Flying The Boeing 757-200

This section includes Pilot's Operating Handbook and Checklists. The POH section is first, followed by the Checklists.

FOM:

This section includes performance data on the Boeing 757-200 . Information consists of:

1. **Critical Airspeeds**
2. **Operating NOTAMS**
3. **Fuel Loading Formula**

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1. Critical Airspeeds

Taxi:
- Max. 25 Knots on straight taxiways
- Max. 15 Knots in turns
- Max. 10 Knots approaching gates/parking areas

Takeoff:
- V1 - Decision Speed = 130 Knots
- Vr - Rotate Speed = 140 Knots

Climb Rate:
- Climb Rate: Set to 1,800 ft./min. (Takeoff to 16,000 ft. MSL)
- Climb Rate: Set to 1,200 ft./min. (16,000 ft. MSL to cruise altitude)

High Climb Rate Climb-
- Climb Rate: Set to 2,300 to 2,500 ft./min

Climb Airspeed:
- Departure Altitude to 10,000 ft. - no greater than 250 KIAS
- Above 10,000 ft. - Fly Mach Number = .43 to .47 Mach
- Above 16,000 ft. - Fly no greater than Mach .82
- Vne/Mmo - Never Exceed/Maximum Mach Number = .86

Cruise Airspeed:
- Mach .75 to .82

- **Descent Information:** To calculate **Top Of Descent** point (the point at which you need to begin your descent to reach the desired altitude at the desired time): Use 8 miles per minute (at Mach .70 in descent) as the basis. If you are cruising at 33,000 ft. and wish to descend to 5,000 ft. at the next waypoint, at a descent rate of 1,800 ft./min., you need to figure the time to descend 28,000 ft. (33,000 - 5,000). Divide 28,000 ft. by 1,800 ft./min. and you will get 15.56 minutes. At 8 miles per minute, you need to begin your descent at 125 miles from the next waypoint (15.56 minutes multiplied by 8 miles per minute). This is a "No Wind" calculation. If you have a tailwind, the miles per minute will be greater; if you have a headwind, the miles per minute will be lower.
- Descend with throttles at idle at initial descent. Set auto throttles to hold descent airspeed of Mach .70 to

16,000 ft. and 250 KIAS below 16,000 ft. Use speed brakes to decrease airspeed in descent. FS98 allows you to specify how far the speed brakes are deployed. Use a middle setting during descent to help slowly decrease airspeed - or to hold an airspeed; while using fully deployed speed brakes to "dump" airspeed.

- Set descent rate to 1,800 ft./min

Approach Information:

- Approach Airspeed: 10NM from airport 220 KIAS
- Initial Approach begin deploying flaps as needed so that you will be near the landing configuration at the outer maker
- At Outer Marker: Ensure landing gear down and flaps set for landing

Landing:

- Minimum Runway Length: 5,000 ft.
- Target Landing Airspeed: 160 KIAS
- Check flaps full and gear down at 500 ft. above airport altitude.
- Upon landing (all gear on runway)
    - Engage Reverse Thrust
    - Apply brakes
- Disengage Reverse Thrust at (approx.) 30 Knots; or as needed for conditions
- Exit runway at 15 Knots or less (unless high speed turnoffs are available - if so maximum exit speed is 25 knots)

2. Operating NOTAMS:

- The Boeing 757-200 may lose altitude at bank angles greater than those used by the autopilot. To prevent loss of altitude, apply slight back pressure, as needed, to maintain altitude.

3. Fuel Loading Formula

- Range = 4,770 NM

- Max. Fuel Load Weight = 59,400 pounds
- Fuel Burn Rate Factor = 1.005848
- Fuel Base Amount = 4,202 gallons (this is the basic fuel load per flight and includes fuel for taxi, climb, descent and reserves)

Fuel Loading Formula:

((Fuel Base Amount)+(Trip Distance * Fuel Burn Rate Factor))/2 = Fuel Load Per Tank

Example:

- Example: 1000 NM Trip Distance

((4,202 gallons)+(1000NM * 1.005848))/2 = 2,603 Gallons Per Tank.

- To load fuel, choose ***Aircraft, Aircraft Settings, Fuel*** to bring up the fuel loading window…enter amount of 2,603 gallons in the appropriate boxes.

NOTAM: Be sure that you load this figure in the gallons box, not the percent box.

Checklists:

Pre-Flight:

- Select departure airport and position aircraft at gate (use slew mode - press "Y" to enter and "Y" to exit slew mode). Engines off (engines are on when MSFS starts - press Ctrl.-Shift-F1 to shut engines down)
- Set airspeed indicator to read Indicated Airspeed (Options, Preferences, Display, Instrument - ensure mark in box next to indicated airspeed - if none, click to tell MSFS to display indicated airspeed)
- Flight plan completed
- Fuel Load computed and loaded
- Departure procedures reviewed and charts/documents at hand
- Weather for flight set (if you set your weather to other than the default weather provided my MSFS)

Pre-Engine Start:

- Parking Brake Set
- Waypoints loaded into FMS (Flight Management System - assumes use of GPWS V7.2)
- Nav Radios Set
- Com Radios Set
- Copy ATIS

Engine Start:

- Parking Brake Set
- Engine Area Clear
- Throttle Set to Idle
- Start Fuel Flow (Crtl-Shift-F4)
- Start Engines (press "J", "+", "1" then "J", "+", "2")
- Check Engine Operating Normally

Pre-Taxi:

- Flaps 3 (WWAL uses a numbering system for flaps on aircraft that have more than three flap settings. Each flap setting, from fully retracted to fully deployed, counts as 1 setting. Fully retracted is 0 and fully deployed is Flaps 9).
- Control Continuity Check
    - Ailerons (Full Range of Motion)
    - Rudder (Full Range of Motion)
    - Elevator (Full Range of Motion)
- Push Back (Enter slew mode to simulate push back - press "Y" to enter slew mode, apply slight back pressure to stick/yoke to "push back from gate", once pushed back - exit slew mode - press "Y")
- Release Parking Brake (".")
- Taxi to departure runway - set parking brake when holding short of departure runway

Pre-Takeoff:

- Check parking brake set
- Check Flaps 3
- Check engine operating normally
- Taxi into position and hold

Takeoff:

- Release Parking Brake

- Set power to maximum thrust (full throttle)
- V1 = 130 Knots (Decision Speed)
- Vr = 140 Knots (Rotate Speed)
- Initial climb at 15 BA (Body Angle)
- Positive Rate Of Climb - Gear Up
- Retract Flaps to Flaps 2 at 190 KIAS
- Reduce Throttle to 72% N1
- Retract Flaps to Flaps 1 at 210 KIAS
- Retract Flaps to Flaps 0 at 225 KIAS

Post Takeoff:

- Check gear up
- Check flaps up
- Throttle set to hold airspeed at 250 KIAS or below, unless cleared to a higher speed by ATC

Climb:

- Initial Rate of Climb - 1,800 ft./min. (T/O to 16,000 ft. MSL)
- Climb/Cruise Rate - 1,200 ft. min. (16,000 ft. to assigned cruise altitude). Alternate high rate of climb available at 2,400 ft./min.).
- Airspeed
    - 250 KIAS under 10,000 ft.
    - Mach .45 - .47 above 10,000 ft. to 16,000 ft.
    - Mach. .75 to .82 above 16,000 ft.
- Increase throttle as needed to hold published climb airspeed

Cruise:

- Airspeed
    - Mach .75 to .82
    - Vne/Mmo - Mach .86 (Never Exceed/Maximum Mach Number)
- Ensure On Course Navigation

Descent:

- Throttles Idle
- " Cleared To" Altitude Set (the altitude to which you will be descending)
- Set auto throttle to hold Mach .70 for descent, 250 KIAS below FL160.

Pre-Approach

- Approach Plate Out
- Approach Brief (Brief yourself on the approach, how you plan to execute it, missed approach procedures, approach and landing configuration review - when to set flaps and lower gear, altitude at approach fixes and any other relevant information to ensure full understanding of approach)
- ILS Freq. Set (Once turned/cleared for approach - do not set ILS freq. if you are still tracking an en-route or approach procedure NAV Aid)

Approach:

- Fly published approach as briefed.
- Normal Approach Airspeed:

    - 160 KIAS
- Landing Configuration set at outer marker
    - Gear Down
    - Flaps Full

EXECUTE MISSED APPROACH if you can not establish a stabilized approach or if you deviate significantly from the ILS localizer and/or glideslope.

Landing:

- Target Airspeed: 160 KIAS
- After touchdown:
    - Engage reverse thrust (Numberpad "3")
    - Apply Brakes
    - Disengage Reverse Thrust at 30 Knots
    - Exit Runway at 15 Knots or less

Post Landing:

- Flaps Ups
- Taxi To Terminal/Ramp

Parking:

Parking Brake Set
Flaps Up
Spoilers Retracted
Engines Off (Ctrl-Shift-F1)

Log flight time in MSFS logbook or other record. Exit MSFS or set up for another flight.