



FSFlyingSchoolPro

Mooney Bravo Detail Pack

Manual

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Note - The FSFlyingSchoolPro Mooney Bravo Detail Pack is modeled on and designed to be used with the FSX Mooney Bravo and can also be used with FS2004.

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Introduction

Welcome to the **FSFlyingSchoolPro Mooney Bravo Detail Pack!**

To get the most out of this product, please read this manual.

FSFlyingSchool uses sophisticated logic to analyze your flying technique, to help you refine and demonstrate your flying skills. Several of FSFlyingSchool's methods will be new, even to veteran simulation pilots, so please read about them in this manual, to discover how FSFlyingSchool works, what it is telling you, and why.

The FSFlyingSchoolPro Mooney Bravo Detail Pack adds a whole new level of realism and atmosphere to your flights with FSFlyingSchoolPro.

Not all pilots fly the Mooney Bravo and this product is therefore offered as an optional add-on for FSFlyingSchoolPro.

As with FSFlyingSchoolPro itself, **everyone can try out the Mooney Bravo Detail Pack for free** by downloading FSFlyingSchoolPro and flying with a Mooney Bravo in the FSFlyingSchool demo area near Chicago. If you like the experience, you may wish to purchase your own license key for the FSFlyingSchoolPro Mooney Bravo Detail Pack so that you can fly your Mooney Bravo *anywhere* with the 'detailed' treatment.

System Requirements

In order to use the FSFlyingSchoolPro Mooney Bravo Detail Pack you must own a **registered** version of FSFlyingSchoolPro (or a later version of FSFlyingSchool).

Installation

For FSFlyingSchool to install and to run correctly, you must be a *Computer Administrator* user and not a *Limited Account* user.

To install, simply run the installation EXE program supplied by FSFlyingSchool. If installing from CD, follow the instructions on the inside of the product case.

The FSFlyingSchoolPro Mooney Bravo Detail Pack must be installed on a PC with a registered version of FSFlyingSchoolPro or greater on it.

The process of installing the FSFlyingSchoolPro Mooney Bravo Detail Pack is the same as installing FSFlyingSchoolPro itself. Just download, or launch from CD, and install into the same folder as your existing installation of FSFlyingSchoolPro. This will install a *new version* of FSFlyingSchoolPro which has a section at which you can activate your FSFlyingSchoolPro Mooney Bravo Detail Pack.

Once you have installed the FSFlyingSchoolPro Mooney Bravo Detail Pack, the new features of the Detail Pack *will function in demo mode* until the Detail Pack itself is registered. You will still have all the full features of FSFlyingSchoolPro and be able to fly anywhere you like with an instructor, but you will only get the special Detail Pack treatment of your flight in the FSFlyingSchoolPro demo area near KORD - Chicago O'Hare International Airport.

To *register* your FSFlyingSchoolPro Mooney Bravo Detail Pack, launch your newly installed FSFlyingSchoolPro and go to the Credits Page, where you will see a new section for "Detail Packs". Enter the registration code for the detail pack you have purchased into the "Key" field and press the "Add" button. Once this is done correctly, the field will turn gray and the name of the Detail Pack thus enabled will be shown. At this point you will be able to fly with the special Mooney Bravo Detail Pack treatment of your flight *anywhere you fly*.

FSFS-Tip You will *always* get the Mooney Bravo Detail Pack experience if you fly a Mooney Bravo within the free demo area near KORD - Chicago O'Hare International Airport. If you want it elsewhere, you must purchase an FSFlyingSchoolPro Mooney Bravo Detail Pack **key** from FSFlyingSchool.

Quick Start

Please read this manual if you want to get the most out of flying with the FSFlyingSchoolPro Mooney Bravo Detail Pack.

If you would prefer to do this later and want to jump right into the cockpit, here's what you should do next:

- Launch Flight Simulator.
- Create or select a flight in Flight Simulator **using a Mooney Bravo**.
- Get that plane ready to fly, either in mid-air or on the ground. Get yourself at the controls of the plane.
- Launch the FSFlyingSchool program.
- Press the *Connect Button* in FSFlyingSchool.

IMPORTANT!

At the Aircraft screen in FSFlyingSchool Pro, make sure that the Mooney Options "Monitor Mooney" option is *checked* (that is, it is ON).

- Switch back to Flight Simulator and enjoy your flight with FSFlyingSchool by your side!
- **But – you really should read this too...**
There are several new features you will want to understand, including a special new key. Read more about these features in detail in this manual.

Enhanced Instructor Logic

With the addition of the FSFlyingSchoolPro Mooney Bravo Detail Pack, your instructors will be looking at your aircraft and your performance in it in a lot more detail.

Note that the instructors' advice, warnings and checklist lists are a combination of real world reference sources and of the checklist and reference files supplied for this simulated aircraft. Not all of these sources agree and as a result some of the values or methods used may differ from sources you may have seen yourself.

The following is a list of different stages of flight in which events will cause your instructor to talk to you, with specific reference to the Mooney Bravo you are flying.

Starting and Takeoff

- **[Shortly after flight starts on ground with master battery on]**
Estimate of current fuel as a percentage of full.
- **[Engine start attempted with fuel off]**
Reminder to select the left or right fuel tank.
- **[Engine start attempted and throttle not correctly set]**
Advice that throttle should be open about ¼ inch when starting.
- **[Engine start attempted and parking brake not set]**
Warning that parking brake must be set when starting the engine.
- **[Engine start attempted with master battery switch off]**
Advice that the master battery switch must be on when starting the engine.
- **[Shortly after moving in taxi mode]**
Advice on which instruments and systems should be checked during taxiing.
- **[In takeoff mode with fuel boost pump off]**
Reminder to turn boost pump on for take-off.
- **[In takeoff mode with autopilot on]**
Reminder to turn off autopilot.

- **[In takeoff mode without "take-off" flaps (10 degrees of flaps)]**
Warning that you must have take-off flaps set.
- **[In takeoff mode with more than "take-off" flaps (more than 10 degrees of flaps)]**
Warning that you have too much flaps set and that you should use no more than 10 degrees.
- **[Shortly after beginning takeoff]**
Advice to move throttle smoothly up to full.
- **[Shortly after beginning takeoff]**
Advice that the nose wheel can be lifted at 60 KIAS.
- **[Shortly after takeoff]**
Reminder that this aircraft's 'vX' (Best Angle of Climb Speed) is 85 KIAS at sea level. Use this speed to clear runway obstacles or to lift off from a soft field quickly.
- **[Shortly after takeoff]**
Reminder that this aircraft's 'vY' (Best Rate of Climb Speed) is 105 KIAS at sea level. Use this speed to climb after takeoff in normal operations.
- **[Shortly after takeoff]**
Advice that in "cruise climb" in this aircraft you should normally use 34 inches manifold pressure and 2400 RPM.
- **[Shortly after takeoff]**
Advice that if you encounter heavy turbulence you need to be at or below maneuvering speed ('vA') and to remember that this will decrease as you burn fuel.
- **[Shortly after takeoff]**
Advice to use right rudder to correct for any unwanted yawing to the left caused by P factor and torque.
- **[Shortly after takeoff]**
Advice to get take-off flaps retracted.
- **[Shortly after takeoff]**
Advice to turn the fuel boost pump off.
- **[Entering cruise mode]**
Advice to cruise at 34 inches manifold pressure and 2400 RPM and to lean the mixture to achieve peak "T.I.T." (turbine inlet temperature) being less than 1750 degrees and usually around 1650 degrees.

Descent and Landing

- **[Descending and below maximum flap speed while landing]**
Advice that once below 110 KIAS the pilot may start to lower flaps.
- **[Descending and decelerating to maximum flap speed while landing]**
Advice that once below 110 KIAS the pilot may start to lower flaps.
- **[Descent to around 1000 feet AGL while landing]**
Reminder to turn off autopilot.
- **[Descent to around 600 feet AGL while landing]**
Advice to use pitch to control airspeed and power to control rate of descent during approach and landing.
- **[Descent to around 500 feet AGL while landing]**
Advice that you want to land with landings flaps (full flaps) at 75 knots IAS.
- **[Descent to around 400 feet AGL while landing]**
Reminder to flare at about 10 to 15 feet above the runway and to lift the nose to land on your main gear first, lower the nose wheel gently and use minimum braking required.
- **[Descent to around 300 feet AGL while landing]**
Reminder that at about 10 to 15 feet above the runway you should reduce power to idle and flare.

General Warnings and Advice

- **[Fuel boost pump being used for more than 40 seconds with engine off]**
Advice that boost pump can be used for up to 40 seconds before starting.
- **[Fuel boost pump on shortly after starting]**
Reminder to turn boost pump off.
- **[Loss of engine while airborne]**
Advice that the best glide speed in this aircraft is 93 KIAS when fully loaded and slower if lighter - see kneeboard reference speeds.
- **[Engine fire started]**
Warning that the engine is on fire.
- **[Shortly after engine has started]**
Reminder to check the oil pressure.
- **[Speed approaching vNO]**
Reminder that you need smooth air to fly into the yellow arc on your ASI, above 174 KIAS which is 'vNO' (Maximum Structural Cruising Speed) for this aircraft.
- **[Speed approaching vNE]**
Warning that you are close to exceeding 195 KIAS which is 'vNE' (Never Exceed Speed) for this aircraft.
- **[Decreasing speed approaching vSO]**
Warning that stall speed with full flaps is 59 KIAS which is 'vSO' (Stalling Speed in Landing Configuration) for this aircraft.
- **[Decreasing speed approaching vS]**
Warning that stall speed with flaps up is 66 KIAS which is 'vS' (Stalling Speed with Flaps Up) for this aircraft.
- **[Left or right fuel level is low]**
Warning that one or both fuel tanks are getting low and you may wish to consider your refueling options.
- **[Engine running and alternator off]**
Reminder to turn alternator on.
- **[Engine running and avionics master switch off]**
Reminder to turn avionics master switch on.
- **[Flaps down and flying too fast for any flaps]**
Advice that once below 110 KIAS the pilot may use flaps.
- **[Master battery switched on]**
Estimate of current fuel as a percentage of full.
- **[Master battery on and fuel level getting low]**
Estimate of current fuel as a percentage of full as fuel falls below 50%, 25%, 10%, 5% and 3%.

Checklists

Overview

The primary function of FSFlyingSchool is to provide virtual instructors who are watching you and helping you be your best in the area of *airmanship* – how well you *fly your airplane* – and to have fun doing it. It certainly does a lot of other things in several other areas, but airmanship is its main focus.

We do not concentrate on teaching checklists and indeed there are other products which concentrate on just such training. As a result, we have not concentrated on checklists in this detail pack, but have instead added several simple checklist reminders from the instructor that can be requested by the pilot with a single simple keystroke.

Because the keystroke is always the same:

Ctrl Shift N

the process could not be simpler to remember. Your instructor will determine which checklist is the logical one at that point in your flight. In reading a checklist, the instructor will take several seconds to list all of its points, during which time you can follow along performing and checking the actions required, or you can use the checklist to make sure that you have already performed those actions.

The name of the checklist currently being read is shown on your screen in Flight Simulator immediately after the checklist key is pressed. Pressing **Ctrl Shift B** displays which checklist would be read out by the instructor if the checklist key Ctrl Shift N were to be pressed.

A key point to understand is that the checklists are not *interactive*, which means that the instructor is not waiting for you to perform each action. The instructor will read the entire checklist from start to finish regardless of what the pilot does. This is because checklists are not our main focus and also because your FSFlyingSchool instructor *is always* looking at your flight to see if anything is not as it should be – not just when a checklist is being read.

For example, if you failed to switch something on during a checklist, you can be sure that if it is ever off, or on, at the wrong time, your instructor will bring this to your attention – not just when a checklist is being read.

FSFS-Tip Remember it's handy to press Ctrl Shift B to see which checklist **would be** read out by the instructor if the checklist key Ctrl Shift N were to be pressed.

Note also that when Ctrl Shift B is pressed, the instructor will also describe the sky condition.

Checklists

(Press Ctrl Shift N to hear the current checklist)

- Cold and dark

[Taxi mode and master battery off]

This is a combination of a before start and engine start checklist.

Ignition switch OFF

Master switch OFF

Fuel boost pump switch OFF

Throttle CLOSED

Propeller control HIGH RPM (full forward)

Mixture IDLE CUTOFF (full aft)

Parking brake SET

Master switch ON

Cowl flaps OPEN

Flaps UP

Master switch OFF

Landing gear switch DOWN

Throttle open ¼ inch

Propeller control HIGH RPM (full forward)

Mixture FULL RICH (full forward)

Master switch ON

Fuel boost pump switch ON (maximum 40 seconds depending on temperature)

Fuel boost pump switch OFF

Propeller area CLEAR

Shout "Clear Prop!"

Ignition switch START

Wait for engine start and then... Ignition switch RELEASE

Throttle IDLE (700 to 750 RPM)

Oil pressure CHECK

Ammeter CHECK

Engine instruments CHECK

- **Run up**

[Taxi mode and engine running and not yet done run up for current flight]

This is part of a before takeoff checklist.

Select location free of debris and with no people, aircraft, animals or vehicles downwind (behind your airplane)

Stop while facing into wind

Parking brake SET

Fuel tank FULLEST

Throttle 1000 RPM

Cowl flaps OPEN

Propeller control HIGH RPM (full forward)

Mixture FULL RICH (full forward)

Alternator CHECK ON

Throttle 2000 RPM

Prepare to turn ignition key to check magnetos

Confirm less than a 150 RPM drop on each magneto

Confirm less than a 50 RPM difference between magnetos

Turn key to left magneto

Turn key to right magneto

Turn key back to left magneto

Turn key to both magnetos

Confirm approximately 50 RPM drop

Propeller control HIGH RPM (full forward)

Propeller control LOW RPM (full aft)

Propeller control HIGH RPM (full forward)

Throttle 1000 RPM

- **Takeoff**

[Takeoff mode and on ground]

This is a takeoff checklist.

Strobes ON

Autopilot OFF

Fuel boost pump switch ON

Elevator trim SET FOR TAKE OFF

Rudder trim SET FOR TAKE OFF

Flaps TAKEOFF (10 degrees)

Flight controls FREE & CORRECT

Radios SET

Avionics SET

Annunciator lights CHECK

Oil temperature CHECK

Cylinder head temperature CHECK

Parking brake RELEASE

Throttle (smoothly to) FULLY OPEN checking annunciator lights and engine instruments

Lift nose wheel at 60 knots indicated airspeed

Climb at 85 knots indicated airspeed.

Gear RETRACT in climb once clear of obstacles

Flaps UP

Fuel boost pump switch OFF

- **Descent**
[Landing mode and above 1000 feet AGL]
This is a descent checklist.
Flaps UP
Gear UP
Throttle ABOVE 15 inches MP (maintain CHT in green)
Propeller control 2400 RPM
Mixture PEAK "T.I.T." (turbine inlet temperature)
Cowl flaps CLOSED

- **Before Landing**
[Landing mode and below 1000 feet AGL]
This is a before landing check list.
Landing lights ON
Autopilot OFF
Gear DOWN with green light
Mixture FULL RICH (full forward)
Propeller control HIGH RPM (full forward)
Fuel boost pump switch ON
Fuel tank FULLEST
Flaps LANDING (full flaps)
Elevator trim AS DESIRED
Parking brake CHECK OFF

- **Shut down**
[Taxi mode and aircraft has flown since FSFS Pro started]
This is chiefly a securing airplane checklist.
Taxi to parking place
Parking brake SET
Throttle IDLE (full aft)
Avionics OFF
Electrical equipment OFF
Lights OFF
Pitot heat OFF
Mixture IDLE CUTOFF (full aft)
Alternator OFF
Master battery OFF
Ignition key OFF
Remove ignition key

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