

## PA28RT-201 Profiles (*Tru-Trak Autopilot*)

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**TRAFFIC PATTERNS** (Verify pattern altitude & fly the Established Traffic Pattern for that airport (91.127)

Enter 45 degree angle to the downwind leg

Depart the traffic pattern straight-out, or make a turn to the left (or right, if right traffic pattern.)

First climbing turn within 300' of pattern altitude

### **NORMAL TAKEOFFS**

Cleared For Takeoff – Fuel Pump ON - Landing Light ON

Flaps 10

Full Power Accelerate 65-75 KIAS Rotate to Climb Attitude

Climb Initially at 76 – 87KIAS Positive Rate Gear Up **TRIM**

Accelerate to 90 Flaps Up Landing Light OFF

At 400 AGL Climb Power – Initially **24” MAP 2500 RPM TRIM**

Fuel Pump – OFF unless remaining in pattern

When 300 Below Pattern Altitude Turn on Course

At Pattern Altitude Power **20” Propeller 2200 RPM**

**TRIM for level flight**

### **NORMAL APPROACHES AND LANDINGS**

When Cleared, (Or before entering pattern) Landing Light ON

Abeam Numbers **14” MAP**, Gear Down, 10 Degrees Flaps, Prop Full-Forward, TRIM 95-100 KIAS

Turn Base 20 Degrees Flaps slow to 85-90 KIAS **TRIM**

Turn Final Full Flaps slow to **75 KIAS TRIM**

GUMPFS - Gas, Undercarriage, Mixture, Prop, Fuel, Switches

Pitch Controls Airspeed, Power Controls Altitude

Maintain Airspeed Within +5 Kts -0 Kts.

### **SHORT FIELD LANDING**

Abeam Numbers Gear Down, 17” MAP, 10 Degrees Flaps, Trim, 95-100 KIAS

Turn Base 20 Degrees Flaps 85 KIAS

Turn Final Full Flaps **70 KIAS** Airspeed +5 Kts -0 Kts.

GUMPFS - Gas, Undercarriage, Mixture, Prop, Fuel, Switches

Touchdown within 200'

Apply brakes & retract flaps

**FORWARD SLIPS TO LANDING** (No Crosswind)

Gear Down, Full Right Rudder

Opposite Aileron To Maintain Ground Track

Maintain Approach Speed Within 5 Kts.

## **SIDE SLIPS TO LANDING** (Crosswind)

Abeam Numbers Gear Down, 17" MAP, 10 Degrees Flaps, Trim, 95-100 KIAS

Enough Right (Or Left) Rudder To Line Up With Runway

Opposite Aileron To Control Drift

Maintain Approach Speed Within 5 Kts.

## **SOFT FIELD LANDING**

Consider Wind, Surface and Obstructions

Abeam Numbers Gear Down, 17" MAP, 10 Degrees Flaps, Trim, 95-100 KIAS

Turn Base 20 Degrees Flaps 85 KIAS

Turn Final Full Flaps **75 KIAS**

GUMPFS - Gas, Undercarriage, Mixture, Prop, Fuel, Switches

Pitch Controls Airspeed, Power Controls Altitude

Airspeed +5 Kts -0 Kts.

Add 1-3" MAP Just Before Touchdown

Apply Back-Elevator Pressure During Touchdown

Avoid using brakes as much as possible, keep rolling

## **SHORT FIELD TAKEOFF / SOFT FIELD TAKEOFF**

Flaps 25 degrees (Second Notch)

Start at the beginning of the Runway

Apply Brakes, Add Full Power

Release Brakes, Accelerate **55 – 60 KIAS** then **Rotate to Climb Attitude.**

After breaking ground, accelerate to 55 to 65 KIAS, depending on aircraft weight and select gear up.

Continue to climb while accelerating to the flaps-up rate of climb speed: **87 KIAS** if no obstacle is present, or **77 KIAS** if **obstacle** clearance is a consideration.

Slowly retract the flaps while climbing out.

## **MANEUVERING DURING SLOW FLIGHT**

Maintain Altitude & Heading

Clearing Turns

16" MAP Prop Forward

Full Flaps

Power As Required (Typically 18-21" MAP)

Right Rudder, & Trim

Maintain Altitude Within 100' and Heading Within 10 Degrees

Airspeed Within +5, -0 Kts. Heading Within 10 Degrees

## **STEEP TURNS**

Clear the area

Speed at or Below  $V_a$

Passing 30 Degrees Increase back pressure

Bank 45 Degrees, Within 10 Degrees, And Maintain Altitude

Roll-Out On Heading, Within 10 degrees

Maintain Altitude Within 100'

Airspeed Within 10 Kts.

## **IMMINENT OR FULL STALLS** (Power Off Landing Configuration)

Clear the area

16" MAP Prop Forward

Full Flaps, Close Throttle

Increase Pitch To Stall, or Imminent Stall

Apply Climb Power or as required, Reduce Pitch

Retract Flaps Half Way

Pitch To  $V_x$ .

Positive Rate of Climb, Retract Flaps Slowly

Climb at  $V_y$

Maintain Within 10 Degrees of Desired Heading, or Within 10 Degrees of a 20 Degree Bank Turn

## **IMMINENT OR FULL STALLS** (POWER ON)

Clear The Area

Reduce Power To Establish Takeoff Speed

Prop Forward Cowl Flaps Open

Throttle 16" MAP (Depending on OAT to limit excessive Pitch-up Attitude)

Right Rudder maintain coordinated flight

Increase Pitch To Stall

Relax Pitch To Break Stall, Level Wings

Climb  $V_x$  Initially then accelerate to  $V_y$

Maintain Heading Within 10 Degrees, Or Bank Angle Within 10 Degrees of a 20 Degree Bank, If Entering The Stall In A Turn

## **LOST PROCEDURES**

Maintain Appropriate Heading

Re-Check Calculations

Climb To Identify Prominent Landmarks

Locate Position Using Cross-Radials

Tune, Identify, And Proceed To VOR

Contact Radar Facility, Request Vectors To Destination

## **EMERGENCY APPROACH AND LANDING**

Trim Best Glide Speed. (79 KTS@FULL GROSS 72 @ 2300)

Turn Left And Right, Look For Suitable Area

Proceed To Area.

Prop Lowest RPM - - - Fuel Pump ON - - - Alternate Air Open

Check Fuel Selector, attempt a restart if time permits

Arrive Abeam The Touchdown Spot, 1000' AGL

Proceed With Power Off Approach And Landing

Maintain Airspeed within 10 Kts.

## **GO-AROUND**

Mixture Full Rich or as required

Prop Forward

Climb Power or as required

Establish Pitch For Vy.

Positive Rate – Gear UP

Retract Flaps Half-Way

Climb Vy, Trim

Retract Flaps Slowly

Fly Appropriate Pattern

Maintain Airspeed Within 10 Kts.

## **UNUSUAL FLIGHT ATTITUDES**

### **Airspeed Needle Increasing:**

Close Throttle.

Level Wings.

Increase Pitch.

## **UNUSUAL FLIGHT ATTITUDES**

### **Airspeed Needle Decreasing:**

Full Throttle.

Decrease Pitch.

Level Wings.

## **CONSTANT AIRSPEED CLIMBS AND DESCENTS** Adjust Pitch And Power Simultaneously

## **VOR INTERCEPTION AND TRACKING FROM STATION**

Tune and Identify VOR Facility

Rotate OBS To Desired Radial

Obtain FROM Indication With Needle Centered

Turn Toward Top Of CDI Course To Intercept 30 - 45 Degrees

## **VOR INTERCEPTION AND TRACKING TO STATION** Tune and Identify VOR Facility. **Rotate OBS To Obtain A TO** Indication With Needle Centered. **Turn Toward CDI Course Indication.** Fly The Needle

## TRU-TRAK AUTOPILOT

### Sync the altimeter as part of pre-takeoff checklist:

- 1- Presses and release the ALT button TWICE.
- 2- Rotate the KNOB to set the altimeter to the aircraft altimeter reading then momentarily press and release the KNOB.

*(If the sync page is entered by accident, momentarily pressing and releasing the MODE button will exit back to the normal operation screen)*

### Engage the Autopilot:

Momentarily press and release the KNOB. Autopilot will synchronize to the current ground track and the current vertical speed.

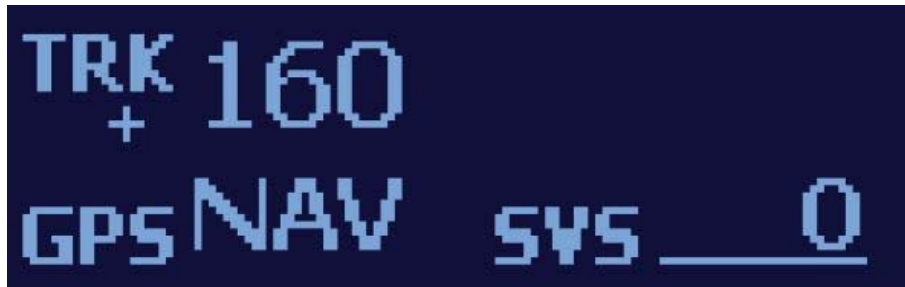
The selected track can be adjusted by rotating the KNOB.

- 1) 5° increments when rotating the KNOB.
- 2) 1° increments when pressing and rotating the KNOB.

To access the GPS NAV mode from TRK mode, momentarily press and release the MODE button. Figure below shows the transition from TRK mode to GPS NAV mode.

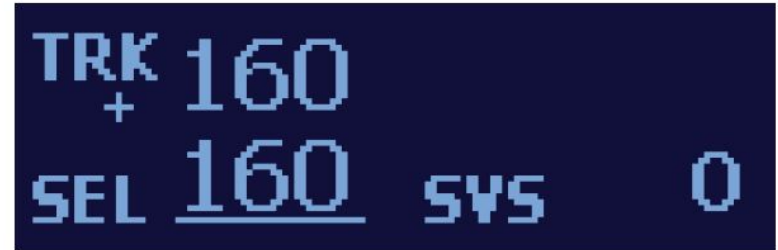


Momentarily press and release MODE



**Vertical Speed** can be adjusted by a momentary press and release of the KNOB to move the cursor under the number next to SVS, and then rotating the KNOB.

**ALT HOLD** is accessed by a momentary press and release of the ALT button and then a momentary press and release of the KNOB.



Momentarily press and release ALT



Momentarily press and release KNOB



### ALTITUDE SELECT

Momentarily press and release ALT, rotate the KNOB to select the target altitude, momentarily press and release the KNOB, select desired vertical speed, momentarily press and release the KNOB.

### **ADJUST VERTICAL SPEED and ALTITUDE**

Move the cursor. (Press and release the KNOB. Cursor will move to SVS,  
Press and release the KNOB again to move the cursor to SEL altitude.)

### **ALTITUDE PRE-SELECT MODE**

**With Autopilot Disengaged**, momentarily press and release ALT button, rotate the KNOB to select the target altitude, momentarily press and release the KNOB.

See Autopilot-Operating-Handbook for more information.

## Review as Required to Proficiency

Name \_\_\_\_\_ Date \_\_\_\_\_ TOT \_\_\_\_\_

START \_\_\_\_\_ OFF \_\_\_\_\_ ON \_\_\_\_\_ IN \_\_\_\_\_

⇒ Preflight Discussion

⇒ Aircraft Performance Calculation

⇒ N12345 / IR-VR Flight Plan / Type=General / P28 B / SG /  
CU1/ DPRT(KXXX) / ZTIME / KTS / ALT/ DCT FIX DCT / Dest  
/ ETE / ALT / FUEL / SOB / LAST FIRST / Phone / Base /  
Colors / REMARKS

⇒ Normal and Crosswind Takeoff  
(Heading  $\pm 5$  degrees, Airspeed  $\pm 5$  Kts.)

⇒ Instrument Departure (Begin Takeoff Visually,  
or Takeoff with View-Limiting at 500' AGL)

⇒ Unusual Attitude Recovery  
(Airspeed Increasing = Power, Level Wings, Raise Pitch;  
Airspeed Decreasing = Power, Lower Pitch, Level Wings.)

⇒ Maneuvering During Slow Flight (Alt $\pm 100'$  Hdg.  $\pm 10^\circ$  Aspd.  
 $\pm 10 -0$  Bank  $\pm 10^\circ$ .)

⇒ Power off Stalls (At least one while turning in 10 to 15 degree  
bank)

⇒ Power On Stalls (At least one while turning in 10 to 15 degree  
bank)

⇒ Emergency (Power Off) Approach and Landing

⇒ Visual Approach: (Airspeed  $\pm 10$  Kts.  
Altitude  $\pm 100'$  Heading  $\pm 10^\circ$ )

⇒ Instrument Approach: ( $<3/4$  Scale Deflection)  
(Airspeed  $\pm 10$  Kts. Altitude  $\pm 100'$  Heading  $\pm 10^\circ$ )

\_\_\_\_\_ VOR \_\_\_\_\_ ILS \_\_\_\_\_ LOC

\_\_\_\_\_ RNAV \_\_\_\_\_ LPV \_\_\_\_\_ BC

⇒ Go-Around (Heading  $\pm 10^\circ$  Altitude  $\pm 100'$   
Airspeed  $V_x$  or  $V_y \pm 10 -5$  Kts.)

⇒ Normal or Crosswind Landing and Approaches to Landing  
( $1.3V_{so} \pm 10 -5$  Kts. with wind/gust factor applied,  
 $TD \leq 400'$ )

⇒ Landing from a Circling Approach (Heading  $\pm 5^\circ$  Altitude  
 $\pm 100' -0'$  Airspeed  $\pm 5$  Kts.)

⇒ Short Field Approach and Landing ( $1.3V_{so} \pm 10 -5$  Kts. with  
wind/gust factor applied,  $TD \leq 200'$ )

⇒ Forward Slips to Landing

⇒ Practice as Necessary

⇒ Postflight and Next Lesson Preview