

Cessna 172 Maneuvers Guide



This document is for reference only. Operations for all Southeastern aircraft should be done in accordance with the approved airplane flight manual and appropriate Airman Certification Standards or Practical Test Standards.

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Pre-Maneuver Check

- Fuel SelectorBOTH
- MixtureAdjust for smooth operation
- MagnetosON
- Master Switch.....ON

The mixture should be leaned for maximum RPM during full throttle climbs above 3,000ft DA.

The mixture should be left leaned for maneuvers when operation above 3,000 ft DA.

The mixture should be enriched for descents to lower altitudes and returns to the airport.

I. Slow Flight & Stalls

Note: All stalls must be initiated at or above 3,000MSL.

Slow Flight

Entry

Clear Area

Pre- Maneuver Checklist

RadiosPractice area calls as necessary.

Power1500-1700 RPM

Wing Flaps

 Below 110 KIAS.....10°

 Below 85 KIAS.....20° then 30°

Maintain heading and altitude. Maintain airspeed of 5 KIAS above stall speed. Must be performed at an altitude of no less than 1,500 AGL.

Recovery

PowerFULL

Flaps

 Initial Recovery20°

 At Vx.....10°

 At Vy.....UP

Reset to cruise configuration.



Examination Standards

	Private	Commercial
Altitude	±100 Feet	±50 Feet
Airspeed	+10, -0 KIAS	+5, -0 KIAS
Heading	±10°	±5°
Bank	±10°	±5°

Power-Off Stall

Entry

Clear Area

Pre- Maneuver Checklist

RadiosPractice area calls as necessary.

Power1500-1700 RPM

Wing Flaps

Below 110 KIAS.....10°

Below 85 KIAS.....20° then 30°

DescendTo specified altitude at 65 KIAS.

PowerIDLE

At specified altitude, gently flare to establish a stable deceleration. Maintain back pressure until stall occurs.

Recovery

Angle of AttackLOWER

PowerFULL

AirspeedACCELERATE

Flaps20°

ClimbVy

FlapsRaise Incrementally

Reset to cruise configuration.

Examination Standards

	Private	Commercial
Heading	±10°	±10°
Bank	±10°	±5°
Recovery	Full Stall	As Specified



Power-On Stall

Entry

Clear Area

Pre- Maneuver Checklist

RadiosPractice area calls as necessary.

Power1500 RPM

Airspeed60 KIAS

PowerFULL

Establish climb with stable deceleration until stall occurs.

Recovery

Angle of AttackLOWER

PowerFULL

AirspeedACCELERATE

ClimbVy

Reset to cruise configuration.

Examination Standards

	Private	Commercial
Heading	±10°	±10°
Bank	±10°	±5°
Recovery	Full Stall	As Specified

II. Steep Turns

Clear Area

Pre- Maneuver Checklist

Visual Reference Point.....CHOOSE

Airspeed95 KIAS

Bank Angle45° (Private) 50° (Commercial)

Altitude & Airspeed.....MAINTAIN

Complete one 360° turn, immediately turning into a 360° turn in the opposite direction.

	Private	Commercial
Heading	±10°	±10°
Bank Angle	45°	50°
Bank	±5°	±5°
Airspeed	±10 KTS	±10 KTS
Altitude	±100 Feet	±100 Feet



III. Takeoffs

Normal Takeoff

- Flaps0°
- MixtureAS REQUIRED
- The mixture should be leaned for maximum RPM when operating above 3,000 DA.*
- Approach and runway areaCLEAR
- Runway Number/ DirectionVERIFY
- PowerAPPLY FULL
- Airspeed IndicatorALIVE
- Rotate55 KIAS
- ClimbVy

Short Field Takeoff

- Flaps10°
- MixtureAS REQUIRED
- The mixture should be leaned for maximum RPM when operating above 3,000 DA.*
- Approach and runway areaCLEAR
- Runway Number/ DirectionVERIFY
- BrakesHOLD
- PowerAPPLY FULL
- BrakesRELEASE
- Rotate51 KIAS
- Climb56 KIAS- Then Vy once obstacles cleared.
- FlapsUP once Vy established.

Soft Field Takeoff

- Flaps10°
- MixtureAS REQUIRED
- The mixture should be leaned for maximum RPM when operating above 3,000 DA.*
- Approach and runway areaCLEAR
- BrakesMinimal Use
- ElevatorTAIL LOW
- Runway Number/ DirectionVERIFY
- ElevatorTAIL LOW
- Apply forward pressure after rotation to remain in ground effect.
- AirspeedAccelerate to Vx
- ClimbVx or Vy as required.
- FlapsUP once Vy established.



IV. Landings

Normal Landing

Downwind

- AltitudePATTERN ALTITUDE
- Pre-Landing ChecklistCOMPLETE
- Power1700RPM Abeam landing point.
- Flaps.....10° below 110 KIAS

Base

- Flaps.....20° Below 85 KIAS
- Airspeed75 KIAS

Final

- Flaps.....30° When landing assured.
- Airspeed65 KIAS

Flaps and power should be applied as necessary to achieve the desired glidepath.

Short Field Landing

Downwind

- AltitudePATTERN ALTITUDE
- Pre-Landing ChecklistCOMPLETE
- Power1700RPM Abeam landing point.
- Flaps.....10° below 110 KIAS

Base

- Flaps.....20° Below 85 KIAS
- Airspeed75 KIAS

Final

- Flaps.....30°
- Airspeed61 KIAS

Establish descent to clear obstacles as necessary. Pilot should aim to flare with minimal float to touchdown on or just after desired landing point.

BrakesMAXIMUM EFFORT
For training purposes, max braking should be simulated unless necessary.

Examination Standards

	Private	Commercial
Touchdown	+200 Ft -0 Feet	+100 Ft -0 Feet



Soft Field Landing

Downwind

AltitudePATTERN ALTITUDE
 Pre-Landing ChecklistCOMPLETE
 Power1700RPM Abeam landing point.
 Flaps.....10° below 110 KIAS

Base

Flaps.....20° Below 85 KIAS
 Airspeed75 KIAS

Final

Flaps.....30° When landing assured.
 Airspeed65 KIAS

Maintain 1000-1200 RPM until touchdown to stay in ground effect.

TouchdownAdd back pressure to keep nosewheel off ground.

BrakesMINIMAL APPLICATION

Pilots may find that a shallower-than-normal approach will assist in maintaining ground effect on landing.

V. Emergencies

All emergencies should utilize the airplane’s checklist and recommended procedures found in Section 2 of the Pilots Operating Handbook.

All emergency procedures listed should be memorized.

Power-Out Emergency

AirspeedBEST GLIDE
 Landing SiteCHOOSE
 Fuel SelectorBOTH
 Fuel Shutoff ValveIN
 MixtureRICH
 Auxiliary Fuel PumpON
 Master Switch.....ON
 Ignition SwitchENGAGE then BOTH.

If Restart Unsuccessful

Forced Landing Checklist.....COMPLETE



Engine Fire in Flight

- MixtureCUTOFF
- Fuel Shutoff ValveOFF
- Auxiliary Fuel PumpOFF
- Master Switch.....OFF
- Cabin Heat & AirOFF
- Airspeed100 KIAS

If fire does not extinguish, increase speed to 120 KIAS. Land as soon as possible

Wing Fire

- External LightsOFF
- RudderApply rudder on side of wing fire.
- AileronApply opposite to establish slip.

If fire does not extinguish, land as soon as possible.

Emergency Descent

- PowerIDLE
- MixtureRICH
- Flaps
 - Below 110 KIAS.....10°
 - Below 85 KIAS.....30°
- Bank30°
- Airspeed80 KIAS



VI. Ground Reference Maneuvers

Turns Around a Point

Clear Area

Pre-Maneuver Check

RadiosPractice area calls as necessary.

Altitude1000 AGL

DirectionDownwind

AirspeedVa

Reference PointChoose

Bank as necessary considering wind speed and direction to maintain constant radius around reference point.

Exit maneuver after one 360° turn on downwind.

Examination Standards

Private	
Altitude	±100 Feet
Airspeed	±10 Knots

S-Turns

Clear Area

Pre-Maneuver Check

RadiosPractice area calls as necessary.

Altitude1000 AGL

DirectionDownwind

Upon crossing the road, execute a 180° constant radius turn, banking as necessary considering wind speed and direction.

Cross road with wings level.

Execute a second 180° constant radius turn in the opposite direction.

Cross road again with wings level.

Examination Standards

Private	
Altitude	±100 Feet
Airspeed	±10 Knots



Eights on Pylons

Clear Area

Pre-Maneuver Check

RadiosPractice area calls as necessary.

AltitudeEstimated pivotal altitude (1,700 MSL)

AirspeedLow Cruise

Select two “pylons” perpendicular to wind direction, ensuring there are suitable landing sites near by in case of emergency.

Heading45° downwind between the two selected pylons.

Once abeam first pylon, bank to establish point on wingtip.

Adjust pitch to maintain a constant sight picture of the selected pylon.

Once on a 45° angle to the next pylon, level wings, and repeat for second pylon.

Examination Standards

Commercial	
Bank	Not to exceed 60°
Altitude	Pivotal Altitude or 1,700 MSL
Pylon Line of Sight	Maintain

Steep Spirals

Clear Area

Pre-Maneuver Check

RadiosPractice area calls as necessary.

Suitable Field or PointSELECT

PowerIDLE

MixtureRICH

Airspeed80 KIAS

Enter steep descending spiral around field or point, banking as necessary to maintain a constant radius to point.

On upwind leg, apply “clearing burst” of power to avoid shock cooling.

Rollout smoothly after 3 complete turns at an altitude no lower than 1,500 AGL

Examination Standards

Commercial	
Airspeed	±10 Knots
Rollout Heading	±10°
Recovery Altitude	No less than 1,500 AGL
Bank	Not to exceed 60°

VII. Performance Maneuvers

Chandelles

Clear Area

Pre-Maneuver Check

RadiosPractice area calls as necessary.

Airspeed105 KIAS

Bank30°

PitchIncrease at a constant rate until 90° from entry.

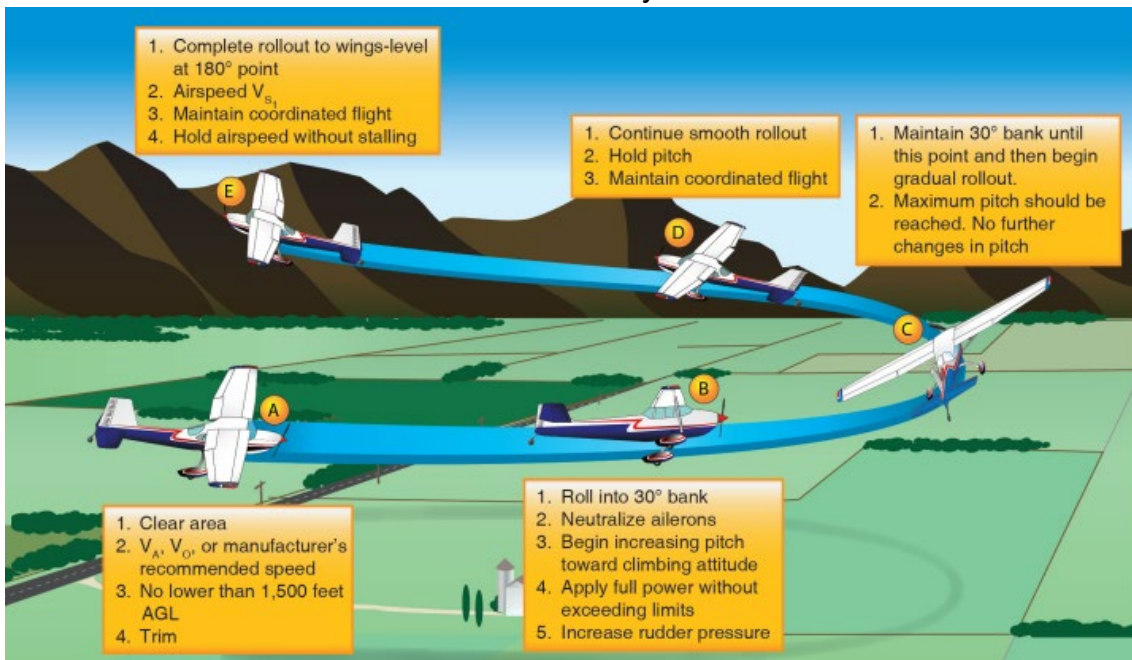
At 90° point

PitchMaintain

BankReduce at constant rate until 180° from entry.

AirspeedWithin 5 Knots of stall

PitchReduce slowly to not descend.



Examination Standards

Commercial	
Bank	Approximately 30°
Altitude	No loss during recovery
Airspeed	Just above stall speed
Heading	±10° of 180°



Lazy Eights

Clear Area

Pre-Maneuver Check

RadiosPractice area calls as necessary.

Airspeed105 KIAS

Reference Points.....Choose 45°, 90°, 135°, and 180° points.

First 45°

BankConsistently increase to 15° at 45° point.

PitchConsistently increase until 45° point.

45° to 90°

BankConsistently increase to 30° at 90° point.

PitchCrossing horizon from nose-high to nose-low at 90°

90° to 135°

BankConsistently reduce to 15° at 135° point.

PitchConsistently increase until 135° point.

135° to 180°

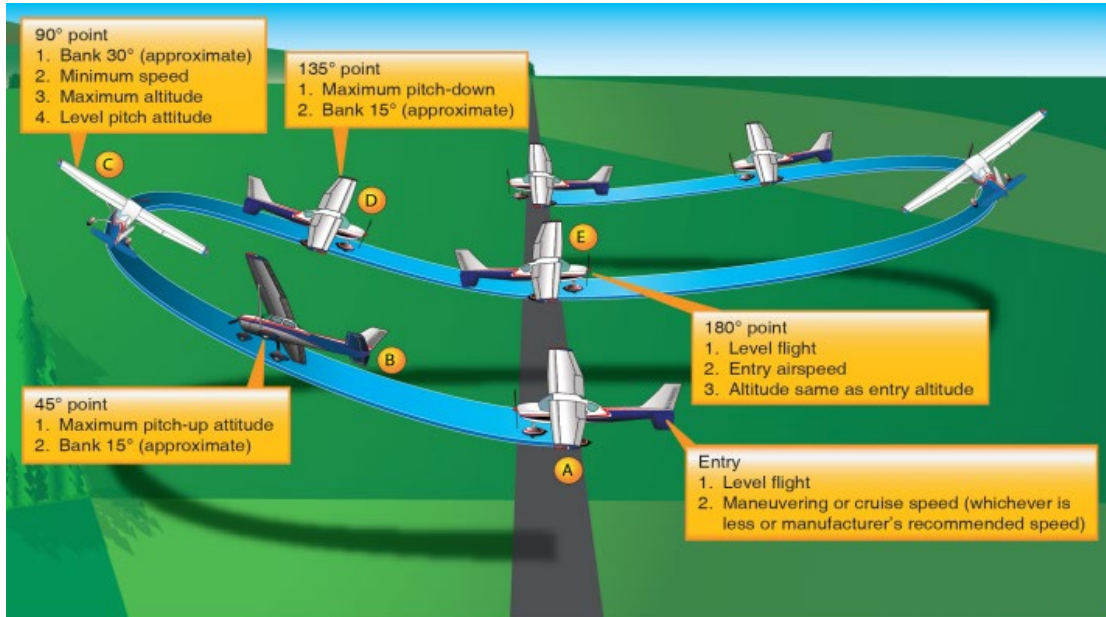
BankConsistently reduce to level at 180° point.

PitchIncrease to nose level slowly until 180° point.

Repeat in the opposite direction.

Continued description on following page...

Lazy Eights (Continued)



Examination Standards

Commercial	
Bank	Approximately 30° at steepest point
Altitude	±100 Feet of entry
Airspeed	±10 Knots of entry
Heading	±10° of entry