Oefenprogramma Sirius TL 3000

(This exercise schedule is based on ISA and applicable up to and including 3000'.
For other situations consult the POH.)

Horizontal flight

1. Pitch for horizontal flight
2. Check slip-indicator with feet, no bank
3. Speed 95 KIAS, ± 4800 rpm
4. Re-adjust pitch and trim
5. Check engine instruments from time to time
6. Look out and check:
    - Altitude
    - Speed
    - Direction, no bank, aiming point
    - Engine instruments or alerts

Transition in to climb

1. Check advisory panel and engine instruments
2. Look out
3. Pitch up for 75 KIAS
4. When speed almost 80 KIAS: full throttle
5. Check slip-indicator with feet
6. Readjust pitch and trim
7. Look out and check:
    - Pitch
    - Speed
    - Direction, no bank, aiming point

Horizontal out of climb

1. ± 50 ft before the desired altitude, pitch for horizontal flight
2. Check slip-indicator, no bank
3. Speed 95 KIAS, ± 4800 rpm
4. Readjust pitch and trim
5. Look out and check:
    - Altitude / pitch
    - Speed / power
    - Direction, no bank

Transition in to descent

1. Look out
2. Throttle ± 4000 rpm and pitch for descent, pitch to maintain speed 95 KIAS
3. Check slip-indicator with feet
4. Readjust pitch and trim
5. Look out and check:
    - Pitch / speed / power
    - Direction, no bank

Horizontal out of descent

1. ± 100 ft before desired altitude, throttle 4800 rpm
2. Just before the desired altitude, pitch for horizontal flight.
3. Check slip-indicator with feet, no bank
4. Speed 95 KIAS, ± 4800 rpm
5. Adjust pitch and trim
6. Check the horizontal flight
    - Altitude / pitch
    - Speed / power
    - Direction, no bank

Transition in to glide

1. Look out
2. Close the throttle and maintain altitude until the speed reaches 70 KIAS.
3. Check slip-indicator with feet, no bank
4. Pitch for the glide (70 KIAS)
5. Re-adjust pitch and trim
6. Look out and check:
    - Pitch / speed
    - Direction, no bank

Note: Avoid prolonged glide to avoid super cooling.
Use power check procedure for prolonged glide of more than 1500 ft.

Horizontal out of glide

1. ± 150 ft before desired altitude, throttle smoothly to ± 4800 rpm
2. Just before the desired altitude, pitch for horizontal flight
3. Direction with feet, no bank
4. Speed 95 KIAS, ± 4800 rpm
5. Readjust pitch and trim
6. Check the horizontal flight
    - Altitude / pitch
    - Speed / power
    - Direction, no bank

Power check (coordination exercise)

1. Look out, take an aiming point
2. Full throttle and pitch up to climb attitude
3. Check slip-indicator with feet
4. Maintain 70 KIAS with pitch
5. After 3 seconds, close the throttle and pitch smoothly to glide (70 KIAS)
6. Continue the glide

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Normal turn

1. Look out
2. Bank 30º , use feet to overcome adverse yaw
3. Look out and check:
   - Bank / slip indicator
   - Altitude / pitch
4. Look out, roll out, stay coordinated
5. Check horizontal flight

Climbing turn

1. Look out
2. Max. bank 15º, use feet to overcome adverse yaw
3. Look out and check:
   - Bank/ slip indicator
   - Speed/ pitch
4. Look out, roll out, stay coordinated
5. Check horizontal flight

Descending / gliding turn

1. Look out
2. Bank 30º, use feet to overcome adverse yaw
3. Look out and check:
   - Bank / slip indicator
   - Speed/ pitch
4. Look out, roll out, stay coordinated
5. Check horizontal flight

Steep turn

1. Fuel fullest tank
2. Speed min. 90 KIAS
3. Look out
4. Bank 45º, use feet to overcome adverse yaw
5. When passing 30º of bank, add ± 300 rpm
6. Look out and check:
   - Bank / slip indicator
   - Altitude / pitch
   - Maintain 90-100 KIAS
7. Look out, roll out, stay coordinated
8. When passing 30º of bank, reduce ± 300 rpm
9. Adjust pitch
10. Check horizontal flight

Speed changes

Decelerate from 95 KIAS to 60 KIAS with flaps 15^0

1. Throttle 3500 rpm
2. Flaps 15^0 (below 75 KIAS)
3. Maintain altitude / direction
4. Speed approaches 60 KIAS, throttle ±3800rpm
5. Trim

Accelerate from 60 KIAS with flaps 15^0 to 95 KIAS

1. Full throttle
2. Flaps up (below 75 KIAS)
3. Maintain altitude / direction
4. When speed almost reaches 95 KIAS, reduce power to ± 4800 rpm
5. Trim
6. Check horizontal flight

Decelerate from 95 KIAS to 65 KIAS with flaps up

1. Throttle 3500 rpm
2. Maintain altitude / direction
3. Speed approaches 65 KIAS, throttle ± 3600rpm
4. Trim

Accelerate from 55 KIAS with flaps up to 95 KIAS

1. Full throttle
2. Maintain altitude / direction
3. When speed almost reaches 95 KIAS, reduce power to ± 4800 rpm
4. Trim
5. Check horizontal flight

Stall briefing and procedures

Crew briefing preceding the stall

Type of stall
Altitude to maintain and regain
Direction or heading to maintain
Recovery of the stall is started at:

Full stall:
Nose and/or wingdip or (excessive) rate of descent with full back pressure

Approach to stall landing configuration:
Recovery speed: 5 kts above the bottom white arc with flaps landing, stall warning or buffet, whichever comes first

Approach to stall clean/flaps t/o:
Recovery speed: 5 kts above the bottom of the green arc, stall warning or buffet, whichever comes first

Pre stall checklist

Outside inspection (before every stall, also appr. to the stall)

1. **A**ltitude …… Checked
2. **P**osition …….. Checked
3. **O**rientation …… Checked
4. **S**ky …….. Free

Altitude:

Recovered before:

Full stall
Dual …….. 2000 ft AGL
Solo ……...3000 ft AGL

Approach to the stall
Dual ……1500 ft AGL
Solo ……2500 ft AGL

Position:

Never stall above:
Build up area's
Harbours and industrial area's
Populated area's
Airports / CTR's
Extended water area's
4/8 clouds or more
Other traffic, etc.

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Orientation:

Keep track of your position

Sky free:

Make 90º right and left clearing turns or a a left hand 180º turn to check the airspace ahead and below for other traffic.

Various Stalls

Full stall with power without flaps selected (clean)

1. Take an aiming point or heading
2. Throttle close
3. Maintain altitude, don't use the trim
4. Check slip-indicator with feet, no bank
5. Move the elevator gently backwards
6. Wait until the wings stall

Full stall recovery with power (clean)

1. Pitch down for glide attitude to break the stall
2. Check for increasing speed (± 60 KIAS)
3. Pull gently out of the dive, while moving the throttle gently forward, to reach full power when the nose is passing through the horizon.
4. Direction with feet, no bank
5. Adjust pitch for climb attitude (75 KIAS)
6. Climb back to previous altitude

Full stall recovery *without* power (clean)

1. Pitch down below glide attitude to break the stall
2. Check for increasing speed (± 60 KIAS)
3. Direction with feet, no bank
4. Adjust pitch for glide attitude (70 KIAS), trim
5. When established in the glide, end the exercise and climb back to previous altitude.

Approach to stall in the landing configuration

1. Take an aiming point
2. Throttle 3000 rpm
3. Flaps take off>flaps landing (check speed in white arc)
4. Maintain altitude, don't use the trim
5. Direction with feet, no bank
6. Wait for a sign of the approaching stall

Approach to stall recovery in the landing configuration

1. Recover at buffet or 5 knots above the bottom of the white arc whichever comes first
2. First indication: nose down a few degrees
3. Full throttle
4. Flaps 15^0
5. Adjust pitch to maintain altitude
6. Direction with feet, no bank
7. Flaps retracted
8. Speed 95 KIAS, 4800 rpm, trim

After stall checklist

1. Flaps UP
2. Direction with feet, no bank
3. Speed 95 KIAS, 4800 rpm, trim

Take off and circuit

Normal take off

1. Before entering the runway, check left / right free
2. Line up check list before or when crossing the stop-bar.
3. Line up on the runway centreline
4. Check compass and identify the runway
5. Check the windsock, ailerons in the wind
6. Take an aiming point
7. Heels on the floor
8. Full throttle
9. Check power / engine instruments/advisory panel
10. Direction with feet also during the rotation
11. Reduce ailerons input/keep glare shield parallel to horizon
12. Rotate at 45 KIAS (Vr)
13. Initial climb 65 KIAS
14. At 200' flaps up, speed 75 KIAS, trim
15. After take off checklist when convenient (above 1000' AGL)

Crosswind take off

1. Proceed as normal take off (items 1–11), but
2. Vr + 5 KIAS during strong crosswind (1/2 gust)
3. Reduce ailerons input/keep glare shield parallel to horizon
4. Maintain nose at aiming point until airborne
5. Roll out make a coordinated turn into the wind
6. Stay over the (extended) centreline
7. Correct for increasing crosswind after take-off
8. Proceed as normal take off (items 13-15)

Obstacle take off

1. Proceed as short field take off (items 1–11)
2. Initial climb 55 KIAS
3. Speed 65 KIAS after passing obstacle
4. Proceed as normal take off (items 14-15)

Soft field take off

1. Proceed as normal take off (items 1–7)
2. Make a rolling take off (especially on long grass)
3. Gently full throttle
4. Check power/advisory panel/engine instr.
5. Direction with feet
6. Maintain back pressure on the elevator
7. Release back pressure when nose wheel lifts off
8. Proceed as short field take off (items 11-14)

Rejected take-off

1. On the call: **"reject !"**
2. Close the throttle Immediately
3. Maintain direction with feet
4. Apply brakes as necessary

5. Elevator neutral / aileron in the wind
6. RT call: “call sign + rejected take-off”
7. Vacate the runway as soon as practicable

Standard circuit

1. Climb to circuit altitude and level off
2. Throttle 3800 rpm, 70 KIAS
3. Look out and turn to crosswind, 30º bank
   Climbing turn after passing 500 ft is permitted to stay in the circuit area.
4. Look out and turn to downwind, 30º bank
5. Check:
   - Incoming traffic
   - Altitude
   - Distance to the runway
   - Direction
   - Speed 70 KIAS
   - Downwind checks, flaps 15^0
6. Turn to base leg when runway is 45º behind
7. Reduce throttle to 2800 rpm at descent point
8. Reduce to 60 KIAS at base-leg,
9. Select full flaps, trim
10. Turn to final with ± 20º, maximum 30º of bank
11. Establish on 3º glide path, 60 KIAS
12. At short final maintain 60 KIAS
13. Landing checks

Landing

Normal landing

1. Fly standard circuit
2. At the beginning of final: check full flaps 60 KIAS
3. Establish on 3º glide path, trim
4. Aim for the landing spot
5. Short final: 60 KIAS
6. Start horizontal flight just before touch down
7. Close throttle gently
8. Maintain direction with feet (point of distance)
9. Aileron to stay over the centre line (lateral movement)
10. Increase pitch attitude, maintain level flight (flare)
11. Touchdown on main wheels
12. Lower the nose gently
13. Elevator neutral / keep aileron in the wind
14. Decelerate with gently increasing brake pressure
15. When braking, full back pressure on elevator
16. Leave the runway when convenient
17. After landing checks only after passing the stopbar

Crosswind landing

1. Fly standard circuit and landing (item 1-5)
2. Correct for crosswind on all legs
3. Start horizontal flight just before touch down
4. Use rudder to de-crab and line up with the centreline, at the same time:
5. Bank into the wind to stay above the centreline
6. Maintain direction with feet (point in distance)
7. Smoothly close throttle and increase pitch attitude for the flare
8. Land the aircraft in this attitude while maintaining the nose at the aiming point and the ailerons in the wind to stay over the centreline.
9. Proceed as normal landing (items10-17)

Flapless landing (Emergency procedure)

1. Fly standard circuit
2. Maintain 70 KIAS on downwind
3. Speed 60 KIAS on base leg
4. Establish on 3º glide path
5. Power / attitude 60 KIAS on final
6. Nose attitude higher then for normal landing
7. Aim for the landing spot
8. Close throttle gently
9. Do not flare out, maintain a slightly higher attitude during touch down.
11. Proceed as normal landing (items 11-17)

Short field landing

1. Fly standard circuit
2. Establish 3º glide path on final
3. Power / attitude 50 KIAS on short final
4. Landing procedure as normal landing
5. But, close throttle gently in the tempo of the flare
6. Ideally the throttle should just be closed as the aircraft touches down (not before touchdown!)
7. Proceed as normal landing (items 14 e.v.)

Soft field landing (grass runway)

1. Fly standard circuit (items 1-13)
2. After touchdown and during taxi, maintain backpressure on the elevator to relieve the nose wheel pressure
3. Decelerate gently, but don’t touch the brakes
4. Keep aileron in the wind
5. Keep the aircraft rolling
6. Leave the runway when convenient
7. After landing checks while rolling

Glide in (from circuit altitude)

1. Fly standard circuit (items 1-5)
2. Maintain circuit altitude on base leg
3. Maintain speed 70 KIAS
4. Determine the throttle closed point
5. Glide speed 60 KIAS
6. Flaps 15^0 when landing assured
7. Adjust attitude to maintain 65 KIAS
8. Final checks
9. Plan full flaps landing, touch down at 60 KIAS
10. Proceed as normal landing (items 6-17)

Touch and go

1. Aim for the centreline
2. Flaps 15^0
3. Trim set for take-off
4. Full throttle
5. Proceed as normal take off

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Go-around

1. Call: "Go-around!"
2. Full throttle
3. Maintain coordinated flight
4. Flaps 15^0
5. Trim set for take-off
6. Proceed as normal take off

Simulated Engine failure after take-off (SEFATO)
TURN NEVER BACK TO AIRFIELD!!!

1. Pitch for glide attitude
2. Select a landing area,
3. Avoid obstacles
4. Troubleshoot (time permitting)
5. Flaps 15^0 when landing assured
6. Adjust attitude for 65 KIAS
7. Plan full flaps landing, touch down at 60 KIAS
8. Crash drill
9. Evacuate the airplane

Forced landing (Emergency procedure)

1. Maintain altitude till speeds bleeds off till 70 KIAS
2. Pitch for glide attitude and trim for 70 KIAS
3. Depending altitude/position turn downwind and select a landing area, below 1200 ft turn direct base leg for the most suitable landing area.
4. Perform abbreviated troubleshoot
   - Magneto's both
   - Fuel pump on
   - Fuel selector switch tank
5. Select the most suitable landing area within reach and use to the 1000' point
6. Mayday call / transponder on 7700/ ELT Man. **(T)** (time permitting)
7. Proceed to the 1000' point
8. Perform expanded troubleshoot
   - Magneto's check L/R **(T)**
   - Fuel selector open L/R
   - Fuel quantity checked
   - Engine instr. checked

   if possible perform the restart procedure
9. After passing the 1000' point turn to base leg
10. On final aim at **1/3** of the field
11. Flaps 15^0 when landing assured
12. 65 KIAS
13. Plan full flaps landing 60 KIAS
14. Aim at the beginning of runway or field
15. Crash drill:
    - Seat belts fastened
    - Fuel selector closed **(T)**
    - Magneto's off **(T)**
    - Flaps set
    - Speed 55/50
    - Main switch off **(T)**
16. Avoid obstacles
17. Evacuate the airplane

(T) = TOUCH DRILL ONLY !!!

The restart procedure: Touch drill only!

- Non essential electrics: **OFF**
- MAIN SWITCH **ON**
- Instrument switch **OFF**
- Fuel pump **ON**
- Fuel selector fullest tank
- Throttle **idle**
- Ignition KEY **START**

When engine runs:

- Fuel pump **OFF**
- Other switches as necessary

Precautionary landing: (Emergency procedure)

Consider a precautionary landing when:

- Weather deteriorates below VMC minima
- After UDP
- Unable to make the airport
- Lost and/or low on fuel
- Other circumstance affecting flight safety

Requirements for a landing field:

- No obstacles on final (or upwind)
- Long enough (count!!)
- Headwind
- Flat

Aircraft should be technically in a good condition!

1. Perform downwind checks and select 15^0 flaps 70 KIAS
2. Fly (if possible) down the wind
3. PAN PAN call / transponder on 7700/ ELT man **(T)**
4. Position on downwind of the suitable field
5. Fly a close circuit at 500 ft AGL
6. Be aware of high obstacles
7. Make a descending turn towards the selected area and carry out an inspection run at 200 ft AGL
   Check the condition of the landing area
8. Check the compass direction in poor visibility
9. Aim for a landmark in good visibility
10. Climb to 500' AGL on the up wind leg
11. Turn to crosswind
12. Check the location of the landing area
13. Continue the turn to downwind
14. Turn base and select full flaps
15. Turn to final when the landing area is **60º** behind the wing
16. Carry out a shortfield landing
17. Evacuate the airplane