BONANZA 1979 A36 (IO-550): N567EB (SER.NO. E-1543)

V-speeds (IAS K) @ 3650 lbs

V* with approach flaps (15 deg)

Vso	59
Vso*	63
Vs	68
Vx*	77
Vx	84
Vy	100
Vfe	124
Va	141
Vlo	154
Vno	167
Vne	205

Misc. speeds (IAS K)

Max demo X-wind	17
Cruise climb (POH)	110
Turb air penetration (max weight)	141

Emergency V-speeds (IAS K)

Balked Landing	80
Approach to Land (no power)	85
Max time aloft (min descent) (approx)	90
Max glide (Max weight)	110
Max range (approx)	125
Max descent	154

Weight adjusted V-speeds (IAS K)

Weight	Vr	Vx	VL	Vy	Va	Vmg	Vs	Vso*	Vso	Vrsf	Vxsf
3650	72	84	80	100	**141	110	68	63	60	66	77
3600	70	78	76	96	140	110	68	63	60	66	74
3400	69	76	76	94	136	106	67	62	60	65	72
3200	67	75	76	92	132	102	65	62	61	63	71
3000	66	73	75	90	128	98	63	61	60	62	69
2800	63	72	73	88	124	94	62	59	58	60	68

Notes:

Vr: rotation speed
Vx: clean (Beech calls this Vr@50 ft)
VL: full flaps landing speed
Vmg: power off max glide speed
Vrsf/Vxsf: short field TO and climb with flaps 15 deg
Vso*: stall speed with flaps 15 deg
**Va = see Note #3 on last page

Weight and Balance (effective: 04/30/2020)

Full fuel: 80 gal; Useable fuel: 74 gal
Useable fuel to tab detent: 32 gal; fuel to tab bottom: 27 gal

Empty weight	2299.7
Max ramp weight	3713
Max TO weight	3700
Useful load	1413
Full fuel load	444
Payload	969
Max wt between spars	200
Max wt rear spar to station 170	400
Max wt aft compartment	70
Max rear seats combined	250

Forward seat arm	75-82
Mid seat arm	115-120
Rear seat arm	152
Cargo area arm	150
Rear cargo area arm	175
Fuel arm	75
Empty wt CG	78.07
Fwd CG <3100	74.0
Fwd CG = 3650	81.0
Aft CG all weights	87.7

Approx. Loading with Full Fuel

Pilot	Pass	Weight
1	0	2914
1	1	3084
1	2	3254
1	3	3424
1	4	3594

Notes:

pilot/passengers @ 170 lbs/each
Approx. fuel burn in climb: 27 gal/hr (162 lb/hr)
Approx. fuel burn in cruise: 14 gal/hr (84 lb/hr)

Power + Configuration + Attitude = Performance

PHASE	MP	RPM	ATT Deg	FLAPS	GEAR	IAS K	VSI ft/min
TO	FT	2700	10	UP	UP	100	1000
CLIMB	FT	2500	5	UP	UP	125	700
CRUISE	23	2300	0	UP	UP	165	0
DESCENT	18	2300	-2	UP	UP	165	-500
TERMINAL	18	2300	1	UP	UP	120	0

APPROACH	18	2300	0	15 Deg	UP	110	0
FINAL	18	2500	-3	15 Deg	DOWN	110	-500
MDA (level)	23	2500	0	15 Deg	DOWN	110	0
GO AROUND	FT	2700	10	30 Deg	DOWN	80	300

Note: FT = full throttle

FUEL FLOWS: RICH OF PEAK

MP in	RPM	LEAN (ROP)	FUEL g/hr	TAS K	POWER
25	2500	36 F (20 C)	16.7	175	75%
23	2300	36 F (20 C)	13.9	165	60%
25	2100	36 F (20 C)	13.4	160	60%
21	2100	36 F (20 C)	11.7	150	50%

FUEL FLOWS: LEAN OF PEAK

MP in	RPM	LEAN (LOP)	FUEL g/hr	TAS K	POWER
25	2500	36 F (20 C)	14.1	170	65%
23	2300	36 F (20 C)	11.5	160	50%
25	2100	36 F (20 C)	10.7	150	50%
21	2100	36 F (20 C)	9.3	140	45%

Notes:

Conditions: ISA + 36 deg F (+20 deg C)
Continuous operation < 2300 rpm not recommended (CSB)
Avoid operation at peak EGT +/- 36 deg F (20 deg C) above 65% power

RPM VS MANIFOLD PRESSURE: CRUISE SETTINGS

MP	1900	2000	2100	2200	2300	2400	2500
25	NR	NR	P	L	L	L	L
24	NR	NR	P	L	L	L	L
23	NR	P	P	P	L	L	L
22	P	P	P	P	P	L	L

21	P	P	P	P	P	P	P
20	P	P	P	P	P	P	P

Notes:

NR: not recommended
P: peak EGT permitted
L: operate >36 deg F (20 deg C) off peak
Operation >48 F (27 C) LOP EGT is PROHIBITED

Trim Settings

Front seats only: 6 deg nose up
Front + any back seat: 3 deg nose up

Tires and Struts

Nose: 40 psi and 3.5 in
Mains: 33-40 psi and 3.0 in

Oil

Min: 8 qts
Max: 12 qts

Operating Limitations

CHT

Min: 240 F: 116 C
Max: 460 F; 238 C

Oil Temp

Min for TO: 75 F; 24 C
Max: 240 F; 116 C

Oil Pressure

Min at idle: 10 psi
Max: 100 psi

Fuel flow for TO

Max 27.4 g/hr

Flight Load Factor Limits: Utility Cat. (<3600 lbs)

Flaps Up	Flaps Down
+ 4.4 g	+3.0 g
- 1.76 g	n/a

Flight Load Factor Limits: Normal Cat. (3600-3700 lbs)

Flaps Up	Flaps Down
+ 3.8 g	+ 3.0 g
- 1.52 g	n/a

Misc. Limitations

Max slip duration: 30 sec
Max magneto drop: 150 rpm
Max drop between mags: 50 rpm
Min fuel for TO each tank: 13 gal (yellow arc)

Notes:

1. While I believe the information contained herein to be accurate, no representations are made as to the degree of accuracy of the information. This information constitutes only partial information necessary to properly operate this aircraft and is not to be used as a substitute for the use of other information sources routinely used in the operation of an aircraft or the acquisition of the requisite training to operate this aircraft.
2. This aircraft originally had a Continental IO-520, 285 hp engine, which was upgraded to the IO-550, 300 hp model. The data presented above were obtained from a POH for the 1983 A-36 Bonanza with the IO-550 engine, and a maximum certified take-off weight (MTOW) of 3650 lbs.
3. This aircraft has an STC to operate at a MTOW of 3700 lbs. However, if conducting operations above 3600 lbs MTOW, consider the following limitations as per the STC:
    1. A/c to be operated in normal category only: Va (maneuvering speed) reduced to 132 KIAS above 3600 lbs.
    2. Forward CG limit moves aft 1.5 in to 82.5 in at 3700 lbs.
4. Specifications are approximate due to operational factors related to environmental conditions, pilot technique, and the specific aircraft.

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