



Input Shaping

Autotune will set the **ATC_ACC_P_MAX**, **ATC_ACC_R_MAX** and **ATC_ACC_Y_MAX** parameters to their maximum based on measurements done during the Autotune tests. These values should not be increased beyond what Autotune suggests without careful testing. In most cases pilots will want to reduce these values significantly.

For aircraft designed to carry large directly mounted payloads, the maximum values of **ATC_ACC_P_MAX**, **ATC_ACC_R_MAX** and **ATC_ACC_Y_MAX** should be reduced based on the minimum and maximum takeoff weight (TOW):

PILOT_Y_RATE should be set to be approximately 0.5 x **ATC_ACC_Y_MAX** to ensure that the aircraft can achieve full yaw rate in approximately half a second.

ATC_ANG_LIM_TC may be increased to provide a very smooth feeling on the sticks at the expense of a slower reaction time.

Aerobatic aircraft should keep the **ATC_ACC_P_MAX**, **ATC_ACC_R_MAX** and **ATC_ACC_Y_MAX** provided by autotune and reduce **ATC_ANG_LIM_TC** to achieve the stick feel desired by the pilot. For pilots wanting to fly ACRO the following input shaping parameters can be used to tune the feel of ACRO:

:

- **Y Rate:** (/)
- **ATC ACC P** : Pitch
- **ATC ACC R MAX**
- **ATC ACC Y** : Yaw
- **ATC ANGLE MAX:**
- ****ATC_ANG_LIM_TC****: Aircraft smoothing time
- ****ATC_INPUT_TC****: Time to achieve 63% steady state pitch and roll attitude. Multiply by 3 to determine time to achieve steady state attitude.
- ****PILOT_Y_RATE_TC****: Time to achieve 63% steady state yaw rate. Multiply by 3 to determine time to achieve steady state rate.

Autotune will set the **ATC_ACC_P_MAX**, **ATC_ACC_R_MAX** and **ATC_ACC_Y_MAX** parameters to their maximum based on measurements done during the Autotune tests. These values should not be increased beyond what Autotune suggests without careful testing. In most cases pilots will want to reduce these values significantly.

For aircraft designed to carry large directly mounted payloads, the maximum values of **ATC_ACC_P_MAX**, **ATC_ACC_R_MAX** and **ATC_ACC_Y_MAX** should be reduced based on the minimum and maximum takeoff weight (TOW):

- **ATC_ACC_P_MAX** x (min_TOW / max_TOW)
- **ATC_ACC_R_MAX** x (min_TOW / max_TOW)
- **ATC_ACC_Y_MAX** x (min_TOW / max_TOW)

PILOT_Y_RATE should be set to be approximately 0.5 x **ATC_ACC_Y_MAX** to ensure that the aircraft can achieve full yaw rate in approximately half a second.

****ATC_ANG_LIM_TC**** may be increased to provide a very smooth feeling on the sticks at the expense of a slower reaction time.

Aerobatic aircraft should keep the **ATC_ACC_P_MAX**, **ATC_ACC_R_MAX** and **ATC_ACC_Y_MAX** provided by autotune and reduce ****ATC_ANG_LIM_TC**** to achieve the stick feel desired by the pilot. For pilots wanting to fly ACRO the following input shaping parameters can be used to tune the feel of ACRO:

- ****ACRO_BAL_PITCH****

- ****ACRO_BAL_ROLL ****
- ****ACRO_RP_EXPO ****
- ****ACRO_RP_RATE ****
- ****ACRO_RP_RATE_TC ****
- ****ACRO_THR_MID ****
- ****ACRO_TRAINER ****
- ****ACRO_Y_EXPO ****
- ****ACRO_Y_RATE ****
- **ACRO_Y_RATE_TC**

The full list of input shaping parameters are:

- ****ACRO_BAL_PITCH ****
- ****ACRO_BAL_ROLL ****
- ****ACRO_RP_EXPO ****
- ****ACRO_RP_RATE ****
- ****ACRO_RP_RATE_TC ****
- ****ACRO_THR_MID ****
- ****ACRO_TRAINER ****
- ****ACRO_Y_EXPO ****
- ****ACRO_Y_RATE ****
- ****ACRO_Y_RATE_TC ****
- **ATC_ACC_P_MAX**
- **ATC_ACC_R_MAX**
- **ATC_ACC_Y_MAX**
- **ATC_ANGLE_MAX**
- ****ATC_INPUT_TC ****
- ****ATC_ANG_LIM_TC ****
- ****ATC_RATE_P_MAX ****
- ****ATC_RATE_R_MAX ****
- ****ATC_RATE_Y_MAX ****
- ****ATC_RATE_WPY_MAX ****
- **PILOT_ACC_Z**
- **PILOT_SPD_DN**
- **PILOT_SPD_UP**
- ****PILOT_THR_BHV ****
- ****PILOT_THR_FILT ****
- **PILOT_TKO_ALT_M**
- ****PILOT_Y_RATE ****
- ****PILOT_Y_RATE_TC ****
- **LOIT_ACC_MAX_M**
- ****LOIT_ANG_MAX ****
- **LOIT_BRK_ACC_M**
- ****LOIT_BRK_DELAY ****
- **LOIT_BRK_JRK_M**
- **LOIT_SPEED_MS**



-  #2
-  Admin  2026-10-09 14:42:02 UTC
-  Admin  2026-10-10 01:46:19 UTC