I4103 Brief Guide

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Curriculum Basis: CNATRAINST 1542.156D

Airspeed Limits

NATOPS 4.11/28.1:

- Max Sideward/Rearward Calibrated Airspeed

Density Altitude (ft)	Sideward	Rearward
0 to 1,000	25	15
1,000 to 2,000	20	15
2,000 to 4,000	15	15
4,000 to 6,000	10	10
6,000 to 10,000	5	5

- Maximum rate of climb/minimum rate of descent autorotational: 50 KIAS.
- Minimum IFR: 65 KIAS.
- Maximum FCS off:
- ≤ 3000 lb gross weight: 130 KIAS.
  - Decrease by 3.5 KIAS/1000 ft above 3000 ft density altitude.
- > 3000 lb gross weight: 122 KIAS.
  - Decrease by 7 KIAS/1000 ft above 3000 ft density altitude.
- Maximum IFR or FCS on:
- ≤ 3000 lb gross weight: 122 KIAS.
  - Decrease by 3.5 KIAS/1000 ft above 3000 ft density altitude.
- > 3000 lb gross weight: 122 KIAS.
  - Decrease by 7 KIAS/1000 ft above 3000 ft density altitude.
- Maximum with any combination of doors off: 110 KIAS.
- Maximum autorotational: 100 KIAS.
- Turbulence penetration: 80 KIAS.
- Maximum glide: 72 KIAS.

Standby Generator Minimum Airspeed

NATOPS 4.8/4.11/14.19/17.3.9:

- 65 KIAS (same as IFR min airspeed).
- Reason for IFR min airspeed due to standby generator cooling.

  Prolonged operation of the standby generator while it is the primary power supply to the essential No. 1 bus is prohibited at speeds below 65 KIAS.

  Prolonged operations at airspeeds below 65 knots can damage the standby generator.

Altimeter Error

NATOPS 2.18.3, AIM 7-2-3:

- Altimeter error with current barometric pressure set should not exceed 75 feet from known field elevation.

AIM 7-2-3:

- A 1 in□Hg error in altimeter setting corresponds to 1000 ft of altitude.
- When going from high pressure to low pressure without updating your altimeter setting, you will be lower than indicated.
- Similarly, when going from high temperature to low temperature, you will be lower than indicated.

Attitude Gyro Malfunction (IMC)

NATOPS 14.31.7:

> If the directional or attitude gyro precesses or otherwise malfunctions, shift the scan to the standby compass (directional gyro malfunction) or to a partial panel scan utilizing other flight instruments to maintain heading, airspeed, and altitude (attitude gyro malfunction). If IMC, attempt to reestablish VMC.

Instrument and Navigation FTI 312:

- General partial panel scan:

Manuever	Attitude	Primary	Cross Check	Supporting
Straight and Level	Pitch; Roll	Altimeter, VSI; Needle-Ball	Heading	Airspeed, Heading, Power

Manuever	Attitude	Primary	Cross Check	Supporting
Level Turns	Pitch; Roll	Altimeter, VSI; Needle-Ball	Clock	Airspeed, Heading
Climbs and Descents	Pitch; Roll	Airspeed; Needle-Ball	Heading	Altimeter, VSI, Heading, Power
Climbing and Descending Turns	Pitch; Roll	Airspeed; Needle-Ball	Clock	Altimeter, VSI, Heading, Power

FAR 91.183:

- Must report safety of flight issue to ATC.

Standby Battery

NATOPS 2.9.11.2/7.6.2.13:

- 22.5 V, 1.8 A□h dry cell battery located just aft of baggage compartment.
- Minimum charge of 20 V checked during preflight for IMC operations.
- Pull the STDBY BAT CHARGE circuit breaker to check charge with engine running.
- Emergency power for pilot attitude indicator and its integrated lights.
- Full charge provides 1.5 hrs of operation.
- Main battery off or depleted with STBY ATT IND switch on will illuminate the STBY BATT ON light.

Turbulence Penetration

NATOPS 4.11/10.5/17.3.7/17.7.4, AIM 7-1-28.c:

- Turbulence penetration airspeed: 80 KIAS.

  Because of turbulence, slower airspeeds than those recommended for maximum range may be necessary. Recommended turbulence penetration airspeed is 80 KIAS when encountering moderate turbulence to reduce airframe stress and provide for easier aircraft control. Particular attention should be given to navigation because the slow airspeed associated with helicopters will result in large drift angles.

  Heavy turbulence with sustained vertical gusts may exceed the authority of the servos to maintain the selected altitude. This will be evidenced by the pitch servo indicator remaining at full deflection while altitude is deviating.

- Do maintain constant attitude. Allow altitude and airspeed to fluctuate.
- The most frequently encountered type of turbulence is orographic, or mountain, turbulence.

- Orographic turbulence is directly proportional to the wind velocity.
- Convective turbulence occurs from rising air created by surface heating.
- Convective turbulence can be anticipated when transitioning from bare areas to vegetation or snow covered areas. Convective turbulence seldom is severe enough to cause structural damage.
- Flight over convective turbulence should be carefully considered. The best method is to fly at the lowest altitude consistent with safety.