

T-34 Limitations

Operating limits: ITT

Normal idle range	400-660°C
Normal operating range	400-695°C
Max @ shutdown w/cond.lever	610°C
Max continuous	695°C
Max acceleration	825°C
Hot start	925°C (2 sec)
Max during starts	1090°C

Prop RPM (N₂)

Idle operating range	<1800RPM
Normal operating range	2200 RPM ±25
Over speed governor	2332 RPM ±40
Fuel topping governor	2398 RPM

Engine Tachometer (N₁)

Introduce fuel	@ 12%
Flameout	10-12%
FCU stuck @min.flow(rollback)	40-60%
Minimum for flight (griped)	60%
Idle operating range	62-65%
Normal operating range	89-93%
Maximum	101.5%
Max acceleration	102.6%

Airspeed Limitations

Max clean (surface-20,000')	280 KIAS
(20,000- 25,000')	245 KIAS
Max canopy emergency open	250 KIAS
Max canopy open	240 KIAS
Max turbulent air penetration	195 KIAS
Max gear extension	150 KIAS
Max flap extension	120 KIAS
Max gear retraction	120 KIAS
Min flap retraction	90 KIAS
Downwind airspeed	100 KIAS
VFR/overhead break airspeed	170 KIAS
Full flap landing airspeed	85 KIAS
No flap landing airspeed	95 KIAS
Best angle of climb (V _x)	75 KIAS
Best rate of climb (V _y)	100 KIAS
Recommended bailout airspeed	90-120 KIAS
Max range airspeed	580 ft-lbs
Max endurance airspeed	420 ft-lbs

Torque

Idle operating range	150 ft-lbs
Auto ignition range	300-180...
Descent	300...
Prop over speed test range	400-500...
Normal operating range	400-1015...
Climb	1015 (695°C)
Max allowable	1015...
Maximum torque	1315...
Max torque (oil malfunction)	850...

Fuel Flow

Idle	~125 lbs/hr
Normal operation	~335 lbs/hr

Oil Temperature

Min starting temperature	-40°C
Normal Operating range	10-99°C
Maximum	100°C

Oil pressure

Idle operating range	40 PSI min
Normal operating range	65-85 PSI
Maximum fluctuation limits)	+5 (within
Max oil pressure	100 PSI

G Limits

Up to 280 KIAS	+4.5/-1.0 G's
Up to 220 KIAS	+4.5/-2.3 G's
Flaps down	+2.0/-1.0

Time limits

Max time inverted	15 sec
Max time vertical (nose up)	15 sec
Max time vertical (nose down)	3 sec
Max time wings vertical (knife edge):	3 sec
"Zero G" condition	transient
Starter	40s/60s/40s/60s/40s/30min

Dimensions:

Wing span	33' 5"
Length	28' 8"
Height (at rest)	9' 11"
Tread	9' 6"
Prop arc clearance	11"

Weight limitations

Maximum ramp weight	4,425 lbs
Takeoff and landing	4,400 lbs
Max aerobatic weight	4,300 lbs
Max zero fuel weight	3,650 lbs
Approximate basic weight	~2,970 lbs

Miscellaneous limits

Max sink rate @ touch down	600 FPM
Max crosswind component	22(NF), 15(FF)
Max operating altitude	25,000'
Air start envelope, SL-20k'	80-280 KIAS

Engine: Pratt & Whitney PT6A-25

Flat rated	550 SHP(1315)
Normal operation	425 SHP(1015)

Landing Gear

Nose gear turn limits	±30°
Main tire pressure	90 PSI ± 2
Nose wheel tire pressure	70 PSI ± 2
Oxygen system capacity	1850 PSI@70°F
Oxygen system volume	76 cubic feet
Oil system capacity	4.4 gal
Oil tank capacity	2.8 gal
Usable oil (upright)	1.4 gal
(inverted)	.25