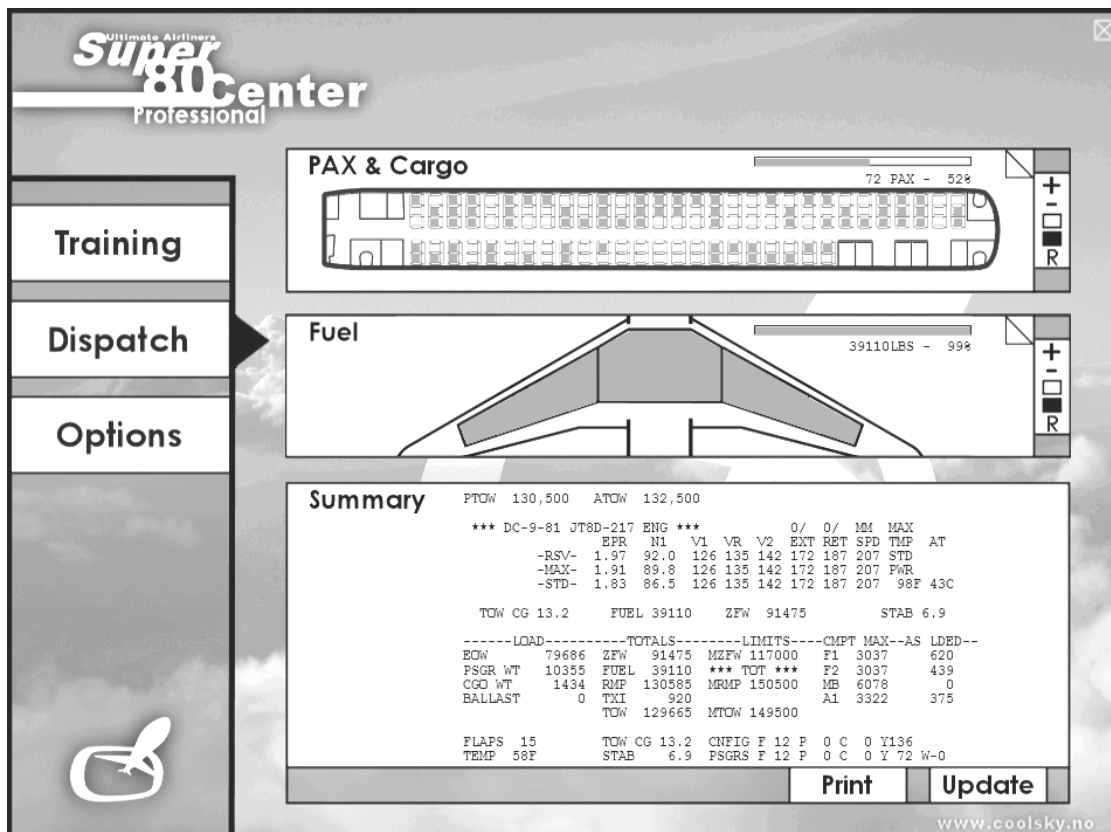
- FMS Performance – Descent forecast (EFIS/FMS Guides)
- FMS Vert Nav – Descent (EFIS/FMS Guides)
- FMS Vert Nav – Temporary altitude restriction (EFIS/FMS Guides)
- FMS Vert Nav – Temporary speed restriction (EFIS/FMS Guides)
- FMS Vert Nav – Resuming climb/descent (EFIS/FMS Guides)
- FMS Vert Nav – Climb or descend direct (EFIS/FMS Guides)
- FMS Vert Nav – Climb/cruise/descent speed (EFIS/FMS Guides)
- FMS Vert Nav – Speed/altitude constraint (EFIS/FMS Guides)
- FMS Vert Nav – Speed/altitude transition (EFIS/FMS Guides)
- DFGS – Autoland (Procedure guides)

The training guides are also meant to be used as a quick reference when you need to look up how a specific task is performed or simply need a refresher on how to do things. I hope you have fun and enjoy learning all the ins and outs of this aircraft.

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Dispatch

In the Dispatch Center you can setup the loading of the aircraft. You can setup the number of passenger and amount of cargo you will be transporting, as well as the fuel load needed for the planned flight. In the Dispatch Center you can also print out a departure plan with a complete loadout summary.



Super 80 Center Professional

Dispatch

PAX & Cargo 72 PAX - 52%

Fuel 39110LBS - 99%

Summary

PTOW	130,500	ATOW	132,500
*** DC-9-81 JT8D-217 ENG ***			
EPR	N1	V1	VR V2 EXT RET SPD TMP AT
-RSV-	1.97	92.0	126 135 142 172 187 207 STD
-MAX-	1.91	89.8	126 135 142 172 187 207 FWR
-STD-	1.83	86.5	126 135 142 172 187 207 98F 43C
TOW CG	13.2	FUEL	39110 ZFW 91475 STAB 6.9
-----LOAD-----TOTALS-----LIMITS-----CMPT MAX--AS LDED--			
ECW	79686	ZFW	91475 MZFW 117000 F1 3037 620
PSGR WT	10355	FUEL	39110 *** TOT *** F2 3037 439
CGO WT	1434	RMP	130585 MRMP 150500 MB 6078 0
BALLAST	0	TMI	920 A1 3322 375
		TOW	129665 MTOW 149500
FLAPS	15	TOW CG	13.2 CNFIG F 12 P 0 C 0 Y136
TEMP	58F	STAB	6.9 PSGRS F 12 P 0 C 0 Y 72 W-0

Print **Update**

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PAX & Cargo

Use the Plus, Minus, Empty, Full and Random buttons to set the passenger and cargo load. Note that while only the amount of passengers is displayed, cargo is added in relation to how many passengers are onboard.

Click the upper right corner tab to access a more detailed view of the passenger and cargo loading. In this detailed view you can specify your passenger and cargo load in detail. Click the various plus and minus buttons to set the cargo.

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Fuel

Use the Plus, Minus, Empty, Full and Random buttons to set the fuel load. The two main wing tanks are always filled up before the center tank. This is due to the fact that the engines on the Super 80 are only able to gravity feed from the main tanks. If all fuel boost pumps fail, fuel in the center tank is no good.

Click the upper right corner tab to access a more detailed view of the fuel load. In this detailed view you can specify your fuel load in more detail. Click the various plus and minus buttons to set the fuel load.

Summary

The loadout summary is a compacted version of the departure plan where you will find all the relevant preflight data for your flight. The departure plan is described in detail later in this manual.

Bottom Buttons

At the bottom of the Super 80 Dispatch Center are two buttons:

- **Update FS**
Press this button to update the simulator with the passenger, cargo and fuel load you have selected. If you exit the Dispatch Center without pressing the Update FS button, the changes you made in the Dispatch Center will not be reflected in the simulator.
- **Print DP**
If you have a printer connected to your computer, you can press this button to print out a Departure Plan. A Departure Plan based on the numbers you have set in the Dispatch Center will be saved to a text file and opened in Notepad for printing. The text file is saved in the "\\FSX\\SimObjects\\Airplanes\\F1 Super 80 Pro" folder.
- **FMS →**
Press this button to transfer the fuel and cargo weights to the FMS. The FMS will automatically go to the PERF INIT page where the data will be entered. The takeoff speeds will also be transferred to the FMS.

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Departure Plan

```

DEPARTURE PLAN
① STA FLT A/C FLAP DATE/TIME
② KMYR 00825 909 15 29/0318Z
③ TEMP 59F FP 29.92 PA 1013
PTOW 130,500 ATOW 132,500

④ *** DC-9-83 JT8D-217 ENG *** 0/ 0/ MM MAX
EPR N1 V1 VR V2 EXT RET SPD TMP AT
⑤ -RSV- 1.97 92.3 126 135 142 172 187 207 STD
-MAX- 1.92 90.1 126 135 142 172 187 207 PWR
-STD- 1.84 86.8 126 135 142 172 187 207 98F 43C

⑥ TOW CG 9.1 FUEL 23571 ZFW 106966 STAB 8.0

***** LOAD CLOSEOUT DATA *****
*
* TOW ..... FOB ..... ZFW ..... STAB .....
*
* FLAPS ..... CG ..... PSGRS ..... W..... X.....
*
⑦ * A/C ..... WINDS ..... BALLAST FUEL .....
*
* NOTES:
*
*****

-----LOAD-----TOTALS-----LIMITS-----CMPT MAX--AS LDED--
EOW 79686 ZFW 106966 MZFW 117000 F1 3037 2273
PSGR WT 20460 FUEL 23571 *** TOT *** F2 3037 2273
CGO WT 6820 RMP 130537 MRMP 150500 MB 6075 0
⑧ BALLAST 0 TXI 920 A1 3322 2273
TOW 129617 MTOW 149500

FLAPS 15 TOW CG 9.1 CNFIG F 12 P 0 C 0 Y136
TEMP 59F STAB 8.0 PSGRS F 12 P 0 C 0 Y124 W-0
CRT ADDRESS L007 AGENT TANJA PHONE 555-4321

*****
* ----- LANDING -----
*
* ALT SET.....MSL PRESS ALT.....FT CONV.....AFL TEMP....
*
⑨ * GATE..... LANDING WGT..... G/A EPR.....
*
* STA..... ELEV..... ATIS.....
*
* .....
*
* .....
*
*****

```


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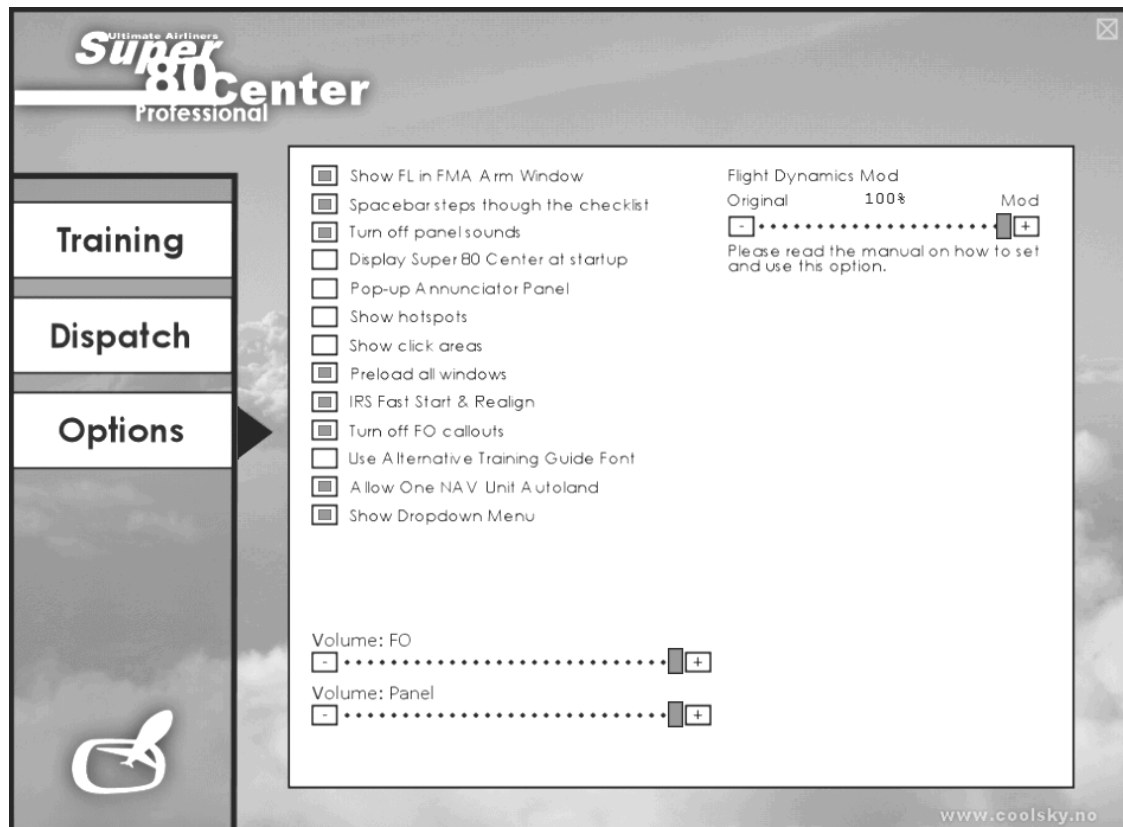
1. Departure station, Flight number, Aircraft number, Take-off FLAP setting plan is based on, date and time.
2. Temperature and pressure setting at field elevation.
3. Planned Take-off Weight (PTOW) is Take-off Weight (TOW) from load planning section rounded down to next whole hundred pounds. Assumed Take-off Weight (ATOW) is PTOW plus a 2,000 pound cushion. ATOW is used to calculate Standard Take-off Power.
4. Aircraft and engine type.
5. Runway Take-off Power Setting (TPS) Section. Power and V-speed setting for Reserve Take-off thrust, Maximum Take-off thrust and Standard Take-off thrust.
6. Quick summary of load closeout section. Take-off Weight Center of Gravity (TOW CG), total fuel, Zero Fuel Weight (ZFW) and stabilizer trim setting (STAB).
7. Manual Load Closeout data entry field.
8. Load Plan Section.

EOW	Empty Operating Weight
PSGR WT	Passenger weight
CGO WT	Cargo weight
BALLAST	Ballast weight
ZFW	Zero Fuel Weight
FUEL	Total fuel weight
RMP	Ramp weight (Total weight of aircraft on the ramp)
TXI	Taxi fuel weight (Estimated fuel used to taxi before takeoff)
TOW	Take-off Weight (Total weight of aircraft at take-off)
MZFW	Maximum Zero Fuel Weight
MRMP	Maximum Ramp Weight
MTOW	Maximum Take-off Weight
F1	Forward Cargo Compartment 1
F2	Forward Cargo Compartment 2
MB	Main Ballast
A1	Aft Cargo Compartment 1
FLAPS	Take-off flaps setting
TEMP	Current temperature
TOW CG	Take-off Weight Center of Gravity
STAB	Stabilizer trim setting
CNFIG	Current aircraft configuration (max 136 passengers)
PSGRS	Passengers on board (124 passengers)
9. Landing Data Section.

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Options

Various options to customize your cockpit environment and training are available in the Options Center. Simply click the box/alternative to set the option.



Available options

- **Show FL in FMA Arm Window**
Set this option to have the Flight Mode Annunciator arm window show the preselected altitude in place of the usual 'ALT' annunciation when Altitude Preselect is active.
- **Spacebar steps through the checklist**
With this option enabled, you can use the spacebar to step through the checklist. Simply press spacebar and you First Officer will read the next item on the checklist for you. Note that you do not need to have the checklist displayed on the screen for this to work.

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- **Turn off panel sounds**
Setting this option turns off all panel sounds, i.e. all sound directly related to the panel. Sounds like engine noise, gear rolling sounds, and such, are not turned off. These sounds will have to be turned off through the MSFS menu. Note that the default MSFS keyboard shortcut to turn off sound is the Q key on the keyboard.
- **Display Super 80 Center at startup**
Check this option if you would like to have the Super 80 Center show up every time you start the Super 80.
- **Pop-up Annunciator Panel**
If you check this option, the overhead Annunciator Panel will pop-up automatically every time a new caution or warning alert is issued. This allows you to instantly see which system triggered the caution or warning alert.
- **Show hotspots**
A hotspot is a clickable area which, when clicked, will bring up a new panel or window. They are a sort of shortcut that makes panel and window navigation easier and faster. Hotspots are normally not visible. Select this option to have all the hotspots in the panel indicated to you by yellow boxes.
- **Show click areas**
Select this option to have all the click areas in the panel indicated to you by magenta boxes.
- **Preload all windows**
By default, this option is on and all the panel windows are preloaded at startup. This has two advantages; 1) there is no in-game loading when opening new panel windows. 2) All the panel windows overlap each other in the correct order. Uncheck this option to disable preloading of windows.
- **IRS fast start & realign**
The IRS unit normally takes about 10 minutes to properly align. Select this option to speed up the alignment process (3 seconds).
- **Turn off FO callouts**
Select this option to turn off all the First Officer callouts.
- **Use Alternative Training Guide Font**
If the default text/font is invisible in the training guide, select this option to switch to an alternative font.
- **Allow One NAV Unit Autoland**
Normally the autoland procedure requires that both NAV radios be set to the same frequency and course. This option allows you to only use one NAV unit for automatic landings.

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- **Show Dropdown Menu**

Set the display option for the upper left hand side corner dropdown menu:

- OFF The dropdown menu is never displayed (requires panel reload)
- ON The dropdown menu is displayed in all views
- 2D only The dropdown menu is displayed in the 2D panel view only

- **Volume: FO**

Drag slider to adjust FO voice audio volume.

- **Volume: Panel**

Drag slider to adjust general panel sounds volume.

- **Flight Dynamics Mod**

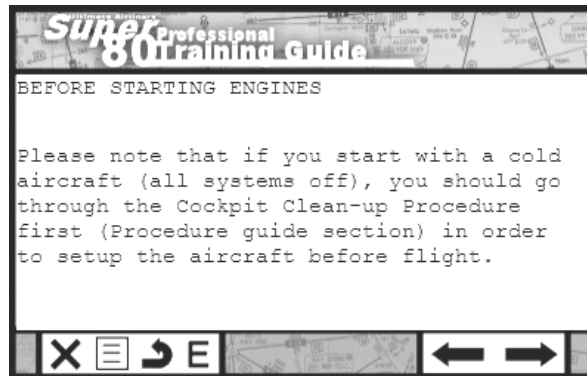
Dragging the slider over to the right allows you to modify the flight dynamics of the aircraft. This modification trades a slightly increase in stall speed for an improved pitch attitude during the approach phase of flight.

When set fully to the left, you are flying the aircraft with the flight dynamics in its original configuration. When you set the slider all the way to the right, the modification is fully implemented. After having adjusted the slider, you must reload the aircraft before the change becomes effective.

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Training Guide

The Training Guide takes you step by step through all the checklists and procedures required to properly operate the Super 80. The Training Guide will explain to you in detail exactly what to do.



The Training Guide box is divided into two main text areas. The upper text area tells you which checklist item or procedure step that is currently being explained. The lower text area tells you exactly what to do in order to accomplish the current checklist item or procedure step.

At the bottom of the Training Guide box are a number of buttons which allow you to navigate through the checklist/procedure.

-  Close the Training Guide.
-  Go back to the Training Center.
-  Restart the lesson.
-  Start the Training Editor.
-  Go back to the previous checklist item or procedure step.
-  Go to the next checklist item or procedure step.

When you select a checklist or procedure in the Training Center, the Training Guide box will appear in the lower right hand side corner of your screen.

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The Training Guide is accompanied by yellow arrows and boxes to help you locate the various switches, buttons, levers and instruments described in Training Guide box. The Training Guide will also automatically open the appropriate panel view where the switch or gauge described is located.

Screenshot showing an example of the training arrow and box:

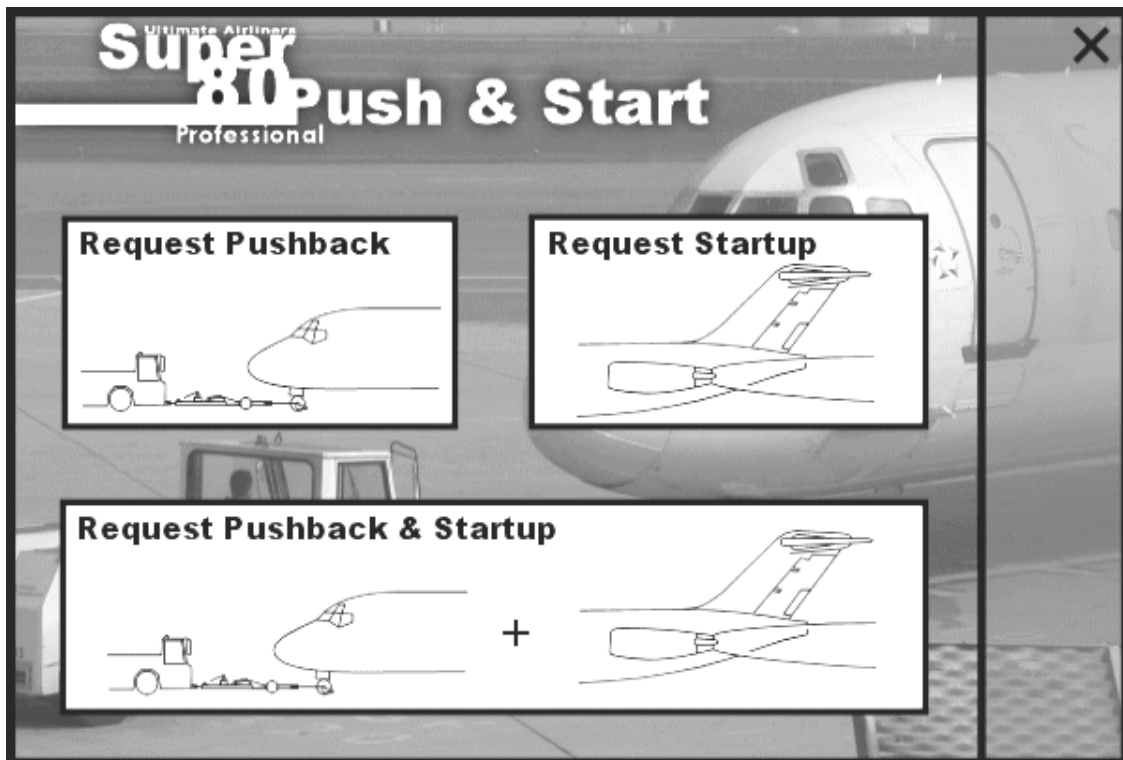


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Push & Start

In the Push & Start window you have the option to select and initiate pushback from the gate or stand, startup of the engines, or both pushback and startup. Your First Officer will contact the ground crew and initiate the selected action.

The Push & Start window is opened from the Window Select Menu.



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Checklist

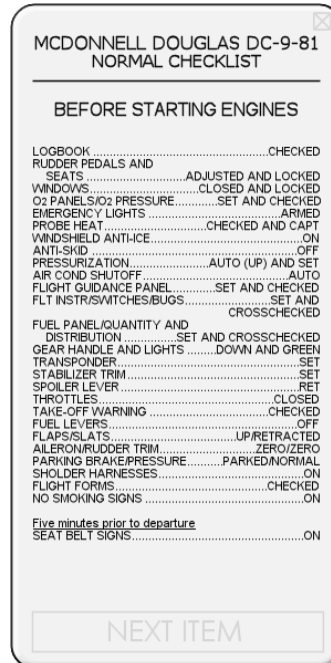
A Checklist is available in the Windows Select Menu. This checklist covers normal procedures.

Available checklists are:

- Before Starting Engines
- Prior to Engine Start or Pushback
- Taxi
- Before Take-off
- After Take-off
- Cruise
- Descent
- Before Landing
- After Landing
- Parking

In addition to the normal checklists, two procedure guides are also available in the checklist:

- Origination Pre-flight Inspection
- Cockpit Clean-up Inspection



Click the main text area to flip through the various checklists. Click the bottom box marked 'Next Item' to step through the checklist.

As you advance through the checklist a green ball on the left hand side of the checklist will indicate the current item. Each item on the checklist is also read to you by your First Officer. You can also press the spacebar key on your keyboard to advance through the checklist.

Note that you do not need to have the checklist visible in order to advance through the checklist items with the spacebar key. Simply hit spacebar and your First Officer will read the items in the checklist out loud for you. This allows you to focus on performing the items in the checklist. The spacebar feature can be disabled in the Options window if required. There is also a hotspot on the main panel you can click to step through the checklist.

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Speed Booklet

A Speed Booklet is available in the Windows Select Menu. The Speed Booklet provides two sets of quick reference speed cards.

- Takeoff – for takeoff and climbout speeds
- Maneuvering – for approach and landing speeds

TAKEOFF		
Flaps	11	15
V ₁	125	120 ◀
V _R	131	126
V ₂	139	134 ◀
V _{Fl up}	144	149 ◀
V _{Sl up}	181	181 ◀
V _{Clean}	225	225
120,000 LBS		
SET ASI BUGS		
TO 11 TO 15		

MANEUVERING		
FLAPS/SLATS	SPEED	
0/RET	223	◀
0/EXT	174	◀
11	153	
15	149	◀
28	139	
40	135	
V _{REF}		◀
28/EXT	130	
40/EXT	126	
118,000 LBS		
SET ASI BUGS		
LND 28 LND 40		

Click the header to switch between the two sets of speed cards.

Click the weight to set the approximate weight of the aircraft. All speeds have a margin calculated into them – the nearest weight, rounding up or down, will suffice.

At the bottom of the speed cards are two boxes: TO11/TO15 and LND28/LND40. These indicate the flap setting. Select your flap setting and click the appropriate box to transfer the four speeds indicated by the black arrow heads on the right, to the four bugs on your Airspeed Indicator gauge for reference during landing and takeoff.

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Keyboard Input

You can use your keyboard to access all of the custom click areas in the panel. You can manually assign a keyboard key combination to any click area by editing the KeyboardInput.ini file located in the aircraft folder: "FSX\SimObjects\Airplanes\F1 Super 80 Pro".

Before you start using and assigning key combinations to the click areas you need to enable this feature. Edit the KeyboardInput.ini file to enable keyboard key combinations click area access.

Open the KeyboardInput.ini file and locate this section:

```
[KEYBOARD COMBOS]  
Enabled=0
```

Set Enabled=1 to enable keyboard key combinations to access click areas.

Only the "checklist next" click areas has a key combination already assigned to it. You have to manually set the key combinations for the click areas you wish to use.

For each click area you can specify up to 4 keys in a single keyboard key combination.

Some of the valid keys are:

- 0-9
- A-Z
- CTRL
- SHIFT
- ALT
- SPACE
- F1-F12

Example: CTRL+ALT+I+Q.

FMS keyboard input

You can click the unused button just over the EXEC key to activate the FMS keyboard input feature. A 'K' will appear on the button when the FMS keyboard input feature has been activated. When the FMS keyboard input feature is active, all keyboard input will go to the FMS. This means that you have to deactivate the feature, by pressing the unused button above the EXEC key again, if you need to make keyboard inputs to the simulator.

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Full list of available keyboard input keys (according to the FSX SDK):

"VK_0x00"	"VK_0x40"	"F17"	"VK_TILDE"
"VK_LBUTTON"	"A"	"F18"	"VK_0xC1"
"VK_RBUTTON"	"B"	"F19"	"VK_0xC2"
"Scroll_Lock"	"C"	"F20"	"VK_0xC3"
"VK_MBUTTON"	"D"	"F21"	"VK_0xC4"
"VK_XBUTTONDOWN"	"E"	"F22"	"VK_0xC5"
"VK_XBUTTONDOWN2"	"F"	"F23"	"VK_0xC6"
"VK_0x07"	"G"	"F24"	"VK_0xC7"
"Backspace"	"H"	"VK_0x88"	"VK_0xC8"
"Tab"	"I"	"VK_0x89"	"VK_0xC9"
"VK_0x0A"	"J"	"VK_0x8A"	"VK_0xCA"
"VK_0x0B"	"K"	"VK_0x8B"	"VK_0xCB"
"Num_5"	"L"	"VK_0x8C"	"VK_0xCC"
"Enter"	"M"	"VK_0x8D"	"VK_0xCD"
"VK_0x0E"	"N"	"VK_0x8E"	"VK_0xCE"
"VK_0x0F"	"O"	"VK_0x8F"	"VK_0xCF"
"Shift"	"P"	"Pause"	"VK_0xD0"
"Ctrl"	"Q"	"VK_SCROLL"	"VK_0xD1"
"Alt"	"R"	"VK_OEM_FJ_JISHO"	"VK_0xD2"
"VK_PAUSE"	"S"	"VK_OEM_FJ_MASSHOU"	"VK_0xD3"
"Caps_Lock"	"T"	"VK_OEM_FJ_TOUROKU"	"VK_0xD4"
"VK_KANA"	"U"	"VK_OEM_FJ_LOYA"	"VK_0xD5"
"VK_0x16"	"V"	"VK_OEM_FJ_ROYA"	"VK_0xD6"
"VK_JUNJA"	"W"	"VK_0x97"	"VK_0xD7"
"VK_FINAL"	"X"	"VK_0x98"	"VK_0xD8"
"VK_KANJI"	"Y"	"VK_0x99"	"VK_0xD9"
"VK_0x1A"	"Z"	"VK_0x9A"	"VK_0xDA"
"Esc"	"VK_LWIN"	"VK_0x9B"	"VK_LBRACKET"
"VK_CONVERT"	"VK_RWIN"	"VK_0x9C"	"VK_BACKSLASH"
"VK_NONCONVERT"	"VK_APPS"	"VK_0x9D"	"VK_RBRACKET"
"VK_ACCEPT"	"VK_0x5E"	"VK_0x9E"	"VK_QUOTE"
"VK_MODECHANGE"	"VK_SLEEP"	"VK_0x9F"	"VK_0xDF"
"Space"	"VK_NUMPAD0"	"VK_LSHIFT"	"VK_0xE0"
"Num_9"	"VK_NUMPAD1"	"VK_RSHIFT"	"VK_OEM_AX"
"Num_3"	"VK_NUMPAD2"	"VK_LCONTROL"	"VK_OEM_102"
"Num_1"	"VK_NUMPAD3"	"VK_RCONTROL"	"VK_ICO_HELP"
"Num_7"	"VK_NUMPAD4"	"VK_LMENU"	"VK_ICO_00"
"Num_4"	"VK_NUMPAD5"	"VK_RMENU"	"VK_PROCESSKEY"
"Num_8"	"VK_NUMPAD6"	"VK_BROWSER_BACK"	"VK_ICO_CLEAR"
"Num_6"	"VK_NUMPAD7"	"VK_BROWSER_FORWARD"	"VK_PACKET"
"Num_2"	"VK_NUMPAD8"	"VK_BROWSER_REFRESH"	"VK_0xE8"
"VK_SELECT"	"VK_NUMPAD9"	"VK_BROWSER_STOP"	"VK_OEM_RESET"
"VK_PRINT"	"VK_MULTIPLY"	"VK_BROWSER_SEARCH"	"VK_OEM_JUMP"
"VK_EXECUTE"	"VK_ADD"	"VK_BROWSER_FAVORITES"	"VK_OEM_PA1"
"Sys_Req"	"VK_SEPARATOR"	"VK_BROWSER_HOME"	"VK_OEM_PA2"
"Num_0"	"VK_SUBTRACT"	"VK_VOLUME_MUTE"	"VK_OEM_PA3"
"Num_Del"	"VK_DECIMAL"	"VK_VOLUME_DOWN"	"VK_OEM_WSCTRL"
"VK_HELP"	"VK_DIVIDE"	"VK_VOLUME_UP"	"VK_OEM_CUSEL"
"0"	"F1"	"VK_MEDIA_NEXT_TRACK"	"VK_OEM_ATTN"
"1"	"F2"	"VK_MEDIA_PREV_TRACK"	"VK_OEM_FINISH"
"2"	"F3"	"VK_MEDIA_STOP"	"VK_OEM_COPY"
"3"	"F4"	"VK_MEDIA_PLAY_PAUSE"	"VK_OEM_AUTO"
"4"	"F5"	"VK_LAUNCH_MAIL"	"VK_OEM_ENLW"
"5"	"F6"	"VK_LAUNCH_MEDIA_SELECT"	"VK_OEM_BACKTAB"
"6"	"F7"	"VK_LAUNCH_APP1"	"VK_ATTN"
"7"	"F8"	"VK_LAUNCH_APP2"	"VK_CRSEL"
"8"	"F9"	"VK_0xB8"	"VK_EXSEL"
"9"	"F10"	"VK_0xB9"	"VK_EREOF"
"VK_0x3A"	"F11"	"VK_SEMICOLON"	"VK_PLAY"
"VK_0x3B"	"F12"	"VK_PLUS"	"VK_ZOOM"
"VK_0x3C"	"F13"	"VK_COMMA"	"VK_NONAME"
"VK_0x3D"	"F14"	"VK_MINUS"	"VK_PA1"
"VK_0x3E"	"F15"	"VK_PERIOD"	"VK_OEM_CLEAR"
"VK_0x3F"	"F16"	"VK_SLASH"	"VK_0xFF"

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Navigation Data

The Super 80 Professional comes with a full navigation data base supplied by Navigraph. The navigation data base includes the following data:

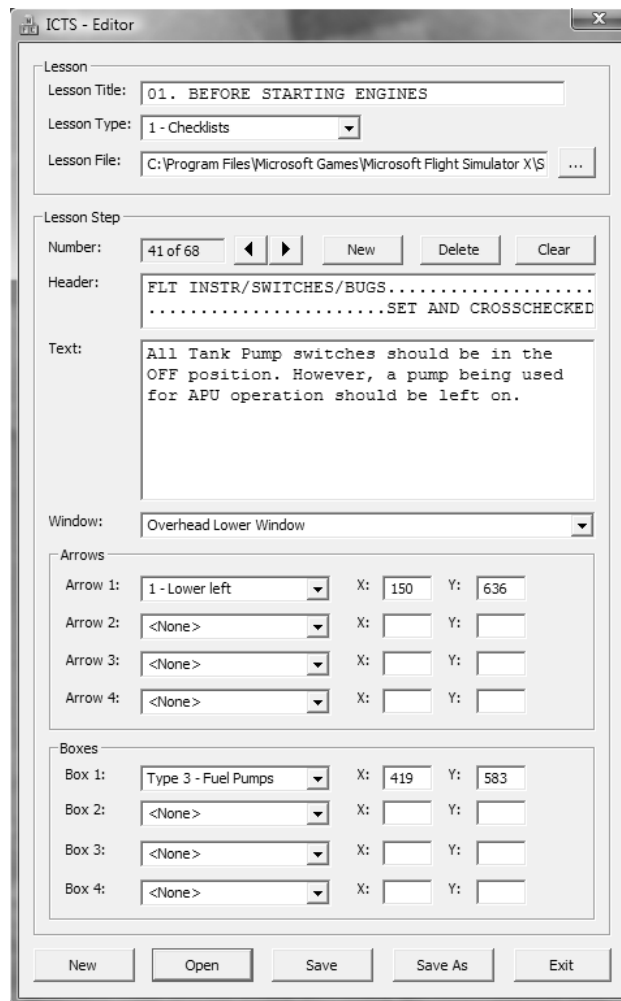
- Airport data
- Airways data
- Radio navigation aid data
- Waypoint (intersection) data
- SID and STAR data

The navigation data supplied with the Super 80 Professional is of an older AIRAC cycle. The latest AIRAC cycle can be bought from Navigraph (www.navigraph.com).

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ICTS Editor

The ICTS Editor (Integrated Cockpit Training System) is used to create and edit training lessons for use with the Super 80 Professional ICTS. The ICTS Editor is a standalone program which can be run independently of FS.



The screenshot shows the 'ICTS - Editor' window with the following fields and controls:

- Lesson**
 - Lesson Title: 01. BEFORE STARTING ENGINES
 - Lesson Type: 1 - Checklists
 - Lesson File: C:\Program Files\Microsoft Games\Microsoft Flight Simulator X\...
- Lesson Step**
 - Number: 41 of 68
 - Buttons: New, Delete, Clear
 - Header: FLT INSTR/SWITCHES/BUGS.....
.....SET AND CROSSCHECKED
 - Text: All Tank Pump switches should be in the OFF position. However, a pump being used for APU operation should be left on.
 - Window: Overhead Lower Window
- Arrows**
 - Arrow 1: 1 - Lower left, X: 150, Y: 636
 - Arrow 2: <None>, X: , Y:
 - Arrow 3: <None>, X: , Y:
 - Arrow 4: <None>, X: , Y:
- Boxes**
 - Box 1: Type 3 - Fuel Pumps, X: 419, Y: 583
 - Box 2: <None>, X: , Y:
 - Box 3: <None>, X: , Y:
 - Box 4: <None>, X: , Y:
- Buttons**: New, Open, Save, Save As, Exit

Lesson Title

This is the title that will appear in the Super 80 Pro Training center in the simulator.

Lesson Type

This specifies which category the lesson will appear under in the Super 80 Pro Training Center.

Lesson File

This box specifies the path and filename of the lesson file.

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Number

These numbers indicate the step number of the lesson step currently in view and the total steps in the lesson. Use the arrow buttons to navigate forward or backward through the lesson steps. The NEW button inserts a new lesson step after the current step. The DELETE button deletes the current lesson step. CLEAR will erase all the data entered for the current step.

Header

This is the header that will appear in the training guide box. Each step may have its own header. Note that you must manually break the lines yourself and make sure that the header fits within the header text area in the editor. This area corresponds to the available area in the training guide in the simulator.

Text

This is the lesson text that will appear in the training guide text area. Note that you must manually break the lines yourself and make sure that the text fits within the text area in the editor. This area corresponds to the available area in the training guide in the simulator.

Window

From this dropdown menu, you can select which panel window the training guide will open for this lessons step.

Arrows

For each lesson step you can insert yellow arrows on the screen as visual aids to the text in the training guide. The dropdown menu specifies the arrow type (left, right, upper, lower). The text specifies the direction in which the arrow is pointing. The X and Y boxes in the editor can be used to specify the X,Y coordinates for the arrow's position on the screen. You may set up to 4 arrows for each lesson step.

Boxes

For each lesson step you can insert yellow boxes on the screen as visual aids to the text in the training guide. The dropdown menu specifies the box type. A selection of boxes with varying shapes and sizes are available. The X and Y boxes in the editor can be used to specify the X,Y coordinates for the box's position on the screen. You may set up to 4 boxes for each lesson step.

Bottom buttons

NEW	Clears all the data in the ICTS Editor.
OPEN	Opens up a dialog to open a previously created lesson file.
SAVE	Saves the current lesson to file.
SAVE AS	Opens up a save dialog where you can specify the path and filename of the file you want the lesson to be saved to. All lessons are saved as .ICTS files.
EXIT	Closes the ICTS Editor.