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Reality Expansion Pack for X-Plane

DHC-2 Beaver

Checklists & References

ON ENTERING THE AIRCRAFT

1. Ignition OFF
2. Parking Brake SET
3. Controls UNLOCKED
4. Trim AS REQUIRED
5. All Switches OFF
6. Avionics Master Switch OFF
7. Battery Master Switch ON
8. Fuel Quantity CHECK
9. Altimeter and Clock SET

BEFORE STARTING ENGINE

1. Fire guard IN POSITION
2. Propeller Area CLEAR
3. All Switches OFF
4. Throttle Lever 1/4 to 1/2 in OPEN
5. Propeller Lever FULLY DECREASE RPM
6. Mixture Lever IDLE CUT-OFF
7. Carburettor hot air lever COLD

Ask ground crew or use starter to turn propeller to make sure that an excessive amount of oil is not trapped in the lower cylinders.

NORMAL ENGINE START

- 1. Propeller Area CLEAR
- 2. Battery Master Switch ON
- 3. Fuel and Oil Emergency Lever OPEN
- 4. Fuel Selector FULLEST TANK
- 5. Mixture Lever FULL RICH or AUTO RICH
- 6. Throttle Lever 1/4 to 1/2 INCH OPEN
- 7. Fuel Pressure USE WOBBLE PUMP TO MAX 5PSI
- 8. Primer AS REQUIRED
- 9. Ignition Switches ON (BOTH)

Procedure continues on next page.

NORMAL ENGINE START - CONTINUED

- 10. Starter HOLD SWITCH TO STARTER POSITION
- 11. Booster Coil Switch BOOSTER COIL

As soon as engine fires:

- 12. Starter Switch RELEASE
- 13. Clutch Switch OFF
- 14. Booster Coil Switch RELEASE
- 15. Priming Pump LOCKED OFF

CAUTION

- 1. As soon as engine fires, throttle back to about 500 to 800 rpm.
- 2. Do not pump throttle to catch a "dying" engine.
- 3. If oil pressure does not register on gauge within 30 seconds, stop engine and investigate.

As soon as oil pressure reaches 50PSI:

- 1. Propeller Lever FULL INCREASE
- 2. Alternator Switch ON
- 3. Avionics Master Switch ON

ENGINE WARMUP

1. Throttle 1000RPM

After oil temperature as reached 100°F (40°C):

2. Mixture Lever FULL RICH or AUTO-RICH

3. Throttle 1000~1400RPM

NOTE

Never rush engine warmup

4. Oil pressure CHECK

5. Oil temperature CHECK

6. Fuel pressure CHECK

7. Tank Feeds CHECK (ROTATE FUEL SELECTOR)

ENGINE GROUND TESTS

The engine oil inlet temperature should be above 100°F (40°C) yet never rise above 200°F (90°C). Cylinder head temperatures must not exceed 450°F (230°C).

1. Head Aircraft INTO WIND
2. Parking Brake ON
3. Control Column FULLY BACK
4. Fuel Selector FULLEST TANK
5. Propeller Lever FULLY INCREASE RPM
6. Throttle 1750RPM
7. Magnetos CHECK DROP (100rpm max)
8. Throttle 600RPM
9. Magnetos GROUND CHECK
10. Manifold Pressure SET TO AERODROME PRESSURE
11. Generator CHECK CUT IN ~1400RPM
12. RPM CHECK ~2100
13. Engine Gauges CHECK
14. Throttle 1600RPM
15. Propeller CHECK (Cycle once)

TAXIING

- 1. Flaps CRUISE POSITION
- 2. Propeller Lever FULLY INCREASE RPM
- 3. Oil and Cylinder Temperatures CHECK
- 4. Brakes TEST
- 5. Steering CHECK
- 6. Throttle 1200/1400 RPM when aircraft stopped

TAKE-OFF CHECK

- 1. Doors and Windows CLOSED
- 2. Elevator Trim AS REQUIRED
- 3. Mixture Lever AUTO RICH
- 4. Propeller Lever INCREASE RPM
- 5. Fuel Selector AS DESIRED
- 6. Flaps TAKE-OFF
- 7. Gyros UNCAGED AND SET
- 8. Pitot Heat AS REQUIRED
- 9. Carbutettor Heat COLD

TAKE-OFF

- 1. CHT (if available) Below 450°F (240°C)
- 2. Throttle OPEN SMOOTHLY to Max TO Power
- 3. Rotate 55~65 MPH
- 4. Climb 65 MPH

As soon as safe height is attained:

- 5. Power (full weight) 33.5InHg 2200RPM
- 6. Power (normal weight) 30InHg 2000RPM
- 7. Speed 80 MPH

When above 500ft AGL:

- 8. Flaps CLIMB

CRUISE

- 1. Flaps CRUISE
- 2. Throttle AS REQUIRED by perf. charts
- 3. Propeller Lever 2000RPM or less
- 4. Mixture LEAN or AUTO LEAN
- 5. Engine Gauges CHECK

DESCENT

- 1. Speed AS REQUIRED
- 2. Fuel Selector FULLEST TANK
- 3. Instruments CHECK

APPROACH

- 1. Speed Below 90 MPH IAS
- 2. Propeller Lever INCREASE RPM
- 3. Mixture Lever FULL RICH or AUTO RICH
- 4. Flaps LANDING or AS DESIRED
- 5. Approach Speed 80MPH

LANDING

- 1. Trim AS REQUIRED
- 2. Power Increase to decrease desc. rate

NOTE

With flaps at landing, the "Power-Off" approach produces a marked nose down attitude.

NOTE

In normal stalled landing the tailwheel will touch first, when landing without flap.

GO AROUND

- 1. Throttle Open slowly to full take-off Power
- 2. Flaps TAKE-OFF

At safe altitude:

- 3. Flaps RETRACT

AFTER LANDING

1. Flaps CRUISE
2. Elevator Trim NEUTRAL
3. Parking Brakes Set
4. Carburettor Heat COLD

STOPPING THE ENGINE

1. Avionics Master Switch OFF
2. Throttle IDLE to cooldown
3. Throttle 1000~1200RPM
4. Propeller Lever DECREASE RPM
5. Throttle Maintain 800RPM
6. Mixture Lever IDLE CUT-OFF
7. Ignition OFF
8. Fuel selector OFF
9. All Switches OFF exc. generator field switch

ENGINE FAILURE DURING TAKEOFF RUN

If remaining length of runway is sufficient for stopping safely.

1. Brakes APPLY
2. Control Column FULLY BACK
3. Mixture Lever IDLE CUT-OFF
4. Flaps FULLY DOWN
5. Ignition OFF
6. Fuel Selector OFF
7. Battery Master Switch OFF

If space ahead is insufficient: Take steps above and turn the aircraft applying differential braking.

ENGINE FAILURE AFTER TAKE-OFF BELOW 800ft

- 1. Airspeed 65MPH
- 2. Mixture Lever IDLE CUT-OFF
- 3. Propeller Lever DECREASE RPM
- 4. Fuel and oil emergency cut-off CLOSED
- 5. Ignition OFF
- 6. Battery Switch OFF
- 7. Fuel Selector OFF
- 8. Passengers BRACE

Keep straight ahead and change direction only enough to miss obstacles. Use rudder only.

ENGINE FAILURE AFTER TAKEOFF ABOVE 800ft

1. Nose LOWER to keep airspeed
2. Flaps CRUISE
3. Propeller Lever FULL DECREASE RPM
4. Airspeed 95 MPH

ENGINE FAILURE DURING FLIGHT

If sufficient altitude is available, attempt to re-start the engine as follows:

1. Airspeed 95MPH IAS
2. Fuel Selector FULLEST TANK
3. Fuel Pressure NORMAL RANGE
4. Oil Pressure AVAILABLE

Do not attempt to restart engine if no oil pressure is available.

5. Throttle OPEN 1/3 inch
6. Ignition Switches BOTH

If no fuel pressure is indicated:

7. Booster Pump ON or
8. Wobble Pump PRIME max 4 strokes

If re-start fails:

9. Ignition switch OFF
10. Propeller Lever FULL DECREASE RPM
11. Fuel Selector OFF
12. Airspeed 95 MPH IAS
13. Throttle Lever CLOSED
14. Dead Engine Landing PERFORM

GENERAL

	Landplane (5,100lbs)	Ski/Seaplane (5,100/5,090lbs)
Max. True Level Speed		
Sea Level mph (kmh)	156 (251)	144 (232)
5,000ft mph (kmh)	163 (262)	151 (243)
True Cruising Speed (300 BHP)		
Sea Level mph (kmh)	136 (219)	123 (198)
5,000ft mph (kmh)	143 (230)	127 (204)
Econ. True Cruise Speed (240 BHP)		
Sea Level mph (kmh)	125 (201)	110 (177)
5,000ft mph (kmh)	130 (209)	114 (183)
Stalling Speed (IAS)		
Flaps up mph (kmh)	60 (96)	60 (96)
Flaps "Landing" mph (kmh)	45 (72)	45 (72)
Take-off dist. to clear 50ft obst.		
Flaps "Take-off" ft (m)	1,250 (381)	1,610 (491)
Landing dist. to clear 50ft obst.		
Flaps "Landing" ft (m)	1,250 (381)	1,510 (460)
Initial rate of climb (T.O. Power)		
Flaps up fpm (m/s)	1,020 (5.2)	920 (5)
Flaps "Take-off" fpm (m/s)	730 (3.7)	650 (3.3)
Service Ceiling		
ft (m)	18,000 (5490)	15,750 (4800)

GENERAL (continued)

	Landplane (5,100lbs)	Ski/Seaplane (5,100/5,090lbs)
Rate of climb (MCP)		
Sea Level fpm (m/s)	840 (4.3)	740 (3.8)
5,000ft fpm (m/s)	795 (4)	685 (3.5)
10,000ft fpm (m/s)	530 (2.7)	410 (2.1)
Cruise Range (5,000ft)		
Standard Tanks nm (km)	455 (732)	405 (652)
Tip Tanks nm (km)	740 (1190)	655 (1053)
Cruise Endurance (5,000ft)		
Standard Tanks	3.54 hrs	3.52 hrs
Tip Tanks	5.7 hrs	5.68 hrs

Note: range and endurance results make allowance for:

- i) 10 min. warm up and take-off
- ii) Climb to 5,000ft
- iii) Fuel for 45 min. flight at cruise power (240HP)

Flaps mph (kmh)	105 (169)	105 (169)
Diving mph (kmh)	180 (290)	180 (290)
Cruising mph (kmh)	145 (233)	145 (233)

ENGINE: Pratt & Whitney WASP JUNIOR R-985 (ALL MODELS)

MIXTURE CONTROL: Auto Lean

FUEL CONSUMPTION						
Imp. Gal/hr	14.1	15.2	16.5	18.4	20.8	23.1
U.S. Gal/hr	16.9	18.2	19.8	22	25	28.5
B.H.P.	200	220	240	260	280	300

Altitude	R.P.M. and MANIFOLD PRESSURE					
S.L.	1600-26.7	1600-28.5	1650-29.5	1750-29.7	1900-29.2	2000-29.7
1000	1600-26.5	1600-28.5	1650-29.2	1750-29.7	1900-29.2	2000-29.5
2000	1600-26	1600-27.7	1650-29	1750-29.2	1900-28.7	2000-29.2
3000	1600-25.7	1600-27.5	1650-28.7	1750-29	1900-28.5	2000-29
4000	1600-25.5	1600-27	1650-28.2	1750-28.7	1900-28.2	2000-28.5
5000	1600-25.2	1600-26.7	1650-28	1750-28.2	1900-28	2000-28.2
6000	1600-25.2	1600-26.5	1700-27.5	1750-27.7	1900-27.7	2000-28
7000	1600-25	1600-26.2	1700-27	1750-27.2	1900-27.5	2000-27.7
8000	1600-24.7	1600-26	1700-26.5	1800-26.7	1900-27.2	2000-27.5

