

Encoder Offsets and AScope Tuning

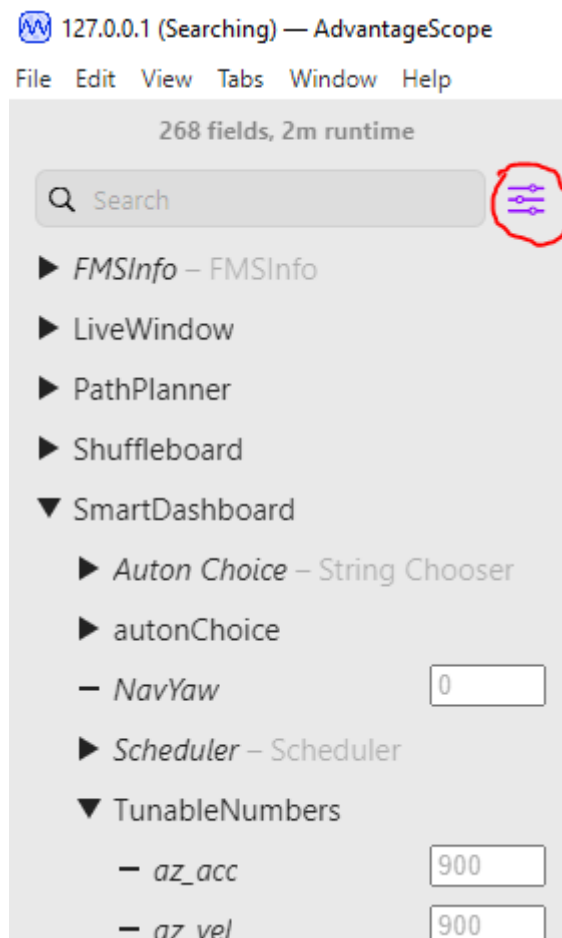
AdvantageScope Tuning

This example is to be done on the branch `phoenix-6-AK`. Offsets have been moved from a part of the IO class to a part of the subsystem.

To tune the offsets (or any LoggedTunableNumber) ensure that `TUNING_MODE` in `CONSTANTS.java` is set to true.

Then open advantage scope and connect to the robot.

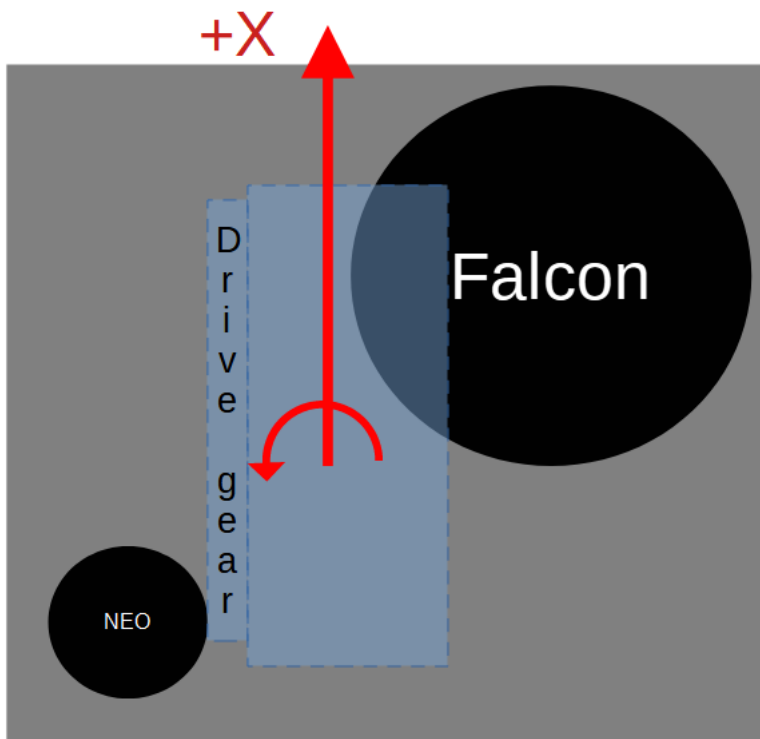
enable tuning mode



You can now edit values in the SmartDashboard section specifically the TunableNumbers category that will be updated in the software.

Getting Encoder Offsets

This will differ slightly to the old way. Here we need to face all the wheels forward. with the driving gear to the **LEFT**



This will be the same for all 4 pods.

The offset is recorded in **DEGREES**

in Tuning mode zero offsets of pods you would like to set an encoder offset for.

▼ TunableNumbers

— *az_acc*

900

— *az_vel*

900

— *kD_azimuth*

3.0e-4

— *kl_azimuth*

0

— *kP_azimuth*

0.012

▼ Offsets

— *Module0*

0

— *Module1*

0

— *Module2*

0

— *Module3*

0

— *turn_max*

0.750

Then for convenience the absolute position is given under
RealOutputs/Drivetrain/IO/degreesNoOffset_enc

▼ RealOutputs

— *Console*

*****...

▶ Drive

▼ Drivetrain

▼ IO

— *degreesNoOffset_enc0*

4.670

— *degreesNoOffset_enc1*

2.954

— *degreesNoOffset_enc2*

5.786

— *degreesNoOffset_enc3*

2.717

These can then be filled into the offsets above and tested. If they are satisfactory make the change permanent in `HardwareMap.java`

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