Douglas F4D Skyray™

USER MANUAL
Introduction

The Douglas Skyray™ was on the cutting edge of aircraft design when first conceived in 1947, after winning a competition for a delta-wing Navy fighter. In 1948, Douglas Aircraft™ contracted to build the F4D-1™, with the first flight of a production model taking place in 1954. Known as the 'ten-minute killer', the aircraft broke five world records in the time-to-altitude category and exceeded Mach 1 in level flight. In 1953, the Skyray™ shared honors with North America's Super Sabre™ in being awarded the prestigious Collier Trophy. In the late 1950s, an F4D1™-equipped squadron was recognized as the top interceptor squadron in the North American Air Defense Command, an area previously dominated by Air Force aircraft. In all, Douglas™ produced 421 Skyrays™, including two XF4D™ prototypes. The last of the type left the El Segundo, California, plant in December, 1958. It was designated the F-6A™ in 1963 and served both Marine and Navy carrier squadrons until early 1964.
Support

Should you experience difficulties or require extra information about the Virtavia F4D Skyray™, please e-mail our technical support on tech.support@virtavia.com

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Package Contents

The Virtavia F4D Skyray package contains four model variants:

- Clean Version
- Air Superiority Version
- Ground Attack Version
- Ferry Version (long range)

Exterior Model

The exterior model has all the usual animations such as ailerons, elevators, rudder and speedbrakes. There are some additional animations on the model:

Beavertail

The flaps command is used to extend the aft part of the fuselage. This provides added lift on take-off and landing (F8 – F5).

Crew Access

The pilot’s canopy can be open or closed using Shift-E.
Tail Hook

Normally defined as Shift-Q but can be reassigned to ‘T’ if desired.

Folding Wing Tips

Normally defined as Ctrl-Shift+K but can be reassigned to ‘F’ if desired. Only works when on the ground.

Exterior Lighting

Pressing the L key will turn on all lights. You may however wish to turn them on using the appropriate switches in the cockpit, as the L key also turns the on navigation, landing lights and flood lighting in the cockpit, which should ideally be switched separately.

Shift-L will toggle the nav lights and the cockpit lights.

Ctrl-L will toggle the landing light.
Cockpit Views

Virtual Cockpit View

2D Panel View
Two-D Panel Pop-Ups in VC

The following keystrokes will toggle the 2D pop-up panels associated with the accompanying 2D panel suite:

**Shift-2**: Autopilot

**Shift-3**: Radios

**Shift-4**: Standard FSX GPS unit

Two-D Panel

The instruments are the same as in the virtual cockpit with the addition of more mousable switches and knobs.

The radar instrument is for visual effect only and has no function in the simulator.
REFERENCE INFORMATION

Virtavia F4D Skyray Checklist

For specifications and weights see the aircraft menu. Use the Fuel and Payloads options to set up weight and fuel loading.

- Stall speed, clean: 107 KIAS at normal weight.
- Stall speed, landing: 97 KIAS at normal weight.
- Max flap extension: 250 KIAS
- Max gear extension: 230 KIAS

Engine Start

Use Ctrl-E (autostart) to start the aircraft, or:

1. Set parking brake.
2. Set throttle to IDLE.
3. Turn OFF all electrical equipment.
4. Ensure fuel supply is on (Press Ctrl-Shift-F4).
5. Bring up throttle panel.
7. Monitor oil pressure and temperature.

Takeoff (maximum fuel)

1. Make sure fuel is set to fullest tank.
2. Set flaps control to first position (beavertail UP).
3. Set elevator trim neutral.
4. Apply full power smoothly.
5. Pull back on the stick slightly to lighten the nose at about 100 KIAS.
6. Rotate smoothly at about 120 KIAS to 10 degrees pitch up.
7. Don't over-rotate or you'll hit the tail skid.

After Takeoff

1. Retract landing gear and beavertail once a positive rate of climb is established.
2. Make your initial climb at a very shallow angle until 180 KIAS is reached.
3. Reduce throttle to 100 percent RPM.
4. Allow the aircraft to accelerate to 380 KIAS.
5. Climb at about 380 KIAS for best rate of climb.
6. After reaching 0.7 Mach maintain for remainder of climb.

**Climb**

A climb to 36,000 feet at combat weight, with no wing tanks or stores, will take about 4.5 minutes and cover 24 nautical miles. The rate of climb at sea level is about 18,000 fpm, declining to about 4,000 fpm at 36,000 feet.

**Cruising**

<table>
<thead>
<tr>
<th>Altitude</th>
<th>Airspeed</th>
<th>Fuel Consumption</th>
<th>Nautical miles/1000 lbs</th>
<th>Pilot's IAS</th>
<th>Ground Speed, knots</th>
</tr>
</thead>
<tbody>
<tr>
<td>36,000 feet</td>
<td>0.79 Mach</td>
<td>2575 pounds/hour</td>
<td>17.5</td>
<td>267</td>
<td>452</td>
</tr>
</tbody>
</table>

**Normal Descent**

1. Retard throttles to idle.
2. Lower landing gear observing speed restrictions.
3. Use speed brakes as necessary.

**Landing (19,000 lbs.)**

1. For optimal CG location land with forward and aft center tanks and drop tanks empty.
2. Approach the field at about 240 KIAS with plenty of room to slow down.
3. Use speed brakes as needed.
4. Slow to approach speed of 170 KIAS and raise beavertail (first notch of flaps).
5. Lower gear on downwind and deploy first stage of flaps.
6. Speed on base leg should be 150 KIAS; lower second stage of flaps.
7. Turn to final and lower full flaps, maintaining 130 KIAS.
8. Flare speed should be 120 KIAS.
9. Touch down in a slightly nose-up attitude at about 105 KIAS and 7.5 degrees pitch-up.
10. Brake as necessary after front main gear touches down.