Abstract: A vehicle automation makes it possible to hand over the control task from the driver to an automation, which is in turn monitored by the driver. In this study, it was investigated how long it takes for drivers to detect an automation malfunction and if the detection time can be predicted by performance in a self-developed vigilance task and by individual boredom proneness. 23 participants drove with partial automation (Level 2; [1, 2]) activated for 24 min on a three-lane highway. Dependent measure was the time until they detected a suddenly occurring malfunction of lateral control. No significant relationship between the predictors and detection time was found, which could be caused by the chosen operationalization of the dependent variable.