

OPERATING LIMITATIONS**WEIGHT**

Maximum Ramp Weight	16,100 Pounds
Maximum Takeoff Weight	15,900 Pounds
Maximum Landing Weight	15,200 Pounds
Maximum Zero Fuel Weight (Standard)	11,200 Pounds
Maximum Zero Fuel Weight (Optional)	12,200 Pounds

Maximum takeoff and landing weights may be additionally restricted due to altitude, temperature and field length. Refer to Section VI Performance of FAA Approved Airplane Flight Manual.

CENTER - OF - GRAVITY

Forward Limit:

- At 11,500 pounds - 15.00 percent MAC (293.71 inches aft of datum)
- At 15,900 pounds - 17.90 percent MAC (296.03 inches aft of datum)
- (Straight line variation between 15.00 and 17.90 percent MAC)

Aft Limit:

- At 15,900 pounds or less - 28.0 percent MAC (304.23 inches aft of datum)

AIRSPEEDMaximum Operating Speed (V_{MO}/M_{MO}):

Above 28,907 Feet	0.755 Mach (Indicated)
Between 8000 Feet and 28,907 Feet	292 KIAS
(With 12,200 Pounds ZFW, 8000 to 31,400 Feet)	276 KIAS
Below 8000 Feet	261 KIAS

Maneuvering Speed (V_A) Refer to Section II of the
FAA Approved Airplane Flight Manual

Partial Flaps 7°/15° (T.O./T.O. & APPR. Position)	200 KIAS
Flaps 35° (LAND Position)	173 KIAS
Landing Gear Operating Speed, Extend - (V_{LO} Extend)	250 KIAS
Landing Gear Operating Speed, Retract - (V_{LO} Retract)	200 KIAS
Landing Gear Extended Speed - (V_{LE})	292 KIAS
Speed Brake Operation Speed - (V_{SB})	No Limit
Minimum Control Speed - Airborne (V_{MCA})	85 KIAS
Minimum Control Speed - Ground (V_{MCG})	86 KIAS
Maximum Tire Ground Speed	165 Knots
Autopilot Operation	292 KIAS or 0.755 MACH

TAKEOFF AND LANDING

Maximum Altitude	14,000 Feet
Maximum Tailwind Component	10 Knots
Maximum Runway Water/Slush Accumulation	0.5 Inches
Maximum Ambient Temperature	ISA +39°C (+102°F) (Refer to Figure 1-3)
Minimum Ambient Temperature	-54°C (-65°F)

Autopilot and yaw damper must be OFF for takeoff and landing.

Vertical navigation system must be OFF below 500 feet above ground level.

Takeoffs and landings are limited to paved runways unless equipped with optional Gravel Runway Modification, either factory installed or through incorporation of SB560-32-03.

When the speedbrake switch is positioned to EXTEND, electrical power is applied to close the bypass valve in the hydraulic system return line and open the speedbrake control valve. This allows hydraulic fluid at 1500 PSI to flow to the extend side of the speedbrake actuators. Once the speedbrakes are extended, the speedbrake control valve closes to create a hydraulic lock and hold the speedbrakes open. The bypass valve opens and the hydraulic system returns to an open center condition. Moving the speedbrake switch to RETRACT again pressurizes the system, and the speedbrake control valve allows fluid to go to the retract side of the speedbrake actuator.

When the speedbrakes are fully retracted, the control valve closes, the hydraulic system bypass valve opens and open center operation resumes.

Microswitches in the tailcone prevent speedbrake extension at engine power settings above approximately 85 % N_2 . If the speedbrakes are extended at lower power settings and the throttles are subsequently advanced above 85%, the speedbrakes will retract and the switch will return to the RETRACT position.

In the event of an electrical failure while the speedbrakes are extended, the control valve fails to the open position and the speedbrakes will trail. If a dual hydraulic pump failure or fluid loss should occur with the speed brakes extended, moving the switch to RETRACT will deenergize the speedbrake control valve and the speedbrakes will trail.

FLAPS

The trailing edge flaps are constructed of graphite composite laminates and consist of two segments on each wing. They are electrically controlled and hydraulically actuated and operate through a range of 0 to 35° of travel. A mechanical detent is installed at the T.O. (7-°) and T.O. & APPR (15-°) positions of the flap lever. The FULL or UP flap positions are reached by pushing down on the flap lever when passing through the T.O. and/or T.O. & APPR detents. Any intermediate position can be selected throughout the range of travel. An automatic trim has been incorporated into the flap system that mechanically drives the elevator trim tab to compensate for rapid pitch changes resulting from up or down travel of the flaps. The automatic trim interconnect operates only between 15° and 25° of flap travel. It should be checked before setting the flaps for takeoff, which is accomplished on the Before Takeoff Checklist before setting the trim for takeoff.

A gear warning horn will sound any time the flaps are selected past the T.O. & APPR position with the gear not down and locked. The horn cannot be silenced with the Horn Silence button in this condition.

CONTROL LOCK

The control lock is mechanically operated and, when engaged, locks the ailerons, elevators and rudder in the neutral position and the throttles in the OFF position. The control lock handle, located below the instrument panel on the left side, controls the system. When the handle is pulled straight aft to the detent, the flight controls and throttles are locked. To release the control lock system, rotate the T-handle 45 ° clockwise and push it in. With the control lock engaged, the maximum deflection of the nosewheel is restricted to 60° either side of center. Exceeding the degree of turn will cause excessive force to be placed on the control lock mechanism and rudder control cables. Towing the airplane with the control lock engaged should be avoided. The controls should be neutralized before engaging the lock.

STALL WARNING - STICK SHAKER

Stall warning is achieved by the use of a stick shaker mounted on the forward side of the pilot's control column. An electric motor with rotating weights induces a vibration feel to the control column. The pilot is alerted to impending stall by the vibration of the control column which occurs approximately 8% to 10% above the actual stall speed. Stick shaker activation will occur before stall buffet, except in the clean configuration where they are nearly the same and either could occur first. The stick shaker is energized by inputs from the angle-of-attack system. The test switch located on the pilot's switch panel provides a means of checking the shaker prior to flight.

Landing Gear - UP or DOWN
Engines - IDLE THRUST

ANGLE OF BANK DEG.	FLAP SETTING - UP WEIGHT - POUNDS													
	15900	15500	15000	14500	14000	13500	13000	12500	12000	11500	11000	10500	10000	9500
0	95	94	92	91	89	88	86	84	83	81	79	77	76	74
10	95	94	93	91	90	88	87	85	83	82	80	78	76	74
20	98	97	95	93	92	90	89	87	85	84	82	80	78	76
30	102	101	99	97	96	94	92	91	89	87	85	83	81	79
40	108	107	105	104	102	100	98	96	94	93	90	88	86	84
50	118	117	115	113	111	109	107	105	103	101	99	97	94	92
60	134	132	130	128	126	124	122	119	117	115	112	109	107	104

ANGLE OF BANK DEG.	FLAP SETTING - 7 DEGREES WEIGHT - POUNDS													
	15900	15500	15000	14500	14000	13500	13000	12500	12000	11500	11000	10500	10000	9500
0	92	91	89	88	86	85	83	82	80	78	77	75	73	71
10	92	91	90	88	87	85	84	82	81	79	77	75	74	72
20	95	93	92	90	89	87	86	84	83	81	79	77	75	74
30	99	97	96	94	93	91	89	88	86	84	82	81	79	77
40	105	104	102	100	99	97	95	93	91	90	88	86	84	81
50	114	113	111	109	108	106	104	102	100	98	96	93	91	89
60	130	128	126	124	122	120	118	115	113	111	108	106	103	101

ANGLE OF BANK DEG.	FLAP SETTING - 15 DEGREES WEIGHT - POUNDS													
	15900	15500	15000	14500	14000	13500	13000	12500	12000	11500	11000	10500	10000	9500
0	88	87	86	84	83	82	80	79	77	75	74	72	70	69
10	89	88	86	85	84	82	81	79	78	76	74	73	71	69
20	91	90	88	87	86	84	83	81	79	78	76	74	73	71
30	95	94	92	91	89	88	86	84	83	81	79	77	76	74
40	101	100	98	96	95	93	91	90	88	86	84	82	80	78
50	110	109	107	105	103	102	100	98	96	94	92	90	88	85
60	125	123	121	119	117	115	113	111	109	107	104	102	99	97

ANGLE OF BANK DEG.	FLAP SETTING - FULL WEIGHT - POUNDS													
	15900	15500	15000	14500	14000	13500	13000	12500	12000	11500	11000	10500	10000	9500
0	84	83	81	80	79	77	76	74	73	71	70	68	67	65
10	84	83	82	81	79	78	76	75	74	72	70	69	67	65
20	86	85	84	83	81	80	78	77	75	74	72	70	69	67
30	90	89	87	86	85	83	82	80	78	77	75	73	72	70
40	96	94	93	91	90	88	87	85	83	82	80	78	76	74
50	104	103	101	100	98	96	95	93	91	89	87	85	83	81
60	118	117	115	113	111	109	107	105	103	101	99	97	94	92