

AVRO TYPE 464 DAMBUSTER "LANCASTER"

----- PRELIMINARIES -----

1. Parking Brake..... ON
2. Master Engine Cocks..... OFF
3. Magnetos, all..... OFF
4. **Fuel Tank Selectors... No. 2 TANKS**

----- STARTING ENGINES -----

1. **Radiator Shutters..... OPEN**
2. Propeller Controls..... FULLY UP
3. Throttle CRACK OPEN

Ctrl+E to initiate sequence
OR for each engine:

4. Master Engine Cock..... ON
5. Magnetos Switches..... BOTH UP
6. Starter PUSH CAP

----- WARM UP ENGINES -----

1. Throttles INCREASE BOOST TO
ACHIEVE 1200 RPM
2. Check Oil Press..... MIN 45 PSI
3. Check Oil Temp..... MIN 15* C

----- TAXYING -----

1. Navigation Lights..... ON
2. Brake Pressure..... 250-300 PSI
3. Propeller Controls..... FULLY DOWN
(Ctrl F1)

----- TAKING OFF -----

1. Heated Pressure Sw..... ON
2. Elevator Trim... SLIGHTLY FORWARD
3. Aileron/Rudder Trims..... NEUTRAL
4. Propeller Controls..... FULLY UP
(Ctrl F4)
5. Brakes HOLD
6. Throttles BOOST 0 PSI
CHECK ENGINE SYNC
THROTTLE BACK
7. Landing Lights..... AS REQ'D
8. Throttles OPEN SLOWLY TO
ACHIEVE TAKE-OFF POWER
SIM BOOST +9 PSI
9. Airspeed EASE OFF GROUND
AT 95-105 IAS
10. Landing Gear..... UP
AT POSITIVE LIFT
(G)
11. Flaps RETRACT AT
+500 FT AGL
(F5)

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----- CLIMB -----

1. Airspeed... QUICK CLIMB 160 MPH
COMFORTABLE CLIMB 175 MPH
2. Throttles BOOST -2 PSI
3. Propeller Controls 2850 RPM

----- AFTER TAKE-OFF & CLIMB -----

1. Landing Gear VERIFY UP
2. Flaps VERIFY UP
3. Temps & Pressures CHECK
4. Landing Lights AS REQ'D
5. **Radiator Shutters AUTOMATIC**

----- CRUISE -----

1. Throttles BOOST -2 PSI
2. Propeller Controls 2200 RPM
(Ctrl F2)
3. Airspeed 170 MPH

----- DESCENT -----

1. Altimeters SET
2. **Fuel Quantity CHECK**
3. Landing Lights AS REQ'D

----- INITIAL APPROACH -----

1. Auto-Controls Cock OUT
2. Undercarriage DOWN
(G)
3. Propellers 2850 RPM
(Ctrl F3)
4. Flaps 10*
(F7)
5. Airspeed 140 MPH

----- APPROACH -----

1. Flaps 20* ON CIRCUIT
(F7)
2. Undercarriage VERIFY DOWN
3. Airspeed 120 MPH
4. Flaps... FULL DOWN ON SHORT FINAL
(F8)
5. Throttles REDUCE BOOST
TO TOUCHDOWN AT 105 MPH

----- AFTER LANDING -----

1. Flaps UP
(F5)
2. **Radiator Shutters OPEN**
3. Landing/Taxi Lights AS REQ'D
4. Propeller Controls FULLY DOWN
(Ctrl F1)

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NOTE

It is permissible at the pilot's discretion to shut down engines #1 and #4 whilst taxiing to parking to prevent their overheating.

----- ENGINE SHUT-DOWN -----

1. Parking Brake..... SET
2. Navigation Lights..... OFF
3. Auto-Controls Master Sw..... OFF
4. Radios..... OFF
5. Master Engine Cocks..... OFF
6. Magnetos..... OFF
7. All Switches..... OFF

REFERENCE INFORMATION

Max Weight..... 63,000 lbs
Total FS aircraft weight
with full fuel..... 59,799 lbs
Max Landing Weight..... 55,000 lbs
V_{NO} - Max Speed..... 282 MPH
V_{NE} - Never Exceed..... 360 MPH
V_{LE} - Maximum Gear Extension.. 200 MPH
V_S - Stall..... 92 MPH
V_Y - Best Rate-of-Climb
(sea level)..... 160 MPH
Full Flaps 200 MPH

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CHECKLIST NOTES FOR THE PLANE DESIGN DAMBUSTER LANCASTER BY ROSS McLENNAN FOR FSX:

FLYING THE LANCASTER in the Sim: Taxying the aircraft use [Ctrl F1] for minimum RPM. It is not necessary to use full boost at takeoff: first set full RPM with [Ctrl F4], flaps 20° and then use +9 lbs. max. This was the Merlin gate and more than adequate in the simulator.

Climbing: set 2850 RPM [Ctrl F2] flaps up at +500 feet AGL [F5] and adjust or leave boost at -2 lbs

Cruising: set RPM to 2200 and leave boost at -2lbs.

Preparing to Land: Call ATC for permission to land about 10 miles out, gear down with [G] Increase engine RPM to 2850 using [Ctrl F3], in circuit at 140 mph

Approach: Flaps to 10° [F7] Descend with flaps 20°, over threshold 120 mph and full flaps before runway, back off boost now for touchdown at 105 mph.

Landed & Taxi: Landing lights off at turnout. Flaps up and engine RPM to minimum with [Ctrl F1]. You can taxi in with #1 and #4 shut down. Follow ATC instructions and use the "Progressive Taxi" option to show the way to your allocated H park. See "Use of H Parking" below.

You should notice you do not fly a Lancaster by shoving the throttle in and out. You fly generally with a preselected boost and adjust RPM. Moving the four "throttles" in unison was not easy. Changing RPM setting was much easier for the Flight Engineer.

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USE OF H PARKING:

H PARKING: Departure from the front two parks, just taxi forward. The rear two aircraft, turn left or right and use the middle road to the main taxiway.

Arrival, all Lancasters use the middle road and all MUST face the main taxiway for departure. ATC will not direct you to use the middle road unless your park is at the rear of the H.

Front row aircraft: ATC will direct you into the forward parks; neglect the direction and use the middle road and turn so as to face in the correct direction for departure.

Rear row aircraft: MUST turn as though parking in the front row. Stop before encroaching into the forward park, shut down for pull back using [Shift P] into your allocated park.

GROUND CREW SETTINGS:

- (1) Saved Flights set Fuel load, maximums are as follows.
Dambuster: Left #2 = 900 USG, Right #1 = 900 USG for a total of 10800 lbs. reading when full 54 on each gauge
- (2) Fuel is 6 lbs per USG. Fuel gauges read 100's lbs 30 on the gauge is $30/6 \times 100 = 500$ USG
- (3) In training the real Lancasters carried ballast" to represent the full load to be used on the raid, so the sim version has a payload of 10000 lbs.

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ATTACK ON WALLS:

- (0) Engine rpm 2850, Rotate Weapon 500 rpm [I]
- (1) In bombaimer's view [Shift+3] for bombsight
- (2) Indicated air speed: 220 mph, 191 kts.
- (3) Ground radar height: 60 to 75 feet
- (4) Heading: D=168, M=324, E=132
- (5) Pause when you think you would drop the weapon
- (6) If a successful attack:
 - Remove the bomb load [Alt A F] payload zero.
 - Stop weapon rotation [I] to fly over the wall
 - Return to either the 2D or VC cockpit
- (7) Engine: climb out 2850 rpm, cruise 2000 - 2400 rpm
 - Boost -2 lbs

2D PANEL SETUP, VC and BOMBAIMERS VIEW

as per the PART 1 Manual

This checklist has been developed specifically for Ross McLennan's Microsoft Flight Simulator Dambuster Tribute Flight to help provide the most immersive experience possible. The operating procedures of the real Avro Lancaster have been retained as best as able but the performance figures, power settings and some procedures have been adapted for this simulation. Some switches and gauges are not animated and others, though animated, are non-functioning; therefore, some of these procedures (in red) cannot actually be performed but were kept for the sake of authenticity.