



N735GC

QRH

N735GC CHECKLISTS

From the POH (1976)

Airspeed limitations in KIAS

Vne	179 (also max window open speed)
Vno	143
Va	111 @ 2950 lbs 100 @ 2450 lbs 1950 @ 1950 lbs
Vfe	140 @ 10 degrees 95 @ 10-40 degrees

Weight limits (Normal Category) – Utility data in POH

Maximum ramp weight:	2957 lbs.
Maximum t/o weight:	2950 lbs.
Maximum Indg weight:	2950 lbs.
Baggage area "A":	120 lbs.
Baggage area "B" + Hatshelf:	80 lbs. (Max areas A+B combined is 200 lbs)

Airspeeds for EMERGENCY OPERATION in KIAS

Engine failure after takeoff:

Wing flaps up	70
Wing flaps down	65

Maneuvering speed (and maximum turbulent air penetration speed):

2950 lbs.	111
2450 lbs.	100
1950 lbs.	89

Maximum glide 70

Precautionary landing with engine power - 65

Landing without engine power:

Flaps up	70
Flaps down	65

Speeds

Chandelle entry – 105

Lazy Eights entry – 105

Steep turns entry – 95

Spins – slow deceleration

Stalls (except whip stalls) – slow deceleration

Vy 78 @sea level/72 @10,000 ft.

Vx 54 @sea level/62 @10,000 ft.

Vbg 70

Va 111 max gross weight (see above for reduced weights)

Max crosswind velocity – 20 @takeoff/15 @landing

Vso 45

Vs1 48

Preflight inspection

1 - Cabin

1. Control Wheel Lock – REMOVE
2. Ignition Switch – OFF
3. Master Switch – ON
4. Fuel Quantity Indicators – CHECK QUANTITY
5. Master Switch – OFF
6. Fuel Selector Valve – BOTH
7. Baggage door – CHECK for security, lock with key if child's seat is to be occupied.

2 - Empennage

1. Rudder Gust Lock – REMOVE
2. Tail Tie-Down – DISCONNECT
3. Control Surfaces – CHECK freedom of mvt. & security

3 - Right wing trailing edge

1. Aileron – CHECK freedom of movement and security

4 - Right wing

1. Wing Tie-Down – DISCONNECT
2. Main wheel tire – CHECK for proper inflation
3. Before first flight of the day and after each refueling, Use sampler cup and drain small quantity of fuel from fuel tank sump quick-drain valve to check for water, sediment and proper fuel grade.
4. Fuel Quantity – CHECK VISUALLY for desired level
5. Fuel Filler Cap – SECURE and vent unobstructed

5 - Nose

1. Static Source Openings (both sides of fuselage) – CHECK for stoppage
2. Propeller and Spinner – CHECK for nicks, security and oil leaks
3. Landing Lights – CHECK for condition and cleanliness
4. Carburetor air filter – CHECK for restrictions by dust or other foreign matter
5. Nose Wheel Strut and Tire – CHECK proper inflation
6. Nose Tie-Down – DISCONNECT
7. Engine Oil Level – CHECK. Do not operate with less than nine quarts. Fill to twelve quarts for extended flight.
8. Before first flight of the day and after each refueling, Pull out strained drain knob for about four seconds to clear fuel strainer of possible water and sediment: Check strainer drain closed. If water is observed, the fuel system may contain additional water, and further draining of the system at the strainer, fuel tank sumps, and fuel selector valve drain plug will be necessary.

6 - Left wing

1. Main Wheel Tire – CHECK for proper inflation
2. Before first flight of the day and after each refueling, use sampler cup and drain small quantity of fuel from fuel tank sump quick-drain valve to check for water, sediment, and proper fuel grade.
3. Fuel Quantity – CHECK VISUALLY for desired level
4. Fuel Filler Cap – SECURE and vent unobstructed

7 - Left wing leading edge

1. Pitot Tube Cover – REMOVE and check for stoppage
2. Fuel Tank Vent Opening – CHECK for stoppage
3. Stall Warning Vane – CHECK for freedom of movement while master switch is momentarily turned ON (horn should sound when vane is pushed upward).
4. Wing Tie-Down – DISCONNECT

Left wing trailing edge

1. Aileron – CHECK for freedom of mvt. and security

Before starting engine

1. Proper Inspection – COMPLETE
2. Seats, Belts, Shoulder Harnesses – ADJUST + LOCK
3. Fuel Selector Valve - BOTH
4. Radios, Autopilot, Electrical Equipment – OFF
5. Brakes – TEST and SET
6. Cowl Flaps - OPEN
7. Circuit Breakers – CHECK IN

Starting engine

1. Mixture – RICH
2. Propeller – HIGH RPM
3. Carburetor Heat – COLD
4. Throttle – OPEN $\frac{1}{2}$ inch
5. Prime – AS REQUIRED
6. Master Switch – ON
7. Propeller Area – CLEAR
8. Ignition Switch – START

NOTE: If engine has been overprimed, start with throttle $\frac{1}{4}$ to $\frac{1}{2}$ open. Reduce throttle to idle when engine fires.

9. Oil Pressure – CHECK

Before takeoff

1. Cabin Doors and Windows – CLOSED and LOCKED
2. Parking Brake – SET
3. Flight Controls – FREE and CORRECT
4. Flight Instruments – SET
5. Fuel Selector Valve – BOTH
6. Mixture – RICH
7. Elevator and Rudder Trim - TAKEOFF
8. Throttle – 1700 RPM
 - a. Magnetos - CHECK (RPM drop should not exceed 150 RPM on either magneto or 50 RPM differential between magnetos).
 - b. Propeller – CYCLE from high to low RPM; Return to high RPM (full in).
 - c. Carburetor Heat – CHECK for RPM drop
 - d. Engine Instruments & Ammeter – CHECK
 - e. Suction Gauge – CHECK
9. Radios - SET
10. Autopilot (if installed) – OFF
11. Flashing Beacon, Navigation Lights and/or Strobe Lights – ON as required
12. Throttle Friction Lock - ADJUST

Normal takeoff

1. Wing flaps – 0 to 20 degrees
2. Carburetor Heat – COLD
3. Power – FULL THROTTLE and 2400 RPM
4. Elevator control – LIFT NOSE WHEEL at 50 KIAS
5. Climb speed – 70 KIAS (flaps 20) or 80 KIAS (flaps up)

Short field takeoff

1. Wing flaps – 20 degrees
2. Carburetor Heat – COLD
3. Brakes – APPLY
4. Power – FULL THROTTLE and 2400 RPM
5. Brakes – RELEASE
6. Elevator control – SLIGHTLY TAIL LOW ATTITUDE
7. Climb Speed – 57 KIAS (until all obstacles cleared)
8. Wing Flaps – RETRACT slowly after reaching 70 KIAS

Enroute (normal) climb

1. Airspeed – 85-95 KIAS
2. Power – 23 INCHES Hg and 2400 RPM
3. Fuel Selector Valve – BOTH
4. Mixture – FULL RICH (mixture may be leaned above 5000 feet).
5. Cowl Flaps – OPEN as required

Enroute (maximum performance) climb

1. Airspeed – 78 KIAS at sea level to 72 KIAS at 10k feet
2. Power – FULL THROTTLE and 2400 RPM
3. Fuel Selector Valve – BOTH
4. Mixture – FULL RICH (mixture may be leaned above 5000 feet).
5. Cowl Flaps – OPEN as required

Cruise

1. Power – 15-23 INCHES Hg, 2100-2400 RPM (no more than 75% power).
2. Elevator and Rudder Trim – ADJUST
3. Mixture – LEAN
4. Cowl Flaps – CLOSED

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Descent

1. Power – AS DESIRED
2. Carburetor Heat – AS REQUIRED to prevent carburetor icing
3. Mixture – ENRICHEN as required
4. Cowl Flaps – CLOSED
5. Wing Flaps – AS DESIRED
(0-10 degrees below 140 KIAS, 10-40 degrees below 95 KIAS).

Before landing

1. Seats, Belts, Shoulder Harnesses – ADJUST and LOCK
2. Fuel Selector Valve – BOTH
3. Mixture – RICH
4. Carburetor Heat – ON
(apply full heat before closing throttle)
5. Autopilot (if installed) – OFF

Normal landing

1. Airspeed – 70-80 KIAS (flaps up)
2. Wing Flaps – AS DESIRED
(0-10 degrees below 140 KIAS, 10-40 degrees below 95 KIAS).
3. Airspeed – 60-70 KIAS (flaps DOWN)
4. Trim - ADJUST
5. Touchdown – MAIN WHEELS FIRST
6. Landing roll – LOWER NOSE WHEEL GENTLY
7. Braking – MINIMUM REQUIRED

Short field landing

1. Airspeed – 70-80 KIAS (flaps up)
2. Wing Flaps – 40 degrees (below 95 KIAS)
3. Airspeed – Maintain 60 KIAS
4. Trim - ADJUST
5. Power – REDUCE to idle as obstacle is cleared
6. Touchdown – MAIN WHEELS FIRST
7. Brakes – APPLY HEAVILY
8. Wing Flaps – RETRACT for max. brake effectiveness

Balked landing

1. Power – FULL THROTTLE and 2400 RPM
2. Carburetor Heat – COLD
3. Wing Flaps – RETRACT to 20 degrees
4. Climb speed – 55 KIAS
5. Wing Flaps – RETRACT slowly after reaching 70 KIAS
6. Cowl Flaps - OPEN

After landing

1. Wing Flaps – UP
2. Carburetor Heat – COLD
3. Cowl Flaps - OPEN

Securing airplane

1. Parking Brake – SET
2. Radios, Electrical Equipment, Autopilot – OFF
3. Throttle – IDLE
4. Mixture – IDLE CUT-OFF (pulled full out)
5. Ignition Switch – OFF
6. Master Switch – OFF
7. Control Lock – INSTALL
8. Fuel Selector Valve – RIGHT

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Engine failure during takeoff run

1. Throttle – IDLE
2. Brakes – APPLY
3. Wing Flaps – RETRACT
4. Mixture – IDLE CUT-OFF
5. Ignition Switch – OFF
6. Master Switch – OFF

Engine failure immediately after takeoff

1. Airspeed – 70 KIAS (flaps up) or 65 KIAS (flaps down)
2. Mixture – IDLE CUT-OFF
3. Fuel Selector Valve – OFF
4. Ignition Switch – OFF
5. Wing Flaps – AS REQUIRED (40 recommended)
6. Master Switch – OFF

Engine failure during flight (restart procedures)

1. Airspeed – 70 KIAS
2. Carburetor Heat – ON
3. Fuel Selector Valve – BOTH
4. Mixture – RICH
5. Ignition Switch – BOTH (or START if prop stopped)
6. Primer – IN and LOCKED

Emergency landing without engine power

1. Airspeed – 70 KIAS (flaps UP) 65 KIAS (flaps DOWN)
2. Mixture – IDLE CUT-OFF
3. Fuel Selector Valve – OFF
4. Ignition Switch – OFF
5. Wing Flaps – AS REQUIRED (40 recommended)
6. Master Switch – OFF
7. Doors – UNLATCH PRIOR TO TOUCHDOWN
8. Touchdown – SLIGHTLY TAIL LOW
9. Brakes – APPLY HEAVILY

Precautionary landing with engine power

1. Wing Flaps – 20 degrees
2. Airspeed – 65 KIAS
3. Selected Field – FLY OVER, noting terrain and obstructions, then retract flaps upon reaching a safe altitude and airspeed.
4. Radio and Electrical Switches – OFF
5. Wing Flaps – 40 degrees (on final approach)
6. Airspeed – 65 KIAS
7. Master Switch – OFF
8. Doors – UNLATCH BEFORE TOUCHDOWN
9. Touchdown – SLIGHTLY TAIL LOW
10. Ignition Switch – OFF
11. Brakes – APPLY HEAVILY

Ditching

1. Radio – 'mayday' on 121.5, giving location and intentions and SQUAWK 7700 on transponder
2. Heavy Objects (in baggage) – SECURE OR JETTISON
3. Flaps – 20-40 degrees
4. Power – ESTABLISH 300 FT/MIN DESCENT at 60 KIAS
5. Approach - High Wind, Heavy Seas – INTO WIND
Light Winds, Heavy Swells – PARALLEL TO SWELLS
If no power is available, approach at 70 KIAS with flaps up or at 65 KIAS with 10 degrees flaps
6. Cabin Doors - UNLATCH
7. Touchdown – LEVEL ATTITUDE AT ESTABLISHED DESCENT
8. Face – CUSHION at touchdown with folded coat
9. Airplane – EVACUATE through cabin doors.
If necessary, open window to flood cabin and equalize pressure so doors can be opened
10. Life Vests and Raft – INFLATE

Fire during start on ground

1. Cranking – CONTINUE (sucks flames inside)
2. If starts, power to 1700 RPM for a few minutes
3. Engine – SHUTDOWN and inspect for damage
4. If fails to start - Throttle – FULL OPEN
5. Mixture – IDLE CUT-OFF
6. Cranking – CONTINUE
7. Fire extinguisher – OBTAIN (have ground attendants obtain if not installed)
8. Engine – SECURE
 - i. Master Switch – OFF
 - ii. Ignition Switch – OFF
 - iii. Fuel Selector Valve – OFF
9. Fire – EXTINGUISH w/ fire extinguisher, blanket or dirt
10. Fire Damage – INSPECT AND REPAIR before flight

Engine fire in flight

1. Mixture – IDLE CUT-OFF
2. Fuel Selector Valve – OFF
3. Master Switch – OFF
4. Cabin Heat and Air – OFF (except overhead vents)
5. Airspeed – 100 KIAS (If fire is not extinguished, increase glide speed to find an airspeed which will provide an incombustible mixture).
6. Forced Landing – EXECUTE (as described in Emergency Landing Without Engine Power)

Electrical fire in flight

1. Master Switch – OFF
2. All Other Switches (except ignition switch) – OFF
3. Vents/Cabin Air/Heat - CLOSED
4. Fire Extinguisher – ACTIVATE (if available)

If fire appears out and electrical power is necessary for continuance of flight:

5. Master Switch – ON
6. Circuit Breakers – CHECK for faulty circuit, don't reset
7. Radio/Electrical Switches – ON one at a time, with delay after each until short circuit is localized
8. Vents/Cabin Air/Heat – OPEN when it is ascertained that fire is completely extinguished.

Cabin fire

1. Master Switch – OFF
2. Vents/Cabin Air/Heat – CLOSED (to avoid drafts)
3. Fire Extinguisher – ACTIVATE (if available)
After discharging an extinguisher within a closed cabin, ventilate the cabin.
4. Land airplane as soon as possible to inspect damage.

Wing fire

1. Navigation Light Switch – OFF
2. Strobe Light Switch – OFF
3. Pitot Heat Switch – OFF
Perform a sideslip to keep flames away from fuel tank and cabin, and land as soon as possible using flaps only as required by final approach and touchdown.

Inadvertent icing encounter

1. Turn pitot heat switch ON
2. Turn back or change altitude to obtain an outside air temperature that is less conducive to icing.
3. Pull cabin heat control full out and rotate defroster control clockwise to obtain maximum defroster airflow
4. Increase engine speed to minimize ice build-up on propeller blades
5. Watch for signs of carburetor air filter ice and apply carburetor heat as required. An unexplained loss in manifold pressure could be caused by carburetor ice or air intake filter ice. Lean the mixture if carburetor heat is used continuously.
6. Plan a landing at the nearest airport. With an extremely rapid ice build-up, select suitable "off airport" landing site.
7. With an ice accumulation of $\frac{1}{4}$ inch or more on the wing leading edges, be prepared for significantly higher stall speed.
8. Leave wing flaps retracted. With severe ice build-up on the horizontal tail, the change in wing wake airflow direction caused by wing flap extension could result in a loss of elevator effectiveness.
9. Open left window and, if practical, scrape ice from a portion of the windshield for visibility in landing apch.
10. Perform a landing approach using a forward slip, if necessary, for improved visibility.
11. Approach at 80 to 90 KIAS depending upon the amount of the accumulation.
12. Perform a landing in level attitude.

Static source blockage

1. Alternate Static Source Valve – PULL OPEN
2. Airspeed – Consult appropriate table in Section 6
3. Altitude – Cruise 50 feet higher and approach 30 feet higher than normal.

Landing with a flat main tire

1. Approach – NORMAL
2. Wing Flaps – FULL DOWN
3. Touchdown – GOOD TIRE FIRST, hold airplane off flat tire as long as possible with aileron control.

Over-voltage light illuminates

1. Master Switch – OFF (both sides)
2. Master Switch – ON
3. Over-Voltage Light – OFF
If over-voltage light illuminates again:
4. Flight – Terminate as soon as practical

Ammeter shows discharge

1. Alternator – OFF
2. Nonessential Electrical Equipment – OFF
3. Flight – TERMINATE as soon as practical