Wing42
Lockheed Vega 5

Update notes for version 0.85

Last Revision: 04/04/2019

1 Introduction

Version 0.85 of the Wing42 Lockheed Vega brings some fundamental changes to the aircraft and its operation. To facilitate the transition for those who flew the Vega prior to version 0.85, this document will guide you through the changes.

I highly recommend you read through this document to ensure a smooth transition.

2 Uninstalling v0.04 and installation of v.0.85

Since version 0.85 comes with changes to the folder structure (see below), it is important for you to first uninstall the old version of the Wing42 Lockheed Vega.

To completely uninstall version 0.04, navigate to %LOCALAPPDATA%/Wing42/Lockheed Vega/ and execute *Uninstall.exe*. Alternatively, you can select the Uninstall option from your start menu. To do so, click on "*Start*", scroll down until you find the entry "*Wing42*" and select "*Uninstall Lockheed Vega 5*". Follow the uninstall wizard to complete the process.

After uninstalling version 0.04, please ensure that the folder */Wing42 Lockheed Vega 5/* was fully removed from your */simObjects/Airplanes/* folder of the flight sim. **The new model won't be fully operational if there are still files of the old Vega remaining in the folder.**

Once the previous version of the add-on is removed from your installation, execute the new setup wizard to install version 0.85. The installation of the new version works in the same fashion as previous editions of the Vega.

Please refer to the PDF file, named "*Lockheed Vega Installation guide*" in case any question arise during this process. If you still have questions, don't hesitate to contact Wing42 via email support@wing42.com, or visit our forum under forum.wing42.com.

3 New folder structure

The new folder structure supports shared resources for the different types of Lockheeds. This applies to textures, sounds and the simulation model (DLL file) of the aircraft.

The new installer will copy three new folders into the sim's */simObjects/aircraft/* folder. The folder */Wing42 Lockheed Vega shared/* contains all resources shared by the different versions of the Vega. */Wing42 Lockheed Vega 5 special/* contains the 3d models and textures for the preview version of the "Winnie Mae". */Wing42 Lockheed Vega 5/* contains the 3d models and textures of all other variants of the Vega.

4   New variants, new engine

Update 0.85 brings many new variants of the Vega to you. NC624E of Transcontinental and Western (later TWA) features a new 3D model with a smaller cowling ring and engine cover and NC12288 is a Detroit Lockheed Vega DL-1B, with an aluminium fuselage. In 1931, the US Army evaluated the Detroit Lockheed Vega for the purpose of a command transport aircraft and one of the aircraft purchased by the USAAC was c/n 158 with the Air Corps serial number A.C. 31-405. The livery is included in update 0.85. In the beginning of the 1930s newly founded airlines in Mexico started buying Lockheeds as well. One of those, c/n 80 with registration XA-BAM, received the wing of another Lockheed Vega and flew with both registrations for a while. This livery is also part of the update.

Furthermore, we included a sneak-peak version of the upcoming Winnie Mae, the aircraft that brought Wiley Post to fame. The version depicted is that of the 1931 around-the-world flight he undertook together with his navigator, Harold Gatty. Please keep in mind that this variant of the aircraft is not fully functional yet and the 3D model is still incomplete. Currently, one major issue is that you cannot use its special fuel tank in the fuselage, because it is still missing the tank selector for it. With that in mind, feel free to take on the challenge of taking off from a muddy airstrip in Alaska or Russia, with a slightly more powerful, but still way overloaded aircraft.

All Wing42 Lockheed Vegas received a new 3D model of the P&W R-1340 C engine with this update, as well as a new cowling to go with it.

5   New sounds

Probably the biggest change to come with v.0.85 is the addition of a sound engine to the simulation. We took great care to realistically simulate the sounds of every control in the cockpit, down to the screeching of the window wipers. You can adjust the volume of various effects and your ground crew, using the new settings panel (SHIFT+6).

Be advised that the engine sounds have not been updated yet, this is a planned feature for the upcoming version 0.90.

6 Meet Heinrich, your ramp agent

With version 0.85 we are introducing a brand new feature – a new, fully interactive and fully voiced ground crew interface. The goal of this change was to make the interaction with your ground crew livelier. To achieve this, a dialog-driven interface was implemented into Prepar3d/FSX.

You can access the new interface when the aircraft is on the ground and came to a complete stop. You will notice a little tab on the left side of the screen, which extends to a panel when your mouse hovers over it. From there, select the option "Talk to your ramp agent" to access the different dialog options.

Your ramp agent will give you an audible feedback while working on his tasks. His feedback is also printed on the screen so you won't miss it.

The payload manager is still available using *SHIFT+2* on your keyboard. Alternatively, you can access the payload manager by selecting "Show Payload Sheet" in the dialog window of your ramp agent.

The panel has received a major overhaul. We increased the size of the window to make it more user-friendly on higher resolution screens.

The Left side of the panel now shows the payload of the aircraft, you can board and un-board passengers here as well as load or unload cargo. On the right side you'll find the fuel loadout on the top and the weight table on the bottom. The interface works in exactly the same way as before, so you should be ready to go.

As a young man, Heinrich Adler left his hometown in Germany to escape the devastating effects of WWI. He migrated to the United States and due to his keen interest in aviation, sought out a job as a "rampie". He's eagerly saving up money, hoping to eventually take flying lessons and jump into the cockpit of a Lockheed!

7 Fuel tanks

The Vega now features three, instead of just two wing fuel tanks. All three tanks have a volume of 32 U.S. gallons, as opposed to the previous 48 gallons. So the overall fuel capacity stays the same with 96 gallons in total.

However, fuel management is a little bit more challenging than it was in previous versions of the Vega. To facilitate the new center fuel tank, the fuel tank selector in the cockpit won't have an "ALL TANKS" option any more, meaning you have to manually switch between tanks in flight. Due to this change, the OFF position of the fuel selector changed as well, refer to the flight simulator's tooltips to verify the correct setting. Note also that there is no fuel quantity gauge for the center tank in the cockpit so you need to keep track of your flight time. The engine consumes between 20 and 25 gallons per hour, depending on power and mixture settings, so you should get around one hour and a half out of each tank.

Historically, pilots of the 1920s would run on one tank until it's fully empty before switching to the next tank. As a matter of fact, they would run one tank dry until the engine stalls due to the lack of fuel supply and then quickly switch to the next full tank. This was done because the fuel gauges of the time were unreliable and this was the only way to accurately know how much fuel remained in the other tanks.

This practice was widely used by mail pilots of the time, but by the 1930s was banned by civil aeronautics authorities for passenger airlines. Passengers had complained about this practise after getting frightened by the sound of an engine that ran dry. To enforce this rule, pilots were fined if they landed the aircraft with an empty tank.

8   Engine Primer

The engine primer was upgraded with a stop valve that also acts as a guard to keep the primer handle from creeping due to vibrations. To operate the primer, you first need to open the guard by turning the lever to the right. You now need to prime the engine before trying to start it to ensure smooth operation. Prime with 3-5 strokes on cold days and 1-3 strokes on warm to hot days, or if the engine is still warm from prior flights.

Note also that in order for the primer cylinder to fill up, you first need to bring up the fuel pressure by using the wobble pump.

9   Engine starter

The starter motor of the engine has been replaced with a more accurate Eclipse inertia starter. The switch for the new motor is – historically accurate – mounted directly on the firewall **UNDER** the instrument panel. You cannot see it in the normal view, however, for easier operation we decided to create a large click-spot under the panel so you don't have to change the in-game camera angle.

Your mechanic left a little note in the cockpit to remind you of the new layout, you can click on the note to make it disappear, and it will permanently disappear after the third time you load the aircraft.

The new starter switch is spring-loaded and has three positions: ENGAGE – OFF – MESH. To engage the flywheel, click on the starter, move the mouse upwards on your screen while holding the mouse button. The electric motor will now slowly spin up the flywheel of the starter. You will hear a wining sound of the flywheel as it turns faster. After a few seconds the flywheel will be fast enough to crank over the engine. While still holding the left mouse button, move your mouse downwards on the screen to push the three-position-switch in to the "mesh" position. This will mesh the flywheel with the crankshaft of the engine and hopefully will result in a successful start of your R-1340.

10 Ignition and Spark Control

A new ignition system was implemented to increase realism. Since the magnetos barely produce enough current during the start-up phase, make sure to activate the booster coil by pressing the booster button on the main instrument panel. Don't forget to un-press it after the engine starts though, since you might otherwise overload the electrical system of the Vega.

Furthermore, the new ignition system has a fully functionally spark timing mechanism implemented. The Spark Control Lever is the lever on the engine controls marked with an "S". For engine start-up, retard the spark by moving the lever back to about 20-30%. Immediately after a successful engine start, you can advance the spark to maximum and leave the lever there for the rest of the operation.

The spark control influences the performance of the engine and if handled improperly can cause the loss of power and even after-fires.

11 Carburetor and mixture control

The carburetor also received an extensive upgrade. The sim will now accurately calculate the fuel level inside the carburetor's bowls, which in turn affects the mixture ratio of the fuel/air charge. Make sure to make slow and smooth adjustments to the throttle, since rapid changes can lead to problems in the operation. By rapidly opening the throttle, you might starve the engine of fuel whereas closing it too swiftly might flood the carburetor leading to a mixture that is too rich.

12 New E-Book!

With the new version of the Lockheed Vega, we included a 70-page e-book, written by Tom Harnish, about the history of the Lockheed Vega. It is a meticulously researched and beautifully written piece of art, and a great source of information.

Have a read and get inspired by the fascinating story of this amazing aircraft!

13 Final words

We hope you enjoy the new features of the Vega as we take another step toward a fully realistic release version of the renowned Lockheed Vega. Thanks go out to Tom Harnish and Garry Lundberg who assisted by testing, debugging and giving valuable feedback to the operation of our Lockheed Vega.

Thanks guys, you're wonderful!