

All airspeeds quoted in this section are indicated airspeeds (IAS).

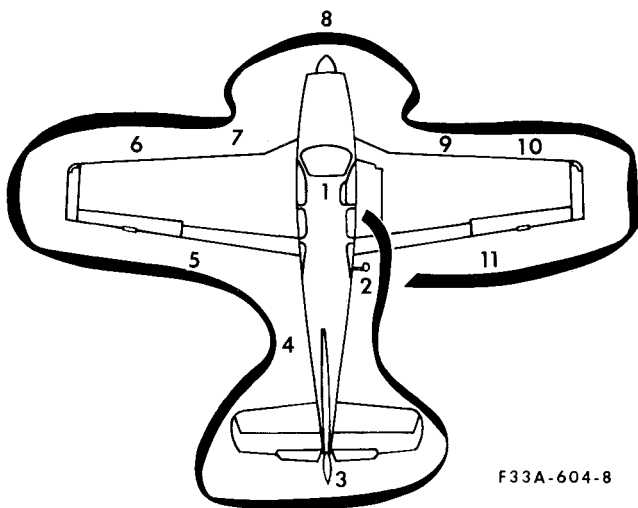
AIRSPEEDS FOR SAFE OPERATION (3400 LBS)

Maximum Demonstrated
Crosswind Component 17 KTS

Takeoff:

Lift-off 71 KTS
50-ft Speed 77 KTS
Best Angle-of-Climb (V_x) 77 KTS
Best Rate-of-Climb (V_y) 96 KTS
Cruise Climb 107 KTS
Turbulent Air Penetration 134 KTS
Landing Approach (Flaps Down) 70 KTS
Balked Landing Climb 70 KTS

PREFLIGHT INSPECTION



F33A-604-8

1. CABIN:
 - a. Parking Brake - SET
 - b. Control Lock - REMOVE
 - c. All Switches - OFF

2. RIGHT FUSELAGE:
 - a. Baggage Compartment Door - SECURE
 - b. Static Pressure Button - UNOBSTRUCTED
 - c. Emergency Locator Transmitter - ARMED

3. EMPENNAGE:
 - a. Control Surfaces - CHECK
 - b. Tie Down - REMOVE
 - c. Position Light - CHECK
 - d. Cabin Air Intake - CHECK

4. LEFT FUSELAGE:
 - a. Static Pressure Button - UNOBSTRUCTED
 - b. All Antennas - CHECK

5. LEFT WING TRAILING EDGE:
 - a. Flap - CHECK
 - b. Aileron - CHECK
 - c. Wing Tip - CHECK
 - d. Position Light - CHECK

6. LEFT WING LEADING EDGE:
 - a. Stall Warning - CHECK
 - b. Pitot Tube - CHECK; Cover - REMOVE
 - c. Fuel Tank - CHECK QUANTITY; Filler Cap - SECURE
 - d. Cabin Air Intake - CHECK
 - e. Tie Down and Chocks - REMOVE

7. LEFT LANDING GEAR:
 - a. Wheel Well Door, Tire and Strut - CHECK
 - b. Fuel Vent - CHECK
 - c. Fuel Sump - DRAIN
 - d. Fuel Selector Valve Sump (located under access cover on fuselage) - DRAIN; Cover - SECURE

Section IV
Normal Procedures

BEECHCRAFT Bonanza F33A
CE-674 and after

8. NOSE SECTION:
 - a. Left Cowl Flap - CHECK
 - b. Engine Oil - CHECK; Cap - SECURE
 - c. Left Cowl - SECURE
 - d. Propeller - CHECK
 - e. Wheel Well Doors, Tire and Strut - CHECK
 - f. Landing and Taxi Lights - CHECK
 - g. Induction Air Intake - CLEAR
 - h. Engine - CHECK GENERAL CONDITION
 - i. Right Cowl - SECURE
 - j. Right Cowl Flap - CHECK
 - k. Chocks - REMOVE

9. RIGHT LANDING GEAR:
 - a. Fuel Vent - CHECK
 - b. Fuel Sump - DRAIN
 - c. Wheel Well Door, Tire and Strut - CHECK

10. RIGHT WING LEADING EDGE:
 - a. Cabin Air Intake - CHECK
 - b. Tie Down and Chocks - REMOVE
 - c. Fuel Tank - CHECK QUANTITY; Filler Cap SECURE

11. RIGHT WING TRAILING EDGE:
 - a. Position Light - CHECK
 - b. Wing Tip - CHECK
 - c. Aileron - CHECK
 - d. Flap - CHECK

BEFORE STARTING

1. Seats - POSITION AND LOCK; Seat Backs - UPRIGHT
2. Seat Belts and Shoulder Harnesses - FASTEN
3. Parking Brake - SET
4. All Avionics - OFF
5. Circuit Breakers - IN

6. Landing Gear Handle - DOWN
7. Flaps - UP
8. Cowl Flaps - OPEN
9. Light Switches - OFF
10. Electric Elevator Trim Switch - OFF
11. Fuel Selector Valve - CHECK OPERATION THEN
SELECT TANK MORE NEARLY FULL
12. Battery and Alternator Switches - ON (If external power
is used, turn Alternator Switch - OFF)
13. Fuel Quantity Indicators - CHECK QUANTITY

WARNING

Do not take off if gages indicate in yellow arc or
with less than 13 gallons in each tank.

EXTERNAL POWER

The following precautions shall be observed while using
external power:

CAUTION

Never use external power without a battery
installed in the system.

1. The Battery Switch shall be ON and all avionics and
electrical switches OFF. This protects the voltage reg-
ulators and associated electrical equipment from vol-
tage transients (power fluctuations).
2. The airplane has a negative ground system. Connect the
positive and negative leads of the external power unit to
the corresponding positive and negative terminals of the
airplane's external power receptacle.
3. In order to prevent arcing, no power shall be supplied
while the connection is being made.

STARTING ENGINE USING AUXILIARY POWER UNIT

1. Alternator, and Avionics Equipment - OFF
2. Battery Switch - ON
3. Auxiliary Power Unit - CONNECT
4. Auxiliary Power Unit - (28-volt system - SET OUTPUT 27.0 to 28.5 volts)
(14-volt system - SET OUTPUT 13.5 to 14.25 volts)
5. Auxiliary Power Unit - ON
6. Engine START using normal procedures
7. Auxiliary Power Unit - OFF (after engine has been started)
8. Auxiliary Power Unit - DISCONNECT
9. Alternator Switch - ON

STARTING

CAUTION

Vernier-type engine controls should not be rotated clockwise after being advanced to the full forward position.

1. Mixture - FULL RICH
2. Propeller - HIGH RPM
3. Throttle - FULL OPEN

NOTE

If the engine is hot, and the ambient temperature is 90°F or above, place mixture control in IDLE CUT-OFF, switch aux fuel pump to ON for 30 to 60 seconds, then OFF. Return mixture control to FULL RICH.

4. Auxiliary Fuel Pump - ON until fuel flow peaks then OFF
5. Throttle - OPEN ¼ inch APPROXIMATELY
6. Magneto/Start Switch - START position; release to BOTH position when engine fires.

CAUTION

Do not engage starter for more than 30-seconds in any 4-minute time period.

7. In Event of Overprime Condition:
 - a. Mixture - IDLE CUT-OFF
 - b. Throttle - OPEN
 - c. Magneto/Start Switch - START position
 - d. As engine fires, reduce throttle to IDLE and advance the mixture control to FULL RICH.

NOTE

During hot starts, turn the Auxiliary Fuel Pump ON momentarily after starting to purge the system, then turn OFF.

8. Throttle - 1000 to 1200 RPM
9. Oil Pressure - CHECK
10. External Power (if used) - DISCONNECT
11. Alternator Switch - ON; CHECK FOR CHARGING
12. All Engine Indicators - CHECK
13. Starter Energized Warning Light (if installed) - CHECK; should be illuminated during start and extinguished after start.

CAUTION

If starter energized warning light is inoperative or is not installed, the ammeter indication should be less than 25% of full charge at 1000 to 1200 rpm within two minutes, with no additional equipment on. If not, turn off the battery and alternator switches and do not take off.

AFTER STARTING, AND TAXI

CAUTION

Never taxi with a flat shock strut.

Section IV
Normal Procedures

BEECHCRAFT Bonanza F33A
CE-674 and after

1. Brakes - RELEASE AND CHECK
2. Avionics Equipment - ON, AS REQUIRED
3. Lights - AS REQUIRED

CAUTION

Do not operate engine above 1200 RPM until oil temperature reaches 24°C.

BEFORE TAKEOFF

1. Seat Belts and Shoulder Harnesses - CHECK
2. Parking Brake - SET
3. Radios - CHECK
4. Engine Instruments - CHECK
5. Flight Instruments - CHECK AND SET

NOTE

To ensure adequate gyro pressure when operating two air-driven gyros during ground operation and/or holding prior to takeoff, maintain an engine speed of 700-800 rpm in order to hold a value of 4.3 in. Hg on the instrument pressure gage. With a requirement of three or more air-driven gyros, maintain an engine speed of 1200 rpm.

6. Starter Energized Warning Light (if installed) - CHECK (should not be lit). If light is not installed or is inoperative, check ammeter for stabilized indication between 0 and 25% of full charge at 1000 to 1200 rpm.
7. Throttle - 1700 RPM
8. Propeller - EXERCISE to obtain 300 to 400 rpm drop, then return to high rpm
9. Magnetos - CHECK at 1700 rpm on each magneto (variance between individual magnetos should not exceed 50 rpm; maximum drop should not exceed 150 rpm.)
10. Trim - SET
 - a. Aileron - NEUTRAL
 - b. Elevator - 0° (3° nose up if only front seats are occupied)

11. Flaps - UP
12. Doors and Windows - SECURE (serials CE-1301, CE-1307 and after; CJ-180 and after - check cabin door lock indicator - CLOSED)
13. Flight Controls - CHECK PROPER DIRECTION AND FREEDOM OF MOVEMENT
14. Mixture - FULL RICH or as required by field elevation
15. Brakes - RELEASED
16. Instruments - CHECK (Make final check of manifold pressure, fuel flow, and rpm at the start of take-off run.)

TAKEOFF

Take-off Power Full Throttle, 2700 RPM

1. Power - SET TAKE-OFF POWER (Mixture - SET as required by field elevation)
2. Brakes - RELEASE, THEN ACCELERATE to recommended speed
3. Landing Gear - RETRACT when positive rate of climb is established
4. Airspeed - ESTABLISH DESIRED CLIMB SPEED when clear of obstacles

CLIMB

Maximum Continuous Power

(Serials CE-674 thru CE-890 with 2- or 3-Blade Propeller Installed. and CE-891 and after with McCauley 3-Blade Propeller Installed)

(Serials CJ-129 thru CJ-155) Full Throttle, 2700 rpm

Maximum Normal Operating Power

(Serials CE-891 and after with 2-Blade Propeller Installed)

(Serials CJ-156 and after) Full Throttle, 2550 rpm

Cruise Climb Power 25 in. Hg at 2500 rpm

1. Engine Temperatures - MONITOR
2. Power - SET
3. Mixture - SET FUEL FLOW

CRUISE

See Cruise Charts in PERFORMANCE Section

1. Cowl Flaps - CLOSED
2. Power - SET
3. Mixture - SET FUEL FLOW

LEANING USING THE EXHAUST GAS TEMPERATURE INDICATOR (EGT)

A thermocouple-type exhaust gas temperature (EGT) probe is mounted in the right side of the exhaust system. This probe is connected to an indicator on the right side of the instrument panel. The indicator is calibrated in degrees Fahrenheit. Use EGT system to lean the fuel/air mixture when cruising at 75% power or less in the following manner:

1. Lean the mixture and note the point on the indicator that the temperature peaks and starts to fall.
 - a. CRUISE (LEAN) MIXTURE - Increase the mixture until the EGT shows a drop of 25°F below peak on the rich side of peak.
 - b. BEST POWER MIXTURE - Increase the mixture until the EGT shows a drop of 100°F below peak on the rich side of peak.

CAUTION

Do not continue to lean mixture beyond that necessary to establish peak temperature.

2. Continuous operation is recommended at 25°F or more below peak EGT only on the rich side of peak.
3. Changes in altitude and power settings require the peak EGT to be rechecked and the mixture reset.

DESCENT

1. Altimeter - SET
2. Cowl Flaps - CLOSED

3. Power - AS REQUIRED (avoid prolonged idle settings and low cylinder head temperatures)
4. Mixture - ENRICH AS REQUIRED

BEFORE LANDING

1. Seat Belts and Shoulder Harnesses - FASTENED; Seat Backs - UPRIGHT
2. Fuel Selector Valve - SELECT TANK MORE NEARLY FULL
3. Cowl Flaps - AS REQUIRED
4. Mixture - FULL RICH or as required by field elevation
5. Landing Gear - DOWN AND CHECK (Observe maximum extension speed)
6. Landing and Taxi Lights - AS REQUIRED
7. Flaps - FULL DOWN (Observe maximum extension speed)
8. Airspeed - ESTABLISH NORMAL LANDING APPROACH SPEED
9. Propeller - HIGH RPM

BALKED LANDING

1. Power - FULL THROTTLE, 2700 RPM
2. Airspeed - 70 KTS until clear of obstacles, then trim to normal climb speed
3. Flaps - UP
4. Landing Gear - UP
5. Cowl Flaps - OPEN

AFTER LANDING

1. Landing and Taxi Lights - AS REQUIRED
2. Flaps - UP
3. Trim Tab - SET TO 0°
4. Cowl Flaps - OPEN

SHUTDOWN

1. Brakes - SET
2. Electrical and Radio Equipment - OFF
3. Throttle - CLOSE
4. Mixture - IDLE CUT-OFF
5. Magneto/Start Switch - OFF after engine stops
6. Battery and Alternator Switches - OFF
7. Control Lock - INSTALL if conditions warrant
8. Wheel Chocks - INSTALL; Parking Brake - RELEASE

ENVIRONMENTAL SYSTEMS

OXYGEN SYSTEM

PREFLIGHT

1. Check Oxygen Pressure Gage for pressure reading.
2. Determine percent of full system.
3. Multiply oxygen duration in minutes by percent of full bottle.

EXAMPLE:

People.....	5
Gage Pressure	1500 psig
Percent Capacity (from chart).....	80%
Cylinder Capacity (full)	49 cu ft
Altitude (planned flight).....	15,000 ft
Duration (90% full).....	149 min
Duration (80% full).....	119 min