

Beechcraft 1900-D

"Real World" Flight Data



TAKEOFF:

- 107 KIAS - flaps 17%
- 115 KIAS - flaps 0 (fully retracted)
- Max take-off weight 16,950 and standard temp, SL Press

CLIMB:

Initial Rate:

- POH says 2600 fpm at 16,950 with max. cont. power. Not reality though.

Avg. Rate to FL250:

- 2000 fpm to 10,000'
- 1750 fpm at 10,000'-15,000'
- 1500 fpm at 15,000'-FL200
- 1200 fpm at FL200-FL250

Power Settings:

- Recommend max. of 3000 ft-lbs torque for all normal operations other than take-off (which can be either full or reduced power take-offs. The max. torque (per beech) is 3750 for max. continuous... so $3000/3750 = 80\%$).

Climb Airspeeds:

- SL-10,000' 160 KIAS
- 10,000'-15,000' 150 KIAS
- 15,000'-FL200 140 KIAS
- FL200 - FL250 130 KIAS

Max Maneuvering (VA) Speed:

- 178 KIAS at 16,950 max. takeoff weight.

Flap Settings:

- There are only 3 flap settings on the 1900D. 0 deg., 17 deg, and 35 deg.
- For most normal take-offs flaps are set at 17 degs, and they are retracted at 400' AGL. This coincides with flap retraction altitude for performance requirements in the event of a V1 engine failure/fire etc.

Typical Altitudes:

- A 1 hour block to block flight would be about a 200nm flight. As a rule of thumb, take 10% of the distance as a cruise altitude in thousands of feet. 200nm = FL200, 100nm = 10,000.

CRUISE:

Recommended Speeds:

- 5000' - 220 KIAS
- 10,000 - 210 KIAS
- 15,000 - 200 KIAS
- FL200 - 190 KIAS
- FL250 - 180 KIAS

Max Operating Mach (MMO) Speed:

- .48

Max Operating Airspeed (VMO):

- 248 KIAS from Sea Level to 13,200'
- Decreases gradually to 195 KIAS at FL250.

Power Setting:

- About 80%.

Best Cruise Altitude/Setting:

- At 16,500#, 2122 ft-lbs of torque (about 55% power) and 1400 RPM at FL 250 at ISA -10C yields 162 KIAS, 237 KTAS and 305pph fuel burn per engine (610pph total).

Max Service Ceiling:

- 25,000 feet (Cabin altitude at max. differential pressure of 5.1psi at FL250 is around 10,000')

DESCENT:

Recommended Airspeed:

- Target a fuel efficient 200 KIAS descent for all altitudes unless instructed otherwise by ATC.

Recommended Rate:

- 1500 fpm

APPROACH:

Recommended Speed:

- 160 KIAS within 10 miles "clean" is realistic.

Flap Settings:

- Flaps 17 deg. at 1 dot low on GS intercept on ILS's, (about 7 miles from the runway)
- Gear down and props forward to 1550rpm at 1/2 dot low
- Stabilized approach at Vref +10 knots (116-127 depending on weight) or 120 KIAS whichever is higher and flaps 35 degs. with the runway in-sight or about 2 mile final.

Max Speeds for Gear/Flaps:

- Max speed gear extend/operate (VLO, VLE) 180 KIAS
- Max. speed flaps extend 17 degrees (Vfe) 188 KIAS
- Max. speed flaps extend 35 degrees (Vfe) 154 KIAS

LANDING:

Stall Speeds:

- 84 KIAS - Flaps 35 degs
- 90 KIAS - Flaps 17 degs
- 101 KIAS - Flaps 0 degs

*** These stall speeds are all based at 16,950# in a 1g maneuver. Of course stall speeds increase with turns, higher weights, ice accumulation etc... ****

MISC:

Weights:

- Max Ramp weight - 17,060
- Max Takeoff weight - 16,950
- Max Landing weight - 16,600
- Zero Fuel Weight - 15,000
- Basic Empty Weight - (varies) 10,140

Fuel Capacity:

- 2 outboard main tanks @ 240.5 gallons each usable fuel = 481.0 gals
 - 2 inboard aux. tanks @ 92.2 gallons each usable fuel = 184.4 gals
- 665.4 gallons total.

Endurance/Range:

- At FL250 and 1954 ft-lbs torque and 1400 RPM (55% power approx.) at 15,000# expect 158 KIAS, 236 KTAS, and a burn of 290 pph per side. 580 pph total.

- This provides just over 6.2 hours of cruise (allowing 400 pounds for t/o and climb) with a 45 minute reserve.
- This provides a range of about 1,484 nm in cruise, plus about 50 miles for the climb. Max range is approximately 1,525+ nm.