TruTrak Vizion Autopilot Lessons Learned
As of January 17, 2020

Updated data in RED text below

- Please take the time to read the Pilot Guide before you read this document…and before you fly the airplane.

- The only approach mode available with this autopilot is for RNAV approaches.

- There is no autopilot circuit breaker in 32V. That function is integral to the Autopilot Master Switch. So, there are only 3 ways to disconnect the autopilot in 32V: The Autopilot Master Switch; the Autopilot Disconnect Pushbutton on the left control yoke; and removing all power from the aircraft (Master Switch OFF).

- Autopilot Master Switch should remain off until after engine is started, alternator is on, and avionics master switch is turned on; autopilot master switch should be turned off prior to the avionics master switch during the shutdown check.

TRIM:
- Pilots must manually trim the airplane when the autopilot is engaged; the TruTrak autopilot does not move the trim as some autopilots do.
- The autopilot display indicates when the pilot needs to adjust the trim and it which direction it needs to move.
- If the pilot does not move the trim; the autopilot may reach a stop and be unable to hold altitude.
- Initially, there is a tendency for pilots to chase the trim; slow, deliberate trim changes work better
- The manual trim wheel appears to do a better job adjusting the trim when working with the autopilot than the electric trim switch does.

Autopilot Disconnect Switch
- Small pushbutton located on left control yoke
- Switch is mounted very close to the Push-to-Talk pushbutton
- I found it easier to turn the autopilot off with the KNOB on the autopilot control head

The G5/GPS Source Switch
- Located to the right of the autopilot master switch
- In the G5 position
  -- There is automatic altimeter/barometric synchronization from the G5
  -- With the Mode Switch in "EXT HDG", the heading bug from G5 HSI controls autopilot heading
  -- With the Mode Switch in "TRK", the autopilot follows the GPS ground track set on the autopilot panel; this will not keep the CDI centered…it only follows that set ground track
  -- With the ALT switch set to "EXT ALT", the altitude set in the G5 ADI controls the autopilot

- In the GPS position
  -- There is NO automatic altimeter/barometric synchronization from the G5; the pilot must manually sync the autopilot altimeter with the altimeter as outlined in the Pilot Guide
  -- Controls on the G5 control heads have no effect on the autopilot
  -- Lateral modes available are:
    --- TRK: autopilot follows GPS track set by KNOB
    --- GPSS: autopilot follows GPS steering from GPS flight plan; this keeps the GPS CDI centered
  -- GPS approaches are enabled…the switch must be in this position to execute a GPS approach

- Before Turning Avionics Master Switch Off Prior to Shutdown:
  -- G5/GPS Source Switch – G5
  -- Autopilot Master Switch – OFF

Some Words of Caution:

- Autopilot Stalls: As a normally aspirated engine increases in altitude, it loses power. As a result, the climb rate the aircraft can sustain at a given airspeed decreases. This autopilot only climbs in a vertical speed mode. During the climb, the pilot will need to incrementally decrease the climb rate as the engine loses power in order to maintain climb airspeed. If the pilot does not do so, the airspeed will decrease until the minimum speed at which the autopilot can control the aircraft (75KIAS) for this aircraft and the aircraft will be near its stall speed.

- The combination of the position of the G5/GPS Source switch and the vertical mode on the autopilot control head dictates whether the altitude set in the G5 or the altitude set on the autopilot control head drives the altitude that the autopilot will climb/descend to and/or maintain. Switch errors in this process may result in the autopilot going to an altitude other than the pilot intends.

- As noted above, automatic synchronization of the altimeter setting in the G5 to the autopilot only occurs when the G5/GPS source switch is in the G5 position. And, in the G5 position, there is not a lateral steering mode that "keeps the CDI centered." When flying in the GPS mode (as you will in a direct-to mode or on a GPS flight plan), the pilot must periodically manually synchronize the altimeter in the autopilot to cockpit altimeters.