

Black Square B60 Turbine "Royal" Duke

Checklist & Procedures for MS Flight Simulator

by PH-BK0 (v1.3)

NOTES

This checklist / procedure list is **for flight simulator use only**. This document is based on the Black Square B60 Turbine Duke MSFS manual.

Bold items should be followed. Items that are not bold, could be skipped "safely".

SPECIFICATIONS / LIMITATIONS

Max. Takeoff Weight	7.000 lbs 3.175 kg
Max. Landing Weight	7.000 lbs 3.175 kg
Service Ceiling	28.000 ft
Normal Range (30 min. reserve)	1.235 nm
Usable Fuel Weight	1595 lbs 723 kg
Full Fuel Payload	852 lbs 386 kg
Takeoff Distance	1.000 ft
Landing Distance	850 ft

SPEEDS

Rotation (Vr)	102 kts
Clean stall	80 kts
Min. controllable	96 kts
Best Angle of Climb (single/dual engine)	110 kts
Best Rate of Climb (single/dual engine)	120 kts
Best Glide	115 kts
Max. Full Flap Extension	140 kts
Max. Approach Flap / Landing Gear Extension	174 kts
Never Exceed	198 kts

PREFLIGHT

Preflight Inspection	COMPLETE
Locks & Covers	REMOVE
Seat & Seatbelts	SECURE
Cabin Door	LATCHED
Nose Baggage Door	LATCHED
Parking Brake	SET
Weights & Fuel (EFB)	SETUP
Landing Gear	DOWN
Electrical Switches	OFF
Engine & Avionics Switches	OFF
Oxygen Pressure	1550-1850 PSI
Circuit Breakers	ALL IN
Supplemental Bleed Air	OFF (PUSH)
Cabin Press Shutoff	OPEN (PUSH)
Alternate Static Air	NORMAL

CO Detector	TEST
Environmental Mode	OFF
Flaps	UP
Power Levers	FLIGHT IDLE
Propellers	HIGH RPM
Condition Levers	CUTOFF
Trims	CENTERED
Fuel Selectors	ON

BEFORE ENGINE START

Beacon Light	ON
Battery Master	ON
Fuel Quantities	CHECK
Annunciators	TEST & CONSIDER
Battery Selector	#1
Bus Volts	≥ 23V
Battery Selector	#2
Bus Volts	≥ 23V
Battery Selector	BOTH
L Ignition	CHECK AUTO ON
R Ignition	CHECK AUTO ON
L Wing Pump	CHECK / OFF
R Wing Pump	CHECK / OFF
L Aux Pump	CHECK / OFF
R Aux Pump	CHECK / OFF

ENGINE START

RIGHT ENGINE

R Starter	ON
Bus Volts	≥ 15V
Condition Lever	RUN
Wait for Gas Generator stable ≥ 15%	
Confirm ITT not exceeds 1090C	
R Starter	OFF
R Ignition	OFF
Engine Instruments	CHECK
R Generator	ON
R Generator Load	< 60 IN 2 MIN.
Bus Volts	28V
Battery Temperature	< 120F

REPEAT FOR LEFT ENGINE

AFTER ENGINE START

Lights	AS REQUIRED
Weather Radar	OFF / STANDBY
Avionics	ON
Inverter	MAIN
INVTR FAIL Annunciator	EXTINGUISHED
Cabin Temp & Mode	AS REQUIRED
Parking Brake	RELEASE
Brakes	CHECK

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RUN UP & INSTRUMENT CHECKS

RUN UP

Parking Brake	SET
Annunciators	TEST & CONSIDER
Remote Compass	SLAVED & ALIGNED
Fuel Selectors	CROSS FEED
Fuel Pumps	WING PUMP
Power Levers	2050 RPM
Prop Gov Test	2000 RPM
Power Levers	2190 RPM
Exercise Left Propeller	TO 1500 RPM
Exercise Right Propeller	TO 1500 RPM
Fire Detector	TEST
Left Generator	HOLD RESET
Left Generator Load	ZERO
Right Generator	HOLD RESET
Right Generator Load	ZERO
Gen. Load Sharing	±60A TOTAL ±2A/SIDE
Power Levers	IDLE
Fuel Selectors	ON

ENVIRONMENTALS & ANTI ICE

Oil Doors	OPEN
Ice Deflectors	ON
Instrument Air	GREEN & NO LIGHTS
Cockpit Window	CLOSED
Cabin Altitude	FIELD ELEV.
Cabin Differential	ZERO
Cabin Climb Rate	10 O'CLOCK
Cabin Altitude Goal	1000FT BELOW FIELD ELEV.
Cabin Press Mode	TEST
Cabin Alt, Diff & Climb	OBSERVE DESCENT
Cabin Altitude Goal	INIT. CLIMB
Cabin Press Mode	NORMAL
ICE DR ON Annunciators	BOTH ON
Ice Deflectors	AS REQUIRED
Propeller Heat	ON
Prop Heat Gnd Test	HOLD
Propeller Amps	14-28A & CYCLES
Propeller Heat	OFF
Windshield Heat	ON
Windshield Volts	220-260V
Ammeters	INCREASE
Windshield Heat	OFF
Left Pitot Heat	ON
Ammeters	INCREASE
Right Pitot Heat	ON
Ammeters	INCREASE
L Fuel Vent Heat	ON
Ammeters	INCREASE

R Fuel Vent Heat	ON
Ammeters	INCREASE
Heating Switches	OFF
Surface Deice	MANUAL
Boot Pressure	15-20 PSI
Surface Deice	SINGLE CYCLE
Boot Pressure	15 - 20 PSI
Surface Deice	OFF

INSTRUMENTS & FLIGHT SURFACES

Pitch Trim Power	ON
Electric Trim	EXERCISE
Autopilot	TEST
Heading Bug	30 DEG. LEFT
Autopilot Master	ENGAGE
Heading Mode	ENGAGE
Yoke Movement	OBSERVE
Flight Director	BANK LEFT
Heading Bug	30 DEG. RIGHT
Yoke Movement	OBSERVE
Flight Director	BANK RIGHT
Autopilot	OFF
Flight Director	OFF
Elevator Trim	SET TAKEOFF
Flaps	CHECK OPERATION
Flaps	TAKEOFF
CABIN DOOR	EXTINGUISHED
Annunciator	
Ignition	AS REQUIRED
Flight Controls	FREE & CORRECT
Altimeter	SET
Departure Altitude	SET
Takeoff Heading	SET
Panel Lights	DIM FOR TAKEOFF
Parking Brake	RELEASE

BEFORE TAKEOFF

Oil Temperatures	≥ 100F
Battery Temperature	< 120F
Air Conditioning	OFF
Lighting	AS DESIRED
Transponder	ALT
Weather Radar	ON

TAKEOFF

Power Levers	1260 FT/LBS
Brakes	RELEASE
Engine Instruments	CHECK
ITT	< 805C
Landing Gear	UP
Flaps	RETRACT AT 120KTS
Autopilot	ENGAGE
Cabin Alt, Diff & Climb	OBSERVE CLIMB
Landing Lights	OFF

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MAX. CONTINUOUS POWER (INIT CLIMB)

Ignition	AUTO/OFF
Oil Doors	OPEN
Propellers	2190 RPM
Power Levers	1260 FT/LBS
Ice Deflectors	AS REQUIRED
Cabin Temp & Mode	AS DESIRED

NORMAL (EN ROUTE) CLIMB

Propellers	2190 RPM
Power Levers	1200 FT/LBS
Ignition	AUTO/OFF
Oil Doors	CLOSED
Ice Deflectors	AS REQUIRED
Cabin Pressure	MONITOR
Cabin Temp & Mode	AS DESIRED
Engine Performance	MONITOR

TRANSITION ALTITUDE

Ice Deflectors	AS REQUIRED
Altimeters	STANDARD (1013/29.92)
Cabin Pressure	MONITOR
Recog. Lights	OFF

CRUISE

Ignition	AUTO/OFF
Oil Doors	CLOSED
Ice Deflectors	AS REQUIRED
Pitot Heat	ON IF OAT < 40C
Windshield Heat	AS REQUIRED
Propeller Heat	AS REQUIRED
Surface Deice	AS REQUIRED
Fuel Imbalance	≤ 25 GAL
Propellers	2200 RPM
Power Levers	1150 FT/LBS
Cabin Temp & Mode	AS DESIRED
Cabin Pressure	MONITOR
Engine Performance	MONITOR

DESCENT

Cabin Altitude Goal	DEST. ALT
Ignition	AUTO/OFF
Oil Doors	CLOSED
Ice Deflectors	AS REQUIRED
Power Levers	REDUCE
Engine Performance	MONITOR
Ice Protection	AS REQUIRED

APPROACH

Seat & Seatbelts	SECURE
Cabin Alt, Diff & Climb	CHECK PROGRESS
Fuel Selectors	ON

Fuel Imbalance	≤ 25 GAL
Recog. Lights	ON
Pitot Heat	ON IF OAT < 4C
Windshield Heat	OFF
Propeller Heat	OFF
Cabin Temp & Mode	OFF
Altimeters	LOCAL QNH
Ignition	AUTO
Ice Deflectors	AS REQUIRED
Flaps	APPR (≤ 174 KTS)

LANDING

Cabin Differential	ZERO
Wing Pumps	ON
Propellers	2190 RPM
Oil Doors	OPEN
Flaps	AS REQUIRED
Landing Gear	DOWN & LOCKED
Landing Lights	ON
Autopilot	DISCONNECT

BALKED LANDING

Propellers	2190 RPM
Power Levers	2160 FT/LBS
Engine Instruments	CHECK
Landing Gear	UP AT POSITIVE RATE
Flaps	RETRACT AT 120 KTS

AFTER LANDING

Ignition	OFF
Oil Doors	CLOSED
Ice Deflectors	AS REQUIRED
Flaps	UP
Cabin Alt, Diff & Climb	VERIFY ZERO
Cabin Press Mode	DUMP
Weather Radar	OFF/STANDBY
Lights	AS DESIRED
Ice Protection	ALL OFF
Cabin Temp & Mode	AS DESIRED

SHUTDOWN & SECURE

Parking Brake	SET
Avionics Switches	OFF
Electrical Switches	OFF
Generators	OFF
Power Levers	IDLE
Propellers	FEATHER
Condition Levers	CUTOFF
Wing Pumps	OFF WHEN NG < 10%
Battery Master	OFF
Battery Selector	#1
Parking Brake	RELEASE
Locks & Covers	INSTALL