

Flight Training Center Yokota



MANEUVERS GUIDE

January 2019

MANEUVERS GUIDE

Introduction

This guide is designed for use with the Yokota Flight Training Center Private Pilot Course.

Recommended speeds and procedures are based on Yokota FTC aircraft and should not be used for other aircraft.

Refer to the current Private Pilot Airman Certification Standards for the tolerances, requirements and expectations for each maneuver. This guide is a reference for practice only and is not meant to supersede directions from the FAA.

Stalls, steep turns and slow flight should be performed above 1500 feet AGL (including recovery).

Ground reference maneuvers should be performed away from congested areas.

Technique may vary from instructor to instructor.

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Slow Flight

PREPARATION

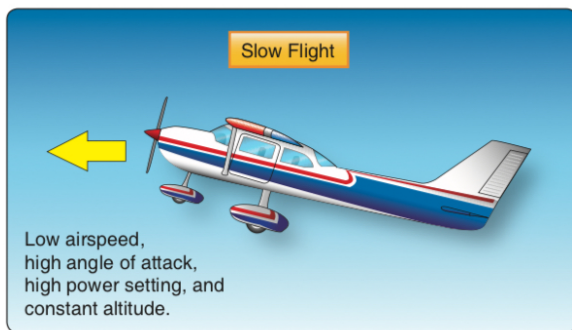
1. Complete the Training Maneuvers checklist
2. Call out visual reference point and approximate heading
3. Set bugs: IAS (**65 MPH**), ALT (assigned), HDG (entry hdg)

ENTRY

1. Carb heat **ON**
2. Power **1500 RPM**
3. [When below 100 MPH] Flaps **30°**
4. Stabilize airspeed at **65 MPH** with elevator inputs
5. Stabilize altitude with power addition or reduction
6. Stabilize visual reference with coordinated rudder control
7. Make shallow (5°) banks as assigned

RECOVERY

1. Carb heat **OFF**
2. **Full power**
3. Reduce flaps to 20°
4. Maintain altitude with elevator inputs
5. [When above V_x] Reduce flaps to 10°
6. [When above V_y] Flaps **UP**
7. Complete Training Maneuvers or Cruise checklist



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Steep Turns

PREPARATION

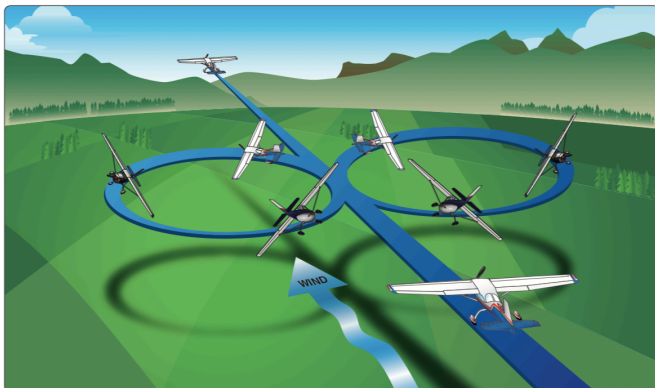
1. Complete the Training Maneuvers checklist
2. Call out visual reference point and approximate heading
3. Set bugs: IAS (**100 MPH**), ALT (assigned), HDG (entry hdg)
4. Set power to maintain **100 MPH** (approx. 2100 RPM)
(use carb heat ON below 2200 RPM)

ENTRY

1. Use aileron and rudder to establish a **45°** bank
2. Increase back pressure on the elevator to maintain altitude
3. Apply rudder in direction of turn to stay coordinated
4. Increase power **100-200 RPM** to maintain airspeed
5. Adjust trim as desired to relieve control pressures
6. Adjust altitude with coordinated bank and pitch inputs

RECOVERY

1. Begin roll-out 20° prior to visual reference point
2. Level wings and simultaneously lower pitch
3. Reduce power 100-200 RPM to maintain **100 MPH**
4. Trim for cruise flight
5. Complete Training Maneuvers or Cruise checklist



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Power-off Stalls

PREPARATION

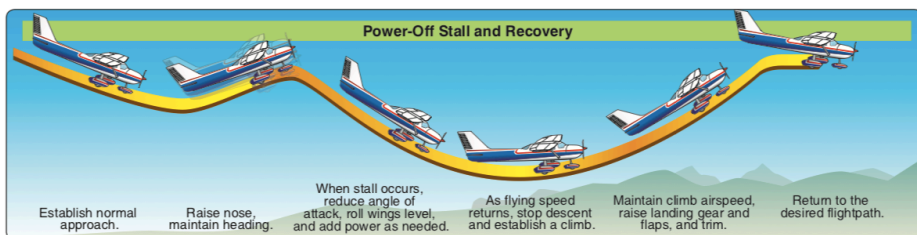
1. Complete the Training Maneuvers checklist
2. Call out visual reference point and approximate heading
3. Set bugs: IAS (**73 MPH**), ALT (assigned), HDG (entry hdg)

ENTRY

1. Carb heat **ON**
2. Power **1500 RPM**
3. [When below 100 MPH] Flaps **30°**
4. Initiate stabilized descent at **73 MPH**
5. Power **IDLE**
6. Pitch up gently and hold nose just above the horizon
7. Keep ball in the center with rudder, or abort if unable
8. Bank up to 20° as assigned
9. Hold pitch until stall warning and buffeting (full stall)

RECOVERY

1. Lower the nose (reduce pitch) and level the wings
2. Carb heat **OFF**
3. **Full power**
4. Reduce flaps to 20°
5. Pitch to maintain altitude
6. [When above V_x] Reduce flaps to 10°
7. [When above V_y] Flaps **UP**
8. Climb and maintain assigned altitude
9. Complete Training Maneuvers or Cruise checklist



MANEUVERS GUIDE

Power-on Stalls

PREPARATION

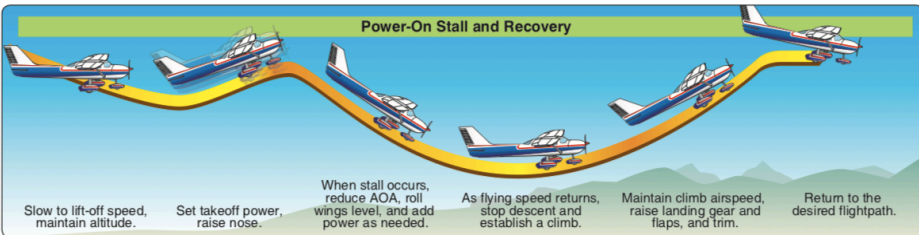
1. Complete the Training Maneuvers checklist
2. Call out visual reference point and approximate heading
3. Set bugs: IAS (**70 MPH**), ALT (assigned), HDG (entry hdg)

ENTRY

1. Carb heat **ON**
2. Power **1500 RPM**
3. Pitch to maintain altitude as airspeed decreases
4. Slow aircraft to **70 MPH**
5. Carb heat **OFF**
6. Power **2400 RPM**
7. Pitch up (max 25°)
8. Keep ball in the center with rudder, or abort if unable
9. Bank up to 20° as assigned
10. Hold pitch until stall warning and buffeting (full stall)

RECOVERY

1. Lower the nose (reduce pitch) and level the wings
2. Full power
3. Pitch to maintain altitude or return to assigned altitude
4. Complete Training Maneuvers or Cruise checklist



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Turns around a point

PREPARATION

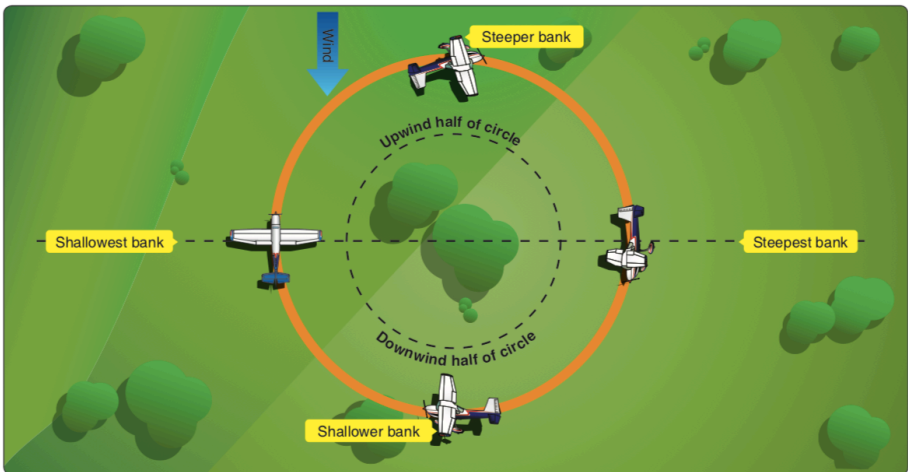
1. Complete the Training Maneuvers checklist
2. Select appropriate location for the maneuver
3. Select entry altitude between **600-1000 FT AGL**
4. Set bugs: IAS (**100 MPH**), ALT (selected), HDG (entry hdg)
5. Identify and call out approximate wind direction

ENTRY

1. Enter in level flight on the downwind leg
2. Carb heat **ON**
3. Power **2100 RPM** (or as required to maintain **100 MPH**)
4. Pitch to maintain altitude
5. Adjust bank angle to maintain equal distance from point
(Shallower banks upwind)
(Steeper banks downwind)
6. Maintain coordinated flight with rudder

RECOVERY

1. Level flight or climb to assigned altitude
2. Complete Training Maneuvers or Cruise checklist



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S-turns across a road

PREPARATION

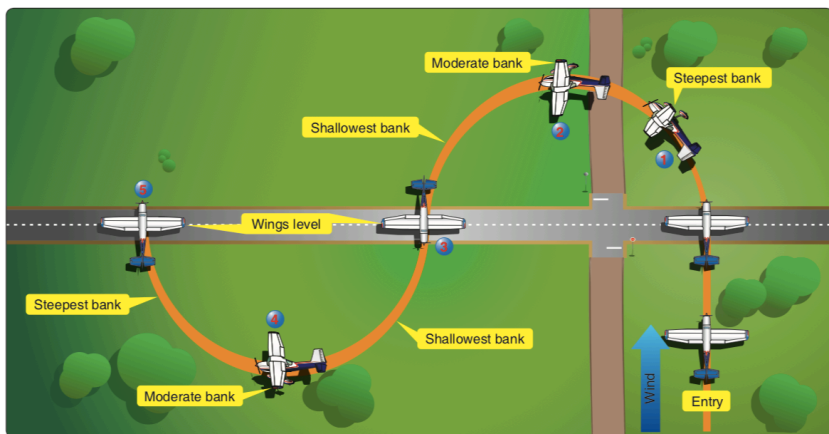
1. Complete the Training Maneuvers checklist
2. Select appropriate location for the maneuver
3. Select entry altitude between **600-1000 FT AGL**
4. Set bugs: IAS (**100 MPH**), ALT (selected), HDG (entry hdg)
5. Identify and call out approximate wind direction

ENTRY

1. Enter in level flight on the downwind leg
2. Carb heat **ON**
3. Power **2100 RPM** (or as required to maintain **100 MPH**)
4. Pitch to maintain altitude
5. Adjust bank angle to maintain equal radius around turns
(Shallower banks upwind)
(Steeper banks downwind)
6. Maintain coordinated flight with rudder
7. Cross road (reference line) with wings level

RECOVERY

1. Level flight or climb to required altitude
2. Complete Training Maneuvers or Cruise checklist



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Rectangular Course (traffic pattern)

PREPARATION

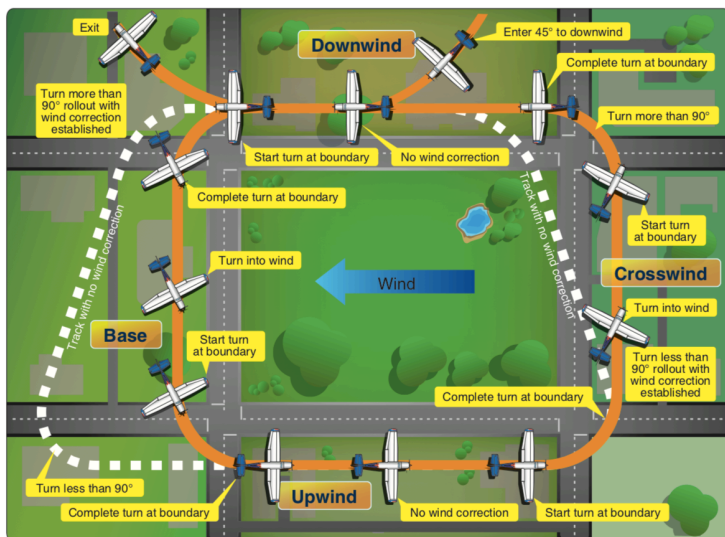
1. Select appropriate location for the maneuver
2. Select entry altitude between **600-1000 FT AGL** *
(*or traffic pattern altitude if practicing at RJTY)
3. Set bugs: IAS (**100 MPH**), ALT (selected), HDG (entry hdg)
4. Identify and call out approximate wind direction

ENTRY

1. Enter in level flight on the downwind leg
2. Carb heat **ON**
3. Power **2100 RPM** (or as required to maintain **100 MPH**)
4. Pitch to maintain altitude
5. Adjust CRAB angle to maintain square track around all legs
6. Maintain coordinated flight with rudder

RECOVERY

1. Level flight or climb to required altitude
2. Complete Training Maneuvers or Cruise checklist
(or landing checklist as appropriate)



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Short-field Landing

PREPARATION

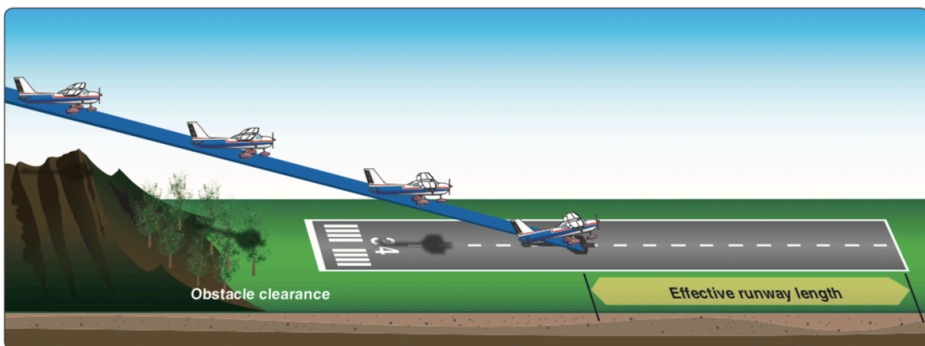
1. Complete the Before Landing checklist
2. Set bugs: IAS (**69/71 MPH***), ALT (TPA), HDG (rwy hdg)
* N1840V N22905 = 71 MPH N4972R N5241F = 69 MPH
3. Identify aiming point to land in training touchdown zone
4. Crosswind controls as required

ENTRY

1. Flaps **30°**
2. Airspeed **69/71 MPH**
3. Flaps down AOA indicator in the yellow zone
4. Power as required to hold aiming point steady
5. Power **IDLE**
6. Round-out and flare as required to land with minimum float

RECOVERY

1. Maximum braking (simulated)
2. Aerodynamic brake assist + flaps retract
3. Complete Before Takeoff or After Clearing Runway checklist/
flow



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Soft-field Landing

PREPARATION

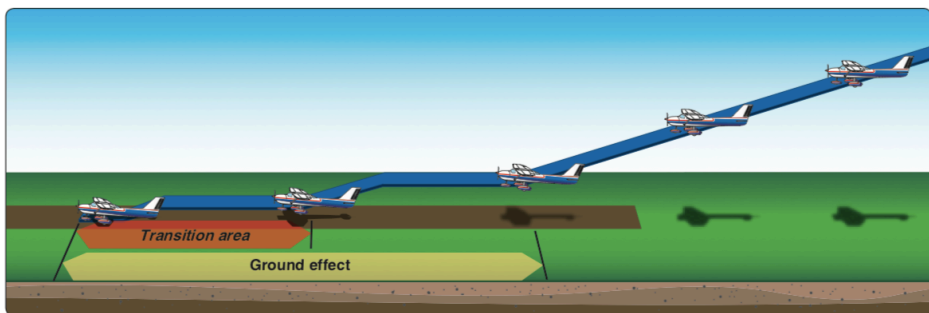
1. Complete the Before Landing checklist
2. Set bugs: IAS (**69/71 MPH***), ALT (TPA), HDG (rwy hdg)
* N1840V N22905 = 71 MPH N4972R N5241F = 69 MPH
3. Identify aiming point to land in training touchdown zone
4. Crosswind controls as required

ENTRY

1. Flaps **30°**
2. Airspeed **69/71 MPH**
3. Power as required to hold aiming point steady
4. Flaps down AOA indicator in the yellow zone
5. Adjust power as required during round-out and flare to land softly with minimum vertical speed
6. Power idle on touchdown

RECOVERY

1. Keep nose wheel off runway as long as practical
2. Add power to maintain adequate taxi speed
3. Minimum braking (simulated)
4. Complete Before Takeoff or After Clearing Runway checklist/
flow



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Short-field Takeoff

PREPARATION

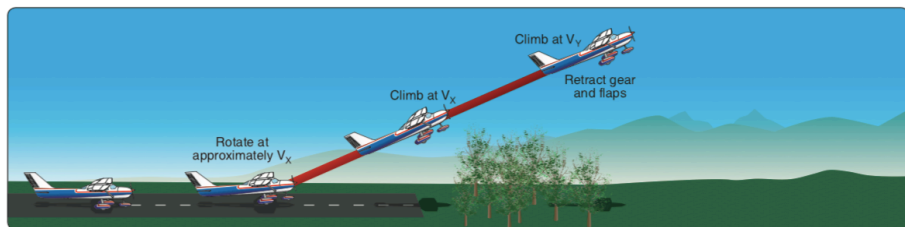
1. Complete the Before Takeoff checklist and briefing
2. Set bugs: IAS (**84/89 MPH***), ALT (assigned), HDG (rwy hdg)
* N1840V N22905 = 84 MPH N4972R N5241F = 89 MPH
3. Flaps **10°**
4. Line up using maximum runway available
5. Hold brakes
6. Set crosswind controls as required

ENTRY

1. Set and verify **full power** (>2300 RPM) while holding brakes
2. Release brakes
3. Verify and call out “*airspeed alive, gauges green*”
4. Rotate at normal Vr
5. Pitch for **V_x** until passing **50 FT**

RECOVERY

1. Pitch for **V_y** for remainder of climb
2. Flaps **UP**
3. Complete Enroute Climb checklist



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Soft-field Takeoff

PREPARATION

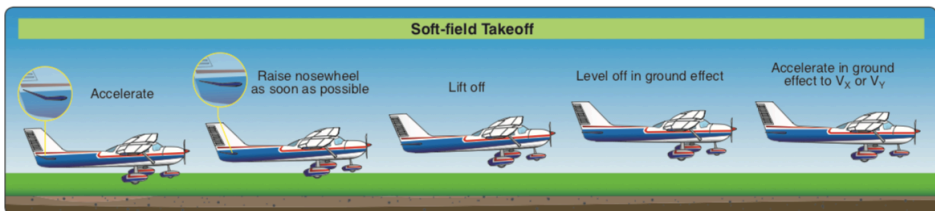
1. Complete the Before Takeoff checklist and briefing
2. Set bugs: IAS (**84/89 MPH***), ALT (assigned), HDG (rwy hdg)
* N1840V N22905 = 84 MPH N4972R N5241F = 89 MPH
3. Flaps **10°**
4. Reduce nose gear loading with elevator back pressure
5. Line up using minimum braking without stopping
6. Set crosswind controls as required

ENTRY

1. Set and verify **full power** (>2300 RPM) while rolling
2. Verify and call out “*airspeed alive, gauges green*”
3. Use elevator back pressure to rotate as soon as a possible
4. Apply forward elevator pressure to sustain level flight in ground effect (approx. 20-30 FT above runway)
5. Accelerate to **V_y** then begin normal climb

RECOVERY

1. Pitch for **V_y** for remainder of climb
2. Flaps **UP**
3. Complete Enroute Climb checklist



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Forward Slip to Landing

PREPARATION

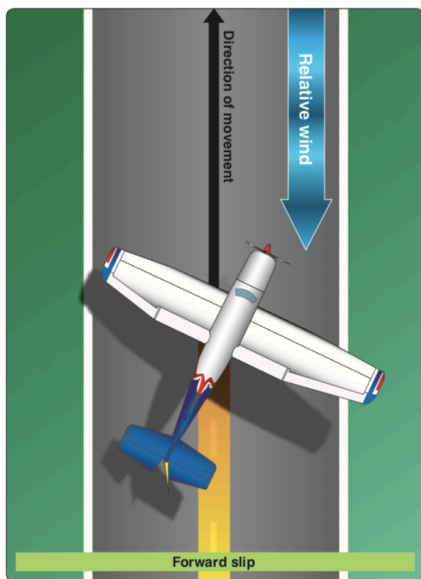
1. Complete the Before Landing checklist
2. Set bugs: IAS (**80 MPH***), ALT (TPA), HDG (rwy hdg)
3. Identify aiming point to land in training touchdown zone

ENTRY

1. Carb heat **ON**
2. Power **IDLE**
3. Flaps **UP**
4. Aileron wing-low in direction of slip
5. Rudder opposite the slip to maintain directional track
6. Pitch to maintain **80 MPH** and flaps-up angle of attack indicator in the green zone

RECOVERY

1. Release rudder pressure
2. Wings level (or crosswind controls as required)
3. Perform normal landing with or without flaps as required
4. Complete Before Takeoff or After Clearing Runway checklist/flow



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Emergency Descent

PREPARATION

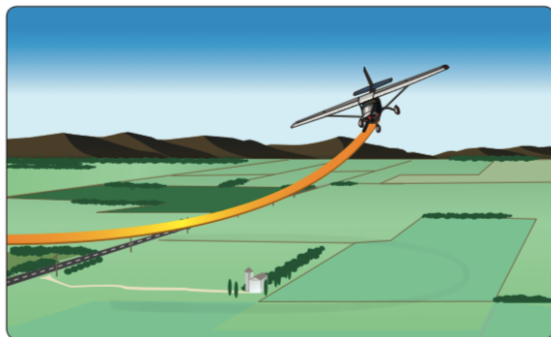
1. Complete the Training Maneuvers checklist
2. Call out visual reference point and approximate heading
3. Set bugs: IAS (**100 MPH***), ALT (target), HDG (entry hdg)

ENTRY

1. Carb heat **ON**
2. Power **IDLE**
3. Maintain level flight until airspeed below **100 MPH**
4. Flaps **30°**
5. Pitch down to maintain at or just below **100 MPH**
6. Establish a stable bank of **30°**
7. Maintain coordinated flight with rudder

RECOVERY

1. Wings level
2. Pitch for level flight
3. Carb heat **OFF**
4. **Full power**
5. Reduce flaps to 20°
6. [When above V_x] Reduce flaps to 10°
7. [When above V_y] Flaps **UP**
8. Complete Training Maneuvers or Cruise checklist



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Traffic Pattern

PREPARATION

1. Complete the before landing checklist
2. Verify wind conditions and runway assignment
3. Call out landing zone and aiming point
4. Enter at pattern altitude at 45° angle to downwind leg

	Power	Airspeed	Flaps	Carb heat
Upwind	Full	Vy	Up	Off
Downwind	2100 rpm	100 mph	Up	On
	Before landing checklist / flow			
Abeam	1500 rpm	90 mph	10°	On
Base	As req.	80 mph	20°	On
Final	As req.	73 mph	30°	On

- Flaps should be used as required in crosswind or gusty conditions
- Final airspeed is for normal landings only - see checklist for correct airspeeds

