

LS-4

Basic Dimensions

Span 15m (49.21 ft)
Length 22.27 ft
Height 4.31 ft
Wing Area 113.0 sq ft
Aspect Ratio 21.4
Max Wt 1041 lb
Max Wing Ldg 9.2 lb/sq ft

Speeds

Vne (IAS) 146 knt (up to 6500 ft)
139 knt (up to 9800 ft)
118 knt (up to 19700 ft)
97 knt (up to 32800 ft)

Va (maneuver) 97 knt (limit in "severe turbulence")
Winch launch 70 knt
Aero tow 97 knt
Ldg gear ext 146 knt (same for retraction)

Airspeed indicator markings

Green Arc 48 - 97 knt
Yellow Arc 97 - 146 knt
Red line 146 knt
Yellow triangle 49 knt (minimum recommended speed for approach, no water)

Relevant weights

Max Gross 1042 lb
Non-lifting parts 507 lb max
(everything except wings)
Max cockpit load 242 lb
Min cockpit load 171 lb (pilot & chute, no ballast)
Min cockpit load 141 lb (pilot & chute with 33 lb ballast)
Max water ballast 307 lb
Max baggage 11 lb
Max instruments 8.8 lb (installed in upper part of instrument panel)

CG limits

Max forward 8.86 in aft of datum (no water)
Max rearward 14.76 in aft of datum (no water)
Max Water Load moves CG 1.97 inches forward

Maneuver limits

Acrobatic maneuvers not approved
Spins not approved
Max Load factors
At 97 knt, +5.3G and -2.65G
At 146 knt, +4.0G and -1.5G

NOTES:

1. Datum is wing leading edge at root with lower side of fuselage boom in level attitude
2. Water ballast CG is at max allowable forward in-flight CG. Therefore, adding water when CG is at other locations moves the CG forward.
3. Use of water ballast limited to non-freezing conditions.
4. **This aircraft has ballast loaded in the tail, normal min cockpit weight is around 154 lbs. This aircraft requires 171 lbs.**
5. Ballast added forward of rudder pedals, each 5.5 pound weight added equals 11.3 pounds to the seat. Three 5.5 pound weights are available.
6. Tire Pressures: 43-50 psi

Other limits

Max weak link break strength - 1323 lb
Operation limited to day VFR only
Night VFR, IFR and flight into known icing conditions are not approved.

Minimum equipment for flight

Airspeed indicator (scale 27 - 162 kt) marked as above
Altimeter in ft
Magnetic compass
Four piece seat belt harness
Seat cushion or parachute not thinner than 3 - 4 in
Checklist and cockpit placards
LS4 Flight Manual

Speeds to fly (KIAS, wagged from polar)

	DRY (764 lb)	WET (1042 lb)
stall	38.5	42
Min sink	46 (120 ft/min)	56 (150 ft/min)
Best L/D (40:1)	54	61
1 kt sink	60	70
2 kt sink	68	77
3 kt sink	74	82
4 kt sink	80	87
5 kt sink	85	92
6 kt sink	90	97
8 kt sink	108	113
10 kt sink	faster	faster (unwilling to extrapolate)

(updated 5/22/2007)