

ROYAL FLYING CORPS
AVIATOR OFFICER'S
FLYING NOTES

FOR THE

AIRCRAFT MANUFACTURING COMPANY

AIRCO DH2

Property of
A. Heaven

OPERATING INSTRUCTIONS

for

AVIATOR OFFICERS

pertaining to

CORRECT SERVICE OPERATION

OF THE

AIRCO

DH2 FIGHTER



TABLE OF CONTENTS

<i>Introduction.....</i>	<i>I.1</i>
<i>Technical Specifications.....</i>	<i>II.1</i>
<i>Walkaround.....</i>	<i>III.1</i>
<i>Cockpit.....</i>	<i>IV.1</i>
<i>Take Off.....</i>	<i>V.1</i>
<i>General Flying.....</i>	<i>VI.1</i>
<i>Approach and Land.....</i>	<i>VII.1</i>
<i>Combat.....</i>	<i>VIII.1</i>

Chapter 1.

INTRODUCTION.



The DH series of 'pusher' bi-planes was designed in 1915 by Geoffrey DeHavilland for the Aircraft Manufacturing Company - Airco. The DH2 variant was introduced in 1916 and with other designs of the period, became the answer to the "Fokker Scourge" stopping the rampage of the Fokker EIII monoplane or "Eindecker".

The pusher design resulted in excellent visibility for the pilot who sat in an exposed position inside a pod or nacelle which housed the Gnome Monosoupape Rotary engine. Mostly of wood and fabric construction, the DH2 was surprisingly sturdy and could take a deal of punishment. Vulnerable to attack from the rear, however, the pilot needed good aerobatic skills to survive.

Not easy to fly, the DH2, once mastered was a nimble and athletic performer and outperformed the Eindecker in speed and manoeuvrability. It could out-climb the Fokker and out-turn it .

Originally produced with a flexible gun mount for multi-angle firing, the DH2 was quickly converted to fixed gun mounts as pilots found it too hard to control the aircraft and swivel a machine gun at the same time. (We have replicated the swivel gun in this simulation (f8) should you wish to try it.)

About 400 examples were built and were in service as late as 1917 by which time far more superior machines were doing battle with each other over the trenches of the Western Front.



Chapter 2.

Technical Specifications. AIRCO DH2

Wingspan 26ft 3 in (8.6m)

Length: 25ft 2 in (7.7m)

Height: 9ft. 6 (2.9m)

Weight: (empty) 943 lb
(gross) 1,441 lb

Power: Gnome Monosoupape. 9 cylinder Rotary 100hp.

Max. Speed: 93mph (150 kph)

Ceiling: 14,000 ft (7,163m)

Endurance: 2 3/4 hrs

Armament: 1 x Lewis or Vickers Machine gun.
.303 calibre



Chapter 3.

WALK AROUND.

Approaching the aeroplane from either side, the first thing you'll notice is the distinctive stance of a 'pusher' bi-plane design. The pilot sits in a pod or nacelle well forward in a very exposed position.

The engine is a rotary Gnome Monosoupape. It has 9 cylinders with exposed valve gear.

This same engine was built under licence and then copied by the Germans for use in Fokker Eindecker and other designs of the period. So engine types and performance were often well matched on both sides.

That tail structure may look flimsy but the airframe is extremely rugged and strong.

Climbing on board, you'll find a stark interior cockpit with few instruments and controls. These aeroplanes were from a very early time in aviation and are a stark contrast with their more modern counterparts.

Chapter 4.

THE COCKPIT.

Immediately ahead of you are the main flight gauges for altitude, speed and engine revolutions. There is a small fuel gauge, magneto switches, starting handle and two items not normally found in a DH2. These are mixture control and throttle. The real aircraft had neither of these as the rotary was designed to run at full revolutions all the time. One controlled the speed of the aeroplane by cutting the fuel/ignition supply with a 'blip' switch on the control column.

However, for your convenience and more relaxed flying, we have supplied you with a specially designed throttle and mixture control.

The .303 Lewis or Vickers machine gun sits right in front of you with a swivel fitting, enabling you to swing the gun through an arc. This feature is replicated in the CFS3 version by using F8.

A simple rudder bar and wire arrangement takes care of rudder control and the stick controls the conventional elevator and aileron set-up.

(Cont...)



1. Tachometer (Engine revolutions).
2. Magneto Switches
3. Clock.
4. Fuel Gauge.
5. Altimeter.
6. Airspeed.
7. Turn and slip indicator.
8. Oil Pressure.
9. Compass (Available in the 'views/instrument panel/compass' pull-down menu)
10. Radio (FS series only) (non-historical).



Virtual Cockpit

Chapter 4.

THE COCKPIT Cont.

In FS2002/4 versions, a compass can be called up in a separate window.

Engine start

In the absence of anyone to swing the big four blader, we've added a set of engine start switches. So, proceed as follows:

- 1) Mixture to full rich*
- 2) Magnetos to both +*
- 3) Crack the throttle slightly*
- 4) Push the starter and hold until the engine catches.*
- 5) Allow the engine to settle to idle.*

These engines were inclined to be temperamental so it is more than likely that the motor will stall and cut occasionally. If this happens just restart and 'catch' the engine with a little throttle. Remember that you have no brakes so the aeroplane will lurch forward and attempt to taxi!



Chapter 5.

TAKE-OFF.

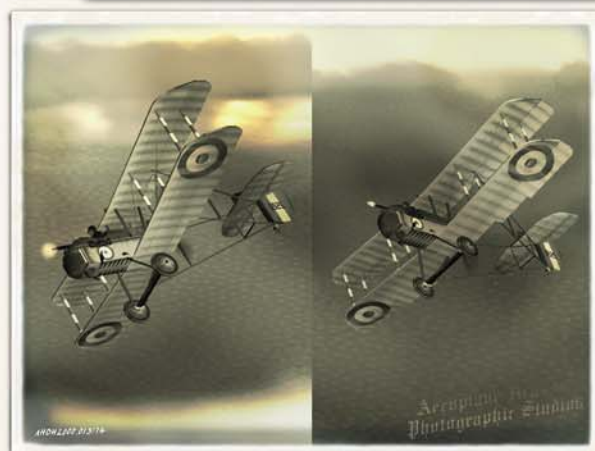
Open the throttle to full.

Keep straight using a little rudder.

At around 25-30 mph (40-56kph) she should lift off with very little assistance. If not, just a gentle back pressure on the stick will unstick.

Climb out at around 50mph (80kph) in a gentle climb. Do not raise the nose to high or you will stall.





Chapter 6.

GENERAL FLYING.

This simulation must work within the confines of the core simulator. Good approximations of real flight can be made in most simulators but you may need to make adjustments for CFS3. It is worth the trial and error with throttle settings and trim to achieve the recommended indicated speeds. This way you will get a real 'feel' of what it would have been like to fly and fight in these machines.

Level off at around 128 kph (80mph) and settle to a cruise of around 85mph (136kph).

Use your throttle and elevator trim to achieve the correct cruise speed and level flight.

For aerobatics, open the throttle and climb to good altitude (at least 1,500ft.) The DH2 will perform aerobatics routines well for an airframe design of this period. Quite nimble and light on the controls, this little pusher 'biplane' is fun to fly.

*With a full tank you have about 2 1/2 hours duration.
(Non-combat)*



Chapter 7.

APPROACH AND LAND.

Approach the airfield at heights below 3,000 ft. Reduce throttle to idle and set the machine up for a 'fast' glide at around 35-45 mph. You should aim to be lined up and close to the threshold at a speed of around 30 mph and height of 50 ft.

Cut the engine (Control/shift F1 for FS2002/4 and Control/Shift F6 for CFS3) and glide to the deck, touching down at about 15-20mph. Roll to a stop using rudder to keep straight.

If you have plenty of room, start the motor and use small amounts of throttle and rudder to taxi to the ramp. REMEMBER YOU HAVE NO BRAKES!





Chapter 8.

COMBAT.

The DH2 has an excellent field of view from the pilot's position, except for the rear.

More than a match for the Eindeckers of the period you should have no trouble with them unless one gets behind you. If this happens, try an Immelmann manoeuvre (Half loop and roll out upright) to get back on top and in front or behind of him.

In CFS3, the gun can be swiveled in 'gunner' (F8) mode but the computer takes over control of the aircraft. This will give you some idea of just how tricky this combination was to fly and fight with and why pilots soon opted for a fixed 'point and shoot' set-up. It is this latter arrangement that you will use most in combat (F6).

(cont...)



CFS2 2D Panel



CFS2 2D Fighting Panel

Chapter 8.

COMBAT Cont.

In CFS2, there is a special 'Fighting Panel' option which positions the 2D panel lower in frame, exposing the cross hairs. (Go to the "Views" drop-down menu and select Fighting Panel. Then deselect Main Panel to hide that item.)

Be careful not to stress the airframe and keep plenty of height. Remember that many German aces cut their teeth on Eindeckers and even the superior DH2 fell to their guns.

You will be out-gunned and out-performed by later German types such as the DVII, DVIII and Albatross fighters so if you meet these, play safe and only engage from a position of significant advantage.

© MMIII AeroplaneHeaven.com



