

SATC speeds

Normal cruise < 5000' MSL: **110 KIAS** (*indicated* airspeed)

Normal cruise > 5000' MSL: **120 KTAS** (*true* airspeed)

VFR maneuvers: **95 KIAS**

IFR course reversal: **100 KIAS**

IFR holding: **100 KIAS**

IFR approach speed, Flaps10 : **95 KIAS**

Maximum speed in *light* turbulence: **125 KIAS** (Vno)

Maximum speed in *rough* air: **113 KIAS** (Va)

Normal climb < 1000' AGL: **75 KIAS**

Normal climb > 1000' AGL: **85 KIAS**, but minimum 500 FPM (trade speed for climb rate)

Best rate of climb: **76 KIAS**

Best angle of climb: **64 KIAS**

Best glide flaps up: **76 KIAS**

Best glide flaps down: **70 KIAS**

Prior to ALL maneuvers:

- Vital actions:

H HEIGHT --> 2300' AGL

A AREA --> out of controlled airspace, not above towns or airfields

C COCKPIT --> no loose articles, seats & seat belts secure, fuel pump on, engine instruments in limits, mixture full rich, air conditioner off.

L LOOKOUT --> 180 degrees clearing turn, or 2 X 90 degrees

- Repeat LOOKOUT only when practicing the same maneuver again. Repeat all vital actions when starting a new maneuver.

Slow flight

- To slow down:

Speed	95 KIAS
Power	1500 RPM
Altitude	maintain
BA	gradually increase to + 7
Speed	60 KIAS
Power	1800 RPM
Trim.	

- To accelerate:

Power	full power
Altitude	maintain
BA	gradually decrease to + 2
Speed	95 KIAS
Power	2200 RPM
Trim.	

Steep turns

Speed	95 KIAS
Bank	normal roll rate to 45 degrees
BA	increase slightly to maintain altitude
Power	increase slightly to maintain speed
Rudder	as required to center ball
Do not trim!	
Heading	15 degrees before initial heading
Bank	normal roll rate to 0 degrees
BA	decrease to + 2
Power	decrease to 2200 RPM
Continue to roll to repeat exercise in opposite direction.	
Rudder	keep ball centered during transition

Stalls

- Standard recovery:

As soon as the nose commences to drop:

1 - BA slightly below horizon
2 - Power full power

Check carburator heat off!
 Right rudder at power application!
 If a wing should drop:

Rudder opposite to prevent yaw
 Speed check > 55 KIAS
 Ailerons use to level wings

When flying speed has been regained:

3 - (see below)

- CLEAN** configuration:
 75 KIAS --> power idle> maintain altitude (do not trim anymore < 70 KIAS)

Standard recovery (see above).

3 -
 Speed accelerating thru 65 KIAS
 BA rotate to + 5
 Speed maintain 75 KIAS
 Power full power

Level off at initial altitude.

BA gradually decrease to + 2
 Speed 95 KIAS
 Power 2200 RPM

- TAKEOFF** configuration:
 Decelerate to 75 KIAS --> full power, raise BA to minimum + 15 (do not trim anymore < 80 KIAS)

Standard recovery (see above).

3 -
 Speed accelerating thru 65 KIAS
 BA rotate to + 5
 Altimeter + VSI positive climb
 Speed maintain 75 KIAS
 Power full power

Level off.

BA gradually decrease to + 2
 Speed 95 KIAS
 Power 2200 RPM

- FINAL TURN** configuration:
 95 KIAS --> use traffic pattern sequence to arrive at base leg configuration (F25) speed (75 KIAS) and power 1200 RPM, turn with 25 degrees bank, raise nose gradually (do not trim anymore < 65 KIAS)

Standard recovery (see above).	
3 -	
Power	FULL
Flaps.....	F10
Speed	accelerating thru 55 KIAS
Ailerons	use to level wings
Speed	65 KIAS
BA	rotate to + 5
Altimeter + VSI	positive climb
Speed	check > 75 KIAS
Flaps	up
Speed	maintain 75 KIAS
Level off.	
BA	gradually decrease to + 2

- LANDING** configuration:
 95 KIAS --> use traffic pattern sequence to arrive at final configuration (F40), speed (65 KIAS) power idle, maintain altitude (do not trim anymore < 65 KIAS)

Standard recovery (see above).	
3 -	
Power	FULL
Flaps	F10
Speed	65 KIAS
BA	rotate to + 5
Altimeter + VSI	positive climb
Speed	check > 75 KIAS
Flaps	up
Speed	maintain 75 KIAS
Level off at initial altitude.	
BA	gradually decrease to + 2
Speed	95 KIAS
Power	2200 RPM

- CROSSWIND TURN** configuration:
 75 KIAS --> full power, raise BA to minimum + 15 (do not trim anymore < 80 KIAS), turn with 15 degrees of bank.

Standard recovery (see above).	
3 -	
Speed	accelerating thru 55 KIAS
Ailerons	use to level wings
Speed	65 KIAS
BA	rotate to + 5
Speed	maintain 75 KIAS
Power	full power
Level off.	

BA	gradually decrease to + 2
Speed	95 KIAS
Power	2200 RPM

Slip

At the same time:

Rudder pedal	push in completely , and hold
Control wheel	turn to opposite side
Nose	lower to maintain Vtarget + 5

Maintain speed with BA (power is idle).
Maintain direction with ailerons (increase or decrease bank).

Touch and go

During the touch and go roll:

- Remain with your eyes outside, controlling the airplane.
- Perform the following actions:

1 - Flaps	up
2 - Trim	slightly forward

Call out: "**takeoff, I have controls**".

Go-around

Carburetor Heat.....	Check Cold
Call out: " go-around, flaps 10 ".	
Throttle	advance to full power
BA	rotate to + 5
Flaps	F10
Altimeter + VSI	positive climb
Speed	check > 75 KIAS
Flaps	up
Speed	maintain 75 KIAS
Power	full power
>1000FT AGL "After takeoff checklist".	

Flapless pattern

- All target speeds + 5 KIAS => downwind 90 KIAS, base 80 KIAS, final 70 KIAS.
- BA's on base and final will be higher: see power-pitch table.
- Extend downwind by 1 mile.
- Fly a 3 degree slope to the runway.
- Make a reduced-flare touchdown.
- Go-around: call out "**go-around, flaps up**", flaps remain up.

Short field takeoff (flaps 25)

TAKEOFF

- full power on the brakes
- pwr check before brake release
- speed check
- rotate at **55 KIAS**

CLIMB

- BA + 7 => **65 KIAS**
- + climb & clear of obstacles => flaps up
- BA + 6 => **75 KIAS**

AFTER TO CHECKLIST

Short field landing

FINAL TURN COMPLETED (> 300")

- F40
- BA touchdown point
- pwr for **60 KIAS**

SHORT FINAL CHECKLIST

TOUCHDOWN

- beginning of rwy
- reduce pwr to idle as obstacle is cleared
- apply brakes

Soft field takeoff (flaps 25)

TAKEOFF

- If possible do a rolling takeoff, slowly add full power
- pwr check
- speed check
- maintain slight aft pressure
- lift off in ground effect as soon as practical

CLIMB

- level off immediately to accelerate to **65 KIAS**, then start climb
- BA + 6 to accelerate to **75 KIAS**
- Safe altitude, slowly retract flaps

AFTER TO CHECKLIST

Soft field landing

FINAL TURN COMPLETED (> 300")

- F40
- BA touchdown point
- pwr for **65 KIAS**

SHORT FINAL CHECKLIST

TOUCHDOWN

- hold nosewheel off as long as possible
- apply brakes only after nosewheel touches

Precision & non-precision APP

- As soon as the airplane is on an intercept heading, or radar vector, or course reversal inbound to the final approach course: finalize radiosetup for the approach, including the missed approach, as described in the Basic IF Manual, chapter 2-2.
- Standard callouts not shown on the patterns:
 - **"1000 feet to go"**.
 - **"Localizer alive"**.
 - **"Glide slope alive"**.
 - Below 500' AGL: significant deviations from airspeed, descent rate, or instrument indications.

Circling APP

- Procedure not authorized if **no** circle-to-land minimums published (SATC policy)! In that case, a normal traffic pattern should be flown, weather permitting.
- If **only** circle-to-land minimums published, a straight-in landing
 - may be made if cleared by ATC (ICAO).
 - must be made unless cleared to circle by ATC (FAA).
- **WARNING:** It is standard SATC policy to conduct all flight training according to ICAO procedures. Be aware though that the circling area for CAT A aircraft is
 - 1.68 NM in ICAO airspace.
 - **only 1.3 NM** in FAA airspace!

Missed approach

Perform following actions (when a turning missed approach is required at DA or at the MAP, the turn must be initiated **immediately**):

Call out: "go-around, flaps 10".

BA rotate to + 5

Throttle advance to full throttle

Flaps F10

Altimeter + VSI positive climb

Speed check > 75 KIAS

Flaps up

Speed maintain 75 KIAS

"Tune radios for missed approach".

Check the radios are properly set for the missed approach
and complete the radiosetup if required.

Passing 1000' AGL "After takeoff checklist".