

1.3 Aircraft Summary

MGTOW	1320 lbs
Top Speed @ Sea Level, WOT (3300 rpm)	140 KIAS
Cruise Speed @ Sea Level, MCP (2850 rpm)	110 KIAS
Cruise Speed @ 8,000' MSL, MCP (2850 rpm)	108 KIAS
Maximum Engine Power Output (3300 rpm)	120 hp
Rate of Climb, MGTOW	1200 fpm
Stall speed, flaps up	45 KIAS
Stall speed, flaps down	40 KIAS
Total Fuel Capacity	30 US gal.
Usable Fuel	28 US gal.
Approved Fuel Grades	100LL
Full Fuel Range (30 gal tanks) (30-min reserve, no wind; assuming 120 KTAS @ 4.5 gph/2850 rpm, 8,500' MSL)	746 nm

Section 2

Operating Limitations

2.1 Introduction

This section includes operating limitations necessary for the safe operation of the airplane, its engine, standard systems and standard equipment.

Observance of these operating limitations is required.

Limitations and instructions included in this section and in applicable supplements must be observed when operating the aircraft.

2.2 Airspeed Limitations

Airspeed limitations and their operational significance are shown below in indicated airspeed.

	Speed	KIAS	Remarks
V_{NE}	Never exceed speed (barber pole)	180	Do not exceed this speed in any operation.
V_{NO}	Maximum structural cruising speed (bottom of yellow arc)	110	Do not exceed this speed except in smooth air, and then only with caution.
V_A	Maneuvering speed	87	Do not make full or abrupt control movements above this speed.
	Max Straight & Level	140	Full power straight and level
V_{FE}	Maximum flap extended speed (top of white arc)	75	Do not exceed this speed with flaps down.
V_{S1}	Stall speed, flaps up	45	At max takeoff weight
V_{S0}	Stall speed, flaps down (bottom of white arc)	40	At max takeoff weight

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Lightning LS-1
Pilot's Operating Handbook

2.3 Service Ceiling

Service Ceiling 15,000 ft

2.4 Load Factors

Positive Vertical 4.0

Negative Vertical 2.0

2.5 Prohibited Maneuvers

All aerobatic maneuvers, including intentional spins,
are prohibited.

2.6 Fuel Limitations

FUEL CAPACITY

Total Capacity 30.0 US gallons

Capacity Each Wing Tank 15.0 US gallons

Total Useable 28.0 US gallons

APPROVED FUEL TYPES AND GRADES

100LL grade aviation gasoline is recommended and
approved for all operations.

Automotive fuel is not recommended.

❖ CAUTION: Alcohol of any type or quantity is
PROHIBITED.

2.7 Environmental Limitations

Operations in Instrument Meteorological Conditions
(IMC).....PROHIBITED

Operations in Day VFR and Night VFR
Conditions.....APPROVED

Maximum Demonstrated Crosswind
Component.....15 KNOTS

Maximum Air Temperature for Operations.....110°F