



XXXXXXXXXX

XXXXXXXXXXXXXXXXXXXX,XXXXXX,XXXXXXXXXXXX,XX **ACROXX **
XXXXXX.

XXXXXXXXXXXXXXXXXXXXXXXXXXXX,XXXXXXXXXXXXXXXXXXXXXXXXXXXX. XXXX (<
6XXXXXXXXXX)XXXXXXXXXX

XX,XXXXXXXXXXXXXXXXXXXX,XXX. XX ArduPilotXXXXXXXXXXXXXXXXXXXX
FENCES,XXXX,RTLXXXXXXXXXXXX. XXXXXXXXXXXXXXX**XX**



XXXX ArduCopter XX XXXX **XX XX,XXXXXXXXXXXX**
XX DSHOT ESCs
XXXXXXXXXX rpm,XXXXXXXXXX Notch XXXXXXXXXXXXXXX (XX XXXX).



?

XXXX GPSXXXXXXXXXXXX (ACRO, STABILILZE, ALTHOLD, etc.). XX,XXX GPS/Compass
XXXXXXXXXX (XX LOITERXX RTL)XXXXXXXXXXXX,
XXXXXXXXXXXXXXXXXXXXXXXXXXXX /XX RCXXXX GPSXXXX RFXXXX



If you do include a GPS for the advance mode capabilities, then there are some potential consequences that can occur when switching to position holding/tracking modes after aggressive maneuvering in modes like ACRO. These are:

- **EKF Failsafes** occurring
- Large position errors, ie like switching to RTL and then overshooting HOME position by very large amount, or tracking waypoints in a mission with large positioning errors

Both of these are due to errors generated by high accelerations resulting in GPS miss-measurement of velocities, resulting in the navigation filter declaring itself unhealthy (EKF Failsafe), or very bad position estimates.

These issues CAN be reduced/eliminated by either setting the **EK3_GLITCH_RAD** = 0 , or increasing **FS_EKF_THRESH**, or both. But this should be used only if experiencing the above problems, and with caution, since it can degrade positioning accuracy rather than improve it in some cases, and/or allow EKF degradation to occur to the point of possible vehicle instability.

Optimal Tuning (Using fast attitude loop feature)

Once initial setup and tune has been done. **high-loop-rate-tuning** can be attempted to optimize the tune for aerobatics

ArduPilot Copter Aerobatic/Racing Multicopter · CC BY-SA 3.0

III #2

Admin 2026-10-09 14:41:32 UTC

Admin 2026-10-10 01:46:08 UTC