

BRS-AWD Drive cfg exemple

#####

Basic setup

#####

[printer]

kinematics: corexy

max_velocity: 600

max_accel: 40000

square_corner_velocity: 10

max_accel_to_decel: 10000

max_z_velocity: 30

max_z_accel: 300

[mcu]

serial: /dev/serial/by-id/usb-Klipper_stm32f446xx_2E0049000450534E4E313120-if00

[include mainsail.cfg]

[exclude_object]

[include macros.cfg]

[include Neopixel_Control.cfg]

#####

A and B motors

#####

#####

[stepper_x]

step_pin: PE2

dir_pin: PE3

enable_pin: !PD4

microsteps: 16

rotation_distance: 39.65

endstop_pin: ^PG15

position_endstop: 0

position_min: 0

position_max: 205

homing_speed: 75

[tmc5160 stepper_x]

spi_bus: spi1
#spi_software_mosi_pin: PB5
#spi_software_miso_pin: PB4
#spi_software_sclk_pin: PB3
cs_pin: PE1
interpolate: false
run_current: 2
sense_resistor: 0.033
driver_TBL: 0
driver_TOFF: 1
driver_TPFD: 0
#stealthchop_threshold : 60

#####

[stepper_y]
step_pin: PG0
dir_pin: PG1
enable_pin: !PF15
microsteps: 16
rotation_distance: 39.69
endstop_pin: ^PG13
position_endstop: 203
position_min: 0
position_max: 203
homing_speed: 75

[tmc5160 stepper_y]
spi_bus: spi1
#spi_software_mosi_pin: PB5
#spi_software_miso_pin: PB4
#spi_software_sclk_pin: PB3
cs_pin: PD11
interpolate: false
run_current: 2
sense_resistor: 0.033
driver_TBL: 0
driver_TOFF: 1
driver_TPFD: 0
#stealthchop_threshold : 60

#####

[stepper_x1]
step_pin: PF13
dir_pin: !PF12
enable_pin: !PF14
microsteps: 16
rotation_distance: 39.69

[tmc5160 stepper_x1]
spi_bus: spi1
#spi_software_mosi_pin: PB5
#spi_software_miso_pin: PB4
#spi_software_sclk_pin: PB3
cs_pin: PC4
interpolate: false
run_current: 2
sense_resistor: 0.033
driver_TBL: 0
driver_TOFF: 1
driver_TPFD: 0
#stealthchop_threshold : 60

#####

[stepper_y1]
step_pin: PE6
dir_pin: !PA14
enable_pin: !PE0
microsteps: 16
rotation_distance: 39.65

[tmc5160 stepper_y1]
spi_bus: spi1
#spi_software_mosi_pin: PB5
#spi_software_miso_pin: PB4
#spi_software_sclk_pin: PB3
cs_pin: PD3
interpolate: false
run_current: 2
sense_resistor: 0.033
driver_TBL: 0

driver_TOFF: 1
driver_TPFD: 0
#stealthchop_threshold : 60

Z motors ##
#####

[stepper_z1]
step_pin: PG4
dir_pin: PC1
enable_pin: !PA0
microsteps: 16
rotation_distance: 4

[tmc5160 stepper_z1]
spi_bus: spi1
#spi_software_mosi_pin: PB5
#spi_software_miso_pin: PB4
#spi_software_sclk_pin: PB3
cs_pin: PC7
interpolate: false
run_current: .6
#stealthchop_threshold : 999

[stepper_z2]
step_pin: PF9
dir_pin: PF10
enable_pin: !PG2
microsteps: 16
rotation_distance: 4

[tmc5160 stepper_z2]
spi_bus: spi1
#spi_software_mosi_pin: PB5
#spi_software_miso_pin: PB4
#spi_software_sclk_pin: PB3
cs_pin: PF2
interpolate: false
run_current: .6
#stealthchop_threshold : 999

```
[stepper_z]
step_pin: PC13
dir_pin: PF0
enable_pin: !PF1
endstop_pin: probe:z_virtual_endstop
microsteps: 16
rotation_distance: 4
position_min: -5
position_max: 210
#position_endstop: 0
homing_speed: 30
second_homing_speed: 5
homing_retract_dist: 0
```

```
[tmc5160 stepper_z]
spi_bus: spi1
#spi_software_mosi_pin: PB5
#spi_software_miso_pin: PB4
#spi_software_sclk_pin: PB3
cs_pin: PE4
interpolate: false
run_current: .6
#stealthchop_threshold : 999
```

```
#####
## Extruder ##
#####
```

```
[extruder]
step_pin: PF11
dir_pin: PG3
enable_pin: !PG5
nozzle_diameter: 0.400
filament_diameter: 1.75
heater_pin: PA1 ##HE1
sensor_pin: PF5
sensor_type: PT1000
pwm_cycle_time: 0.02
pressure_advance : 0.02
pressure_advance_smooth_time: 0.010000
max_extrude_cross_section: 999999
#control: pid
```

#pid_kp: 23.806
#pid_ki: 1.301
#pid_kd: 108.912
microsteps: 16
full_steps_per_rotation: 200
rotation_distance: 21.816
gear_ratio: 50:10
min_temp: -273
max_temp: 3500
min_extrude_temp: 0
max_extrude_only_distance: 500.0

[tmc5160 extruder]
spi_bus: spi1
#spi_software_mosi_pin: PB5
#spi_software_miso_pin: PB4
#spi_software_sclk_pin: PB3
cs_pin: PC6
interpolate: false
run_current: 1

Heated bed and Chamber heater ##
#####

[heater_bed]
heater_pin: PD14 ##FAN4
sensor_pin: PF4
sensor_type: TDK NTCG104LH104JT1
#control: pid
#pid_kp: 54.254
#pid_ki: 2.091
#pid_kd: 351.975
min_temp: -273
max_temp: 3500

[heater_generic Chamber]
heater_pin: PD15 ##FAN5
sensor_type: ATC Semitec 104GT-2
sensor_pin: PF6
control: watermark

max_power: 1
min_temp: -270
max_temp: 1000

[verify_heater Chamber]
max_error: 120
check_gain_time: 120
hysteresis: 2
heating_gain: 0.3

Fans + LC ##
#####

[controller_fan Hotend_pump]
pin: PE5
max_power: 1.0
#Heater: extruder
#heater_temp: 50
fan_speed: 1.0
shutdown_speed: 0
stepper: stepper_x

[temperature_fan Radiator]
pin: PA8
max_power: 1
shutdown_speed: 0
kick_start_time: 0
sensor_type: Generic 3950
sensor_pin: PF7
min_temp: 0
max_temp: 50
target_temp: 24
pullup_resistor: 47000
control: watermark
max_speed: 1.0
The fan speed (expressed as a value from 0.0 to 1.0) that the fan
will be set to when the sensor temperature exceeds the set value.
The default is 1.0.
min_speed: 0.3
The minimum fan speed (expressed as a value from 0.0 to 1.0) that
the fan will be set to for PID temperature fans.

The default is 0.3.

[fan]

Print Cooling Fan - CPAP - GPIO19

pin: PB0

max_power: 1

cycle_time: 0.0005

off_below: 0.2

hardware_pwm: false

shutdown_speed: 0

#####

Probe and mesh

#####

[beacon]

serial:

/dev/serial/by-id/usb-Beacon_Beacon_RevD_7ADB74044E4B3334482020FF0A323D-if00

x_offset: 0 # update with offset from nozzle on your machine

y_offset: 35 # update with offset from nozzle on your machine

mesh_main_direction: x

mesh_runs: 2

[safe_z_home]

home_xy_position: 104,65

speed: 150

z_hop: 3

z_hop_speed: 25

[bed_mesh]

speed: 500

horizontal_move_z: 3

mesh_min: 15,37

mesh_max: 190,170

probe_count: 20,20

fade_start: 1.0

fade_end: 10.0

algorithm: bicubic

[z_tilt]

z_positions:

102,205

0,-30

210,-30

A list of X, Y coordinates (one per line; subsequent lines
indented) describing the location of each bed "pivot point". The
"pivot point" is the point where the bed attaches to the given Z
stepper. It is described using nozzle coordinates (the X, Y position
of the nozzle if it could move directly above the point). The
first entry corresponds to stepper_z, the second to stepper_z1,
the third to stepper_z2, etc. This parameter must be provided.

points:

105,140

15,1

190,1

A list of X, Y coordinates (one per line; subsequent lines
indented) that should be probed during a Z_TILT_ADJUST command.
Specify coordinates of the nozzle and be sure the probe is above
the bed at the given nozzle coordinates. This parameter must be
provided.

speed: 300

The speed (in mm/s) of non-probing moves during the calibration.
The default is 50.

horizontal_move_z: 5

The height (in mm) that the head should be commanded to move to
just prior to starting a probe operation. The default is 5.

retries: 10

Number of times to retry if the probed points aren't within
tolerance.

retry_tolerance: 0.02

If retries are enabled then retry if largest and smallest probed
points differ more than retry_tolerance. Note the smallest unit of
change here would be a single step. However if you are probing
more points than steppers then you will likely have a fixed
minimum value for the range of probed points which you can learn
by observing command output.

#####

Raspberry Pi MCU + ADXL

#####

```
[mcu rpi]
serial: /tmp/klipper_host_mcu
```

```
[adxl345]
cs_pin: rpi:None
```

```
[resonance_tester]
accel_chip: adxl345
accel_per_hz: 50
max_freq: 175
probe_points:
    99,102,175
```

```
[input_shaper]
```

```
#####
## Display ##
#####
```

```
[board_pins]
aliases:
    EXP1 header
    EXP1_1=PE8, EXP1_2=PE7,
    EXP1_3=PE9, EXP1_4=PE10,
    EXP1_5=PE12, EXP1_6=PE13,    # Slot in the socket on this side
    EXP1_7=PE14, EXP1_8=PE15,
    EXP1_9=<GND>, EXP1_10=<5V>,
```

```
    EXP2 header
    EXP2_1=PA6, EXP2_2=PA5,
    EXP2_3=PB1, EXP2_4=PA4,
    EXP2_5=PB2, EXP2_6=PA7,    # Slot in the socket on this side
    EXP2_7=PC15, EXP2_8=<RST>,
    EXP2_9=<GND>, EXP2_10=PC5
```

```
[neopixel btt_mini12864]
pin: EXP1_6
chain_count: 3
initial_RED: 0.0
initial_GREEN: 0.6
initial_BLUE: 0.0
color_order: RGB
```

```
[display]
## mini12864 LCD Display
lcd_type: uc1701
cs_pin: EXP1_3
a0_pin: EXP1_4
rst_pin: EXP1_5
encoder_pins: ^EXP2_5, ^EXP2_3
click_pin: ^!EXP1_2
spi_bus: spi1
contrast: 63
```

```
#####
## Temperature sensors ##
#####
```

```
[temperature_sensor psu_temp]
sensor_type: Generic 3950
sensor_pin: PF3
min_temp:0
max_temp:70
```

```
[temperature_sensor mcu_temp]
sensor_type: temperature_mcu
min_temp: 0
max_temp: 1000
```

```
[temperature_sensor raspberry_pi]
sensor_type: temperature_host
min_temp: 10
max_temp: 80
```

```
### <----- SAVE_CONFIG ----->
### DO NOT EDIT THIS BLOCK OR BELOW. The contents are auto-generated.
###
### [input_shaper]
### shaper_type_x = zv
### shaper_freq_x = 135.8
### shaper_type_y = zv
### shaper_freq_y = 117.0
###
```

```
### [heater_bed]
### control = pid
### pid_kp = 56.576
### pid_ki = 1.585
### pid_kd = 504.940
###
### [extruder]
### control = pid
### pid_kp = 24.200
### pid_ki = 1.681
### pid_kd = 87.119
###
### [probe]
### z_offset = 0.520
###
### [bed_mesh default]
### version = 1
### points =
###      -0.006862, -0.003631, -0.001350, 0.002369, 0.009713, 0.023321, 0.036329, 0.041079,
0.041417, 0.046595, 0.051205, 0.047147, 0.037706, 0.027510, 0.012504, 0.006251,
-0.002028, -0.011189, -0.010949, -0.004681
###      -0.016843, -0.010065, -0.007618, -0.005987, 0.003209, 0.017748, 0.030661,
0.035744, 0.037467, 0.040586, 0.043659, 0.040349, 0.033171, 0.025833, 0.010820, 0.001337,
-0.007153, -0.014015, -0.015120, -0.008522
###      -0.025783, -0.018898, -0.014658, -0.011896, -0.003286, 0.011874, 0.023342,
0.028619, 0.031643, 0.032344, 0.035007, 0.034255, 0.027121, 0.016098, 0.004786,
-0.004555, -0.011202, -0.016416, -0.017038, -0.011313
###      -0.032732, -0.024224, -0.020034, -0.014949, -0.005846, 0.009109, 0.021431,
0.026324, 0.024215, 0.028230, 0.031403, 0.030347, 0.024639, 0.013612, -0.001232,
-0.005457, -0.011764, -0.017804, -0.018824, -0.012867
###      -0.038707, -0.029492, -0.023372, -0.016799, -0.006776, 0.008105, 0.020873,
0.024369, 0.025319, 0.028238, 0.030395, 0.030277, 0.025567, 0.014740, 0.006165, 0.000131,
-0.007813, -0.013949, -0.017271, -0.011381
###      -0.049540, -0.041502, -0.032918, -0.027318, -0.017775, -0.001386, 0.011935,
0.016109, 0.018953, 0.020985, 0.023560, 0.022566, 0.017979, 0.010046, 0.004541,
-0.007004, -0.012867, -0.019923, -0.023211, -0.017300
###      -0.058995, -0.053209, -0.045825, -0.038595, -0.027711, -0.010549, 0.003932,
0.009449, 0.011499, 0.016203, 0.019296, 0.017650, 0.012384, 0.004763, -0.002371,
-0.007709, -0.012065, -0.017810, -0.020799, -0.016834
###      -0.063097, -0.059454, -0.054562, -0.046411, -0.036876, -0.015480, -0.002642,
0.003616, 0.007579, 0.010143, 0.016103, 0.014421, 0.008954, 0.000168, -0.007359,
-0.015076, -0.012180, -0.016876, -0.020468, -0.015540
###      -0.062513, -0.064368, -0.061722, -0.053682, -0.042367, -0.022419, -0.007239,
```

```
-0.001575, 0.002256, 0.005970, 0.010294, 0.010278, 0.003661, -0.004577, -0.009775,  
-0.011692, -0.010470, -0.012823, -0.016159, -0.011998  
###      -0.064800, -0.067935, -0.064836, -0.059386, -0.045522, -0.026901, -0.012253,  
-0.007447, -0.005626, -0.000768, 0.003261, 0.003478, -0.001855, -0.010500, -0.015672,  
-0.013718, -0.010163, -0.012481, -0.015324, -0.009797  
###      -0.062803, -0.068704, -0.065282, -0.059025, -0.045955, -0.026815, -0.012427,  
-0.009677, -0.008800, -0.005660, -0.000882, -0.000692, -0.005080, -0.012004, -0.015545,  
-0.013163, -0.009107, -0.010536, -0.012497, -0.007974  
###      -0.065306, -0.071184, -0.069743, -0.063718, -0.048127, -0.027363, -0.014206,  
-0.012533, -0.013801, -0.011973, -0.007802, -0.006175, -0.010320, -0.014403, -0.017921,  
-0.014593, -0.013940, -0.014290, -0.015781, -0.010442  
###      -0.066441, -0.074535, -0.073237, -0.066499, -0.050467, -0.026731, -0.015695,  
-0.013272, -0.015303, -0.012772, -0.009029, -0.006078, -0.006818, -0.010714, -0.013968,  
-0.012172, -0.010869, -0.013286, -0.013688, -0.011227  
###      -0.060185, -0.071779, -0.074758, -0.068256, -0.051714, -0.029119, -0.017446,  
-0.013719, -0.014882, -0.012642, -0.006654, -0.005716, -0.005511, -0.009017, -0.016547,  
-0.013119, -0.009450, -0.014337, -0.015470, -0.009281  
###      -0.053974, -0.069116, -0.073988, -0.071306, -0.058601, -0.035841, -0.021198,  
-0.015204, -0.014658, -0.011115, -0.007198, -0.002752, -0.002121, -0.005523, -0.010506,  
-0.011482, -0.011695, -0.012241, -0.013017, -0.008203  
###      -0.049599, -0.063800, -0.073075, -0.070737, -0.058041, -0.041164, -0.024082,  
-0.016634, -0.014128, -0.010601, -0.004690, -0.002641, -0.000306, -0.003764, -0.007687,  
-0.010200, -0.010687, -0.011437, -0.011456, -0.004727  
###      -0.047705, -0.063330, -0.069770, -0.070391, -0.060110, -0.042918, -0.027264,  
-0.017607, -0.013764, -0.009101, -0.003783, -0.000899, 0.000013, -0.003529, -0.007975,  
-0.010054, -0.011747, -0.011130, -0.010846, -0.007771  
###      -0.053051, -0.066222, -0.073093, -0.072684, -0.059823, -0.044670, -0.030817,  
-0.019625, -0.014874, -0.009562, -0.005236, -0.000455, -0.002783, -0.004878, -0.008169,  
-0.011330, -0.009831, -0.009237, -0.013628, -0.009893  
###      -0.054621, -0.067744, -0.072095, -0.069138, -0.055666, -0.039806, -0.026206,  
-0.016328, -0.010348, -0.003865, 0.000101, 0.002169, 0.002783, 0.002328, -0.000923,  
-0.001785, -0.001265, -0.005049, -0.008149, -0.005484  
###      -0.063400, -0.072634, -0.075392, -0.068602, -0.053358, -0.037858, -0.023819,  
-0.013730, -0.008075, -0.000943, 0.002653, 0.004438, 0.005042, 0.006552, 0.004187,  
0.003651, 0.002935, -0.000057, -0.002806, -0.000147  
### x_count = 20  
### y_count = 20  
### mesh_x_pps = 2  
### mesh_y_pps = 2  
### algo = bicubic  
### tension = 0.2  
### min_x = 15.0  
### max_x = 190.0
```

```
### min_y = 37.0
### max_y = 170.0
###
### [beacon model default]
### model_coef = 1.3622657786262187,
###      1.6580756825379832,
###      0.75579974292616,
###      0.45640348032051437,
###      0.401057712659386,
###      0.22840697714856034,
###      -0.2268753289637049,
###      -0.16823751862517047,
###      0.3083408258347219,
###      0.22688178929144662
### model_domain = 3.037242163836995e-07,3.3102784570851753e-07
### model_range = 0.200000,5.000000
### model_temp = 56.173325
### model_offset = -0.02500
```