



# G1000 NXi – ESP Checkout Flight Profile

## Civil Air Patrol - Alaska Wing



Flight Date: \_\_\_\_\_ Aircraft Tail #: \_\_\_\_\_ Airfield: \_\_\_\_\_

Pilot Name/CAP ID: \_\_\_\_\_/\_\_\_\_\_

### Ground Phase;

- \_\_\_ - Demonstrate how to Identify ESP is installed on the MFD boot screen
- \_\_\_ - Demonstrate how to Disable/Enable ESP on AUX – System Setup Page
- \_\_\_ - (Optional) Demonstrate iPad bluetooth connect on AUX – Connnext Setup Page
- \_\_\_ - Enter a flight plan (Optional – Upload from iPad)
- \_\_\_ - Demonstrate PFD Map <-> Inset Map options
- \_\_\_ - Demonstrate audio panel setup and volume controls

### Takeoff Phase;

- \_\_\_ - Demonstrate AOA Indicator for normal departure airspeed/AOA

### Air Work – ESP/USP Demo;

- \_\_\_ - Proceed to safe practice area and perform typical clearing and pre-maneuver checks. Recommended minimum altitude for beginning each maneuver is 2500 ft AGL.
- \_\_\_ - Verify ESP is enabled – Aux – System Setup Page
- \_\_\_ - Show ESP Roll Limit Indicators active on Attitude Indicator

### ESP Roll Limit Demo;

- \_\_\_ - Enter a typical Steep Turn of 50 Degrees Bank, at maneuvering speed with appropriate power, and observe ESP Activate;
  - \_\_\_ - Feel ESP apply yoke roll pressure to lessen bank angle
  - \_\_\_ - Observe Roll Limit Indicators move to 30 Degrees Bank
  - \_\_\_ - Temporarily press and hold the CWS button and observe that control pressures being applied by ESP are interrupted
- \_\_\_ - Hold approx. 35 degrees bank angle, level turn for 10 + seconds to initiate **ESP transition to Autopilot LVL – LVL mode**

### ESP transition to Autopilot LVL – LVL mode

- \_\_\_ - Observe “Engaging Autopilot” aural alert and AP engages
- \_\_\_ - Observe “LVL – LVL” status on PFD AP Status Panel
- \_\_\_ - Release the flight controls and observe the AP will level the wings and set level flight pitch (0 fpm vvi), adjust power to hold maneuvering airspeed.
- \_\_\_ - Disconnect the autopilot with the AP DISC button and recover to normal level flight.

### ESP Pitch Up Demo;

- \_\_\_ - Perform clearing turns, system checks and normal setup for typical power on stall.
- \_\_\_ - Leave power in and raise the nose to approx. 20 degrees nose high
  - \_\_\_ - Feel ESP engage and begin to apply nose-down force
  - \_\_\_ - Allow the nose to lower to approx. 10 degrees nose high and observe ESP disengages and removes nose down pressure
  - \_\_\_ Recover --> Lower the nose and recover to level flight before approaching stall speed.

**ESP Low Speed Demo (Autopilot OFF);**

- \_\_\_ - Perform clearing turns, system checks and normal setup for typical power off stall.
- \_\_\_ - Hold a level flight pitch attitude and pull the power towards idle and continue to hold the nose near level flight pitch as the airspeed decreases
- \_\_\_ - As the airspeed approaches a stall (approx. 55 knots for the C172) feel the ESP apply nose down pressure
- \_\_\_ - Recover -- >> Apply Power, press and hold the AP DISC button to pause the ESP servo pressures and accelerate / recover to a normal level attitude and airspeed

**USP - Under Speed Protection Demo (Autopilot ON);**

- \_\_\_ - Perform clearing turns and system checks to prepare for typical slow flight maneuver setup
- \_\_\_ - Turn on the Autopilot and enable HDG and ALT modes
- \_\_\_ - Begin reducing power and watch the airspeed decrease towards stall speed
- \_\_\_ - For C182/C206, autopilot will hold altitude until stall warning, for C172, until approx. 55 KIAS
- \_\_\_ - Observe the autopilot will begin lowering the nose and allowing altitude to decrease in order to hold stall speed +2 KIAS for C182/C206, or approx. 60 KIAS for C172
- \_\_\_ - Recover --> Apply power and press the AP DISC button to disconnect the autopilot and perform a typical slow flight recovery.

**G1000 NXi Features Demo;**

- \_\_\_ - Demonstrate MFD Chart / Map / Topo / WX / VSD Display Options
- \_\_\_ - Demonstrate setting up a "Visual Approach" to a runway at any nearby airfield

**Coupled Go-Around Demo;**

- \_\_\_ - Proceed to brief and set up an instrument approach at any available airfield
- \_\_\_ - Fly the approach normally with the autopilot coupled
- \_\_\_ - Set the published missed approach altitude in the ALT SEL prior to passing the FAF
- \_\_\_ - Keep the autopilot coupled and begin the descent on the final portion of the approach
- \_\_\_ - At 500 ft AGL or higher begin the missed approach procedure by simultaneously pressing the GA button and adding full power, and check the flaps are in proper GA position
- \_\_\_ - Observe the autopilot is commanding a wings-level 7 degree pitch climb
- \_\_\_ - Press the NAV mode on the autopilot to begin flying the missed approach segment
- \_\_\_ - Recover --> Discontinue the missed approach normally

**Landing Phase;**

- \_\_\_ - Demonstrate AOA Indicator for normal final approach airspeed/AOA

<b>COMMENTS:</b> ___ - G1000 NXi ESP Classroom Training was completed on (date): _____	
<b>Instructor/Check Pilot Printed Name / CAP ID</b>	<b>Signature</b>

Signature certifies that the Pilot has satisfactorily performed the necessary ground and flight training for the G1000 NXi – ESP transition familiarization and is now authorized to fly associated CAP aircraft.