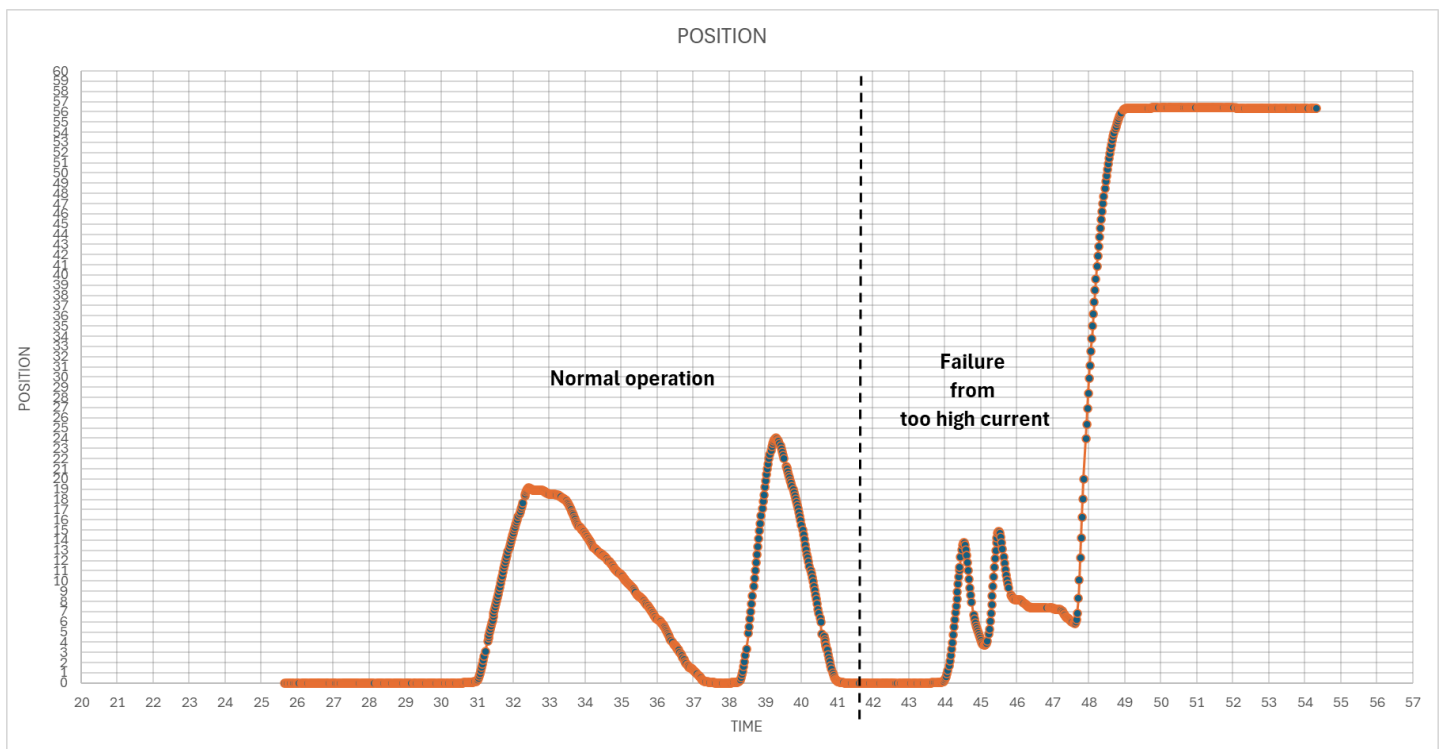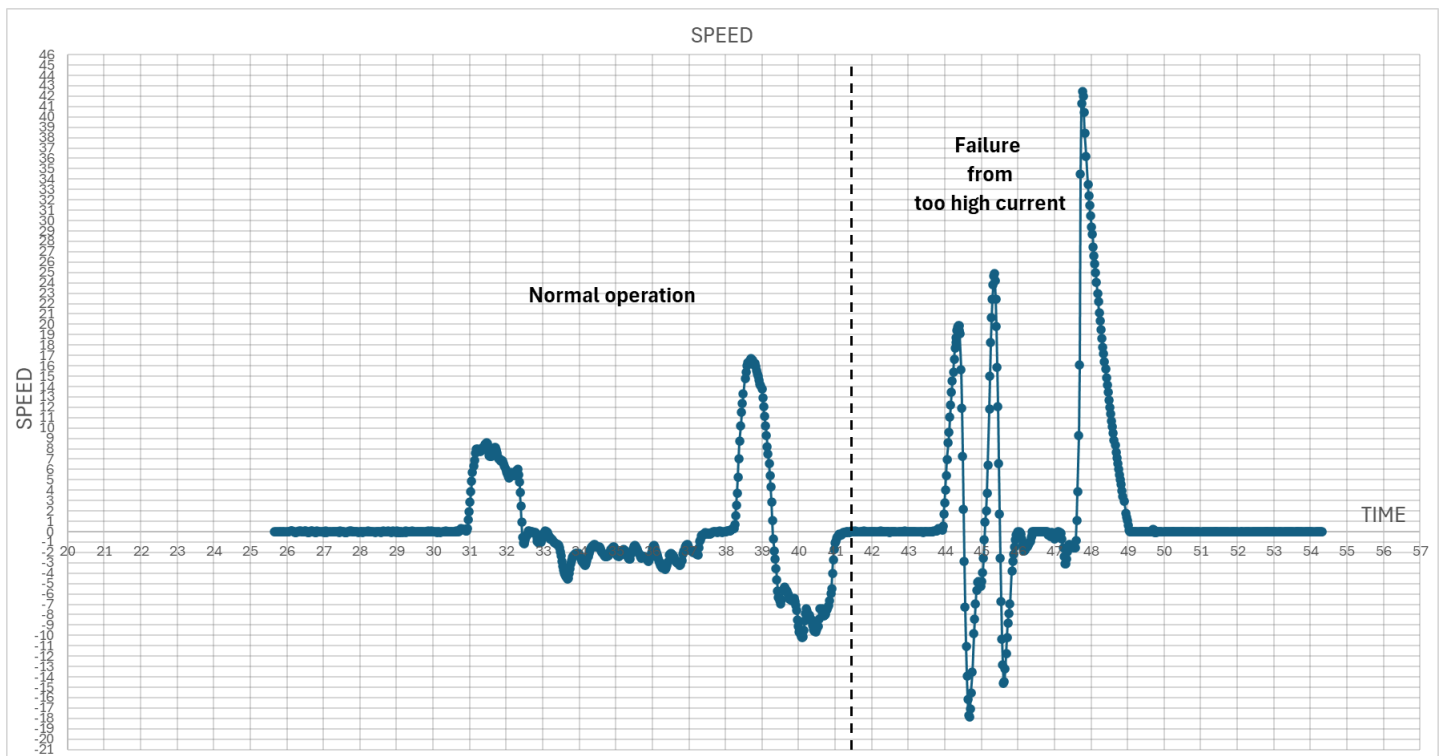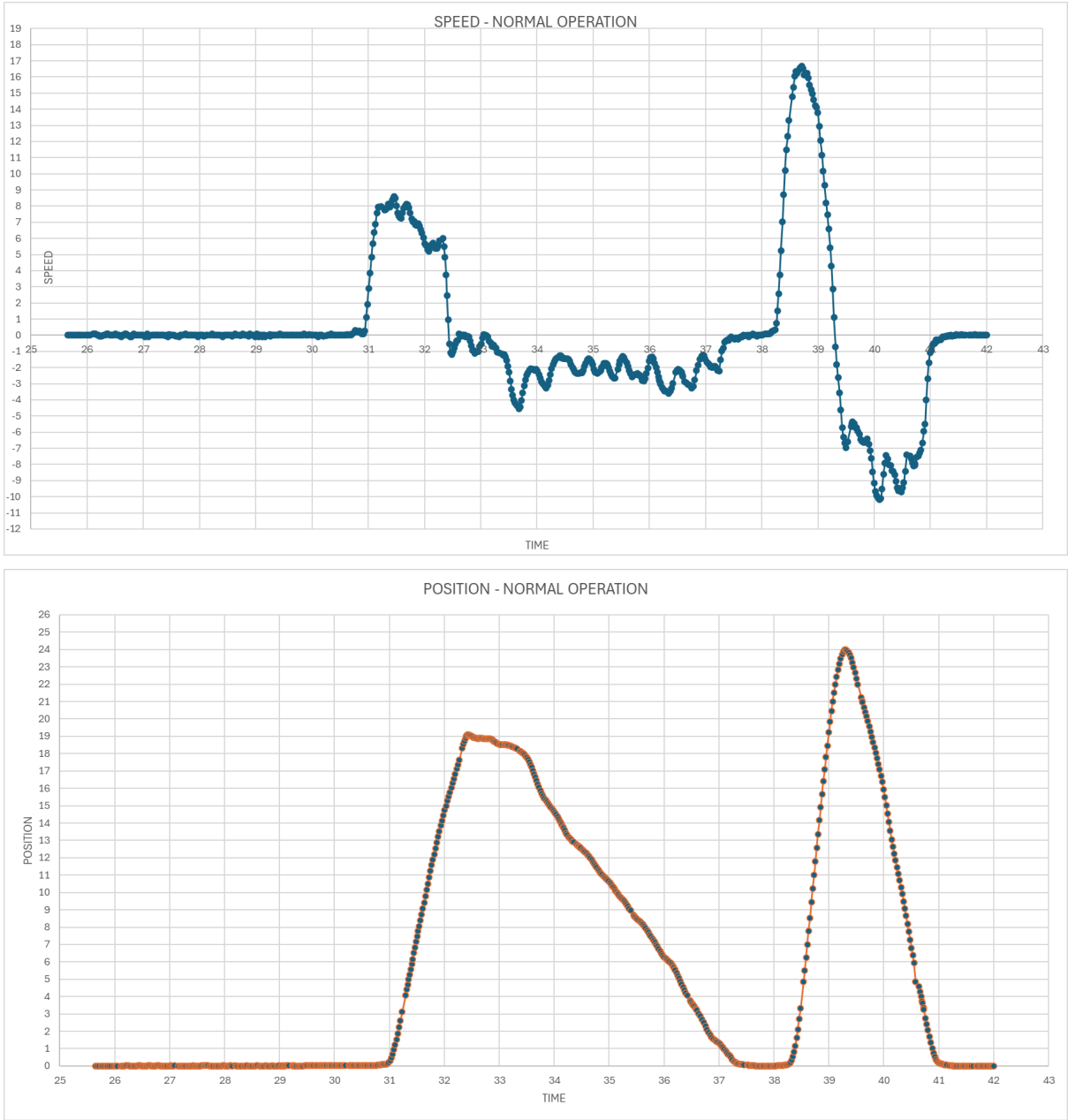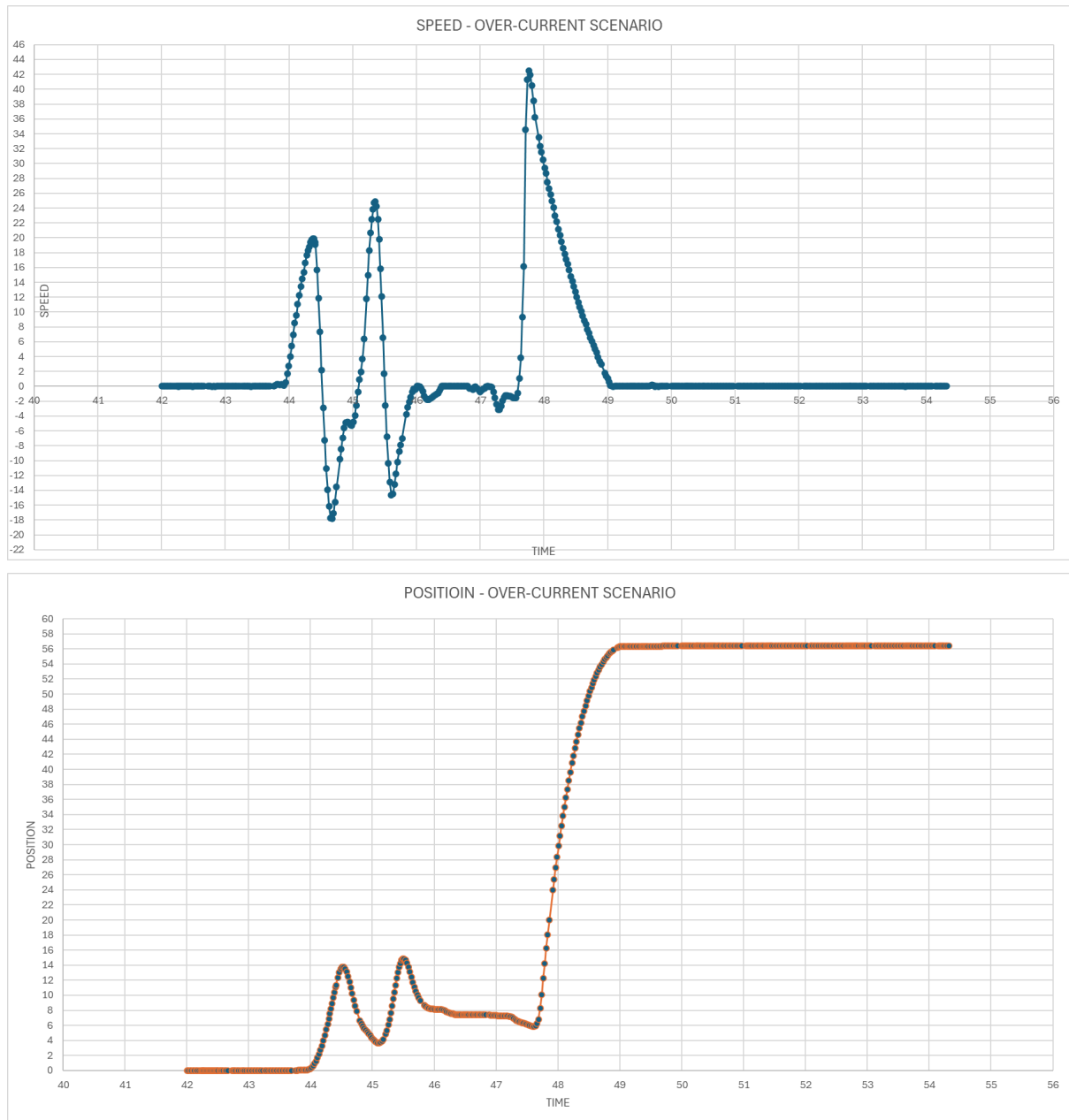Graphs of test of the program taken from data.csv:

More zoomed in graphs of the different scenarios:
Normal operation;

SPEED - NORMAL OPERATION

POSITION - NORMAL OPERATION

Over-current failsafe scenario;

You can clearly see the failure where the maximum allowed current got met and the motor stopped responding. (right before 48 seconds)