

Using an oscilloscope we will measure the voltage changes during the engine's starting procedure. Fig.1 shows the results. Please answer the following questions:

- a) What is the battery voltage when there is no load on the battery?
- b) What is the battery voltage when the starter motor current is at its maximum?
- c) We see that the battery voltage increases slowly when the starter motor is running. Can you explain this?
- d) Please explain the small voltage 'peaks' during the starting procedure.
- e) How do you assess the quality of the starting system (battery, cables starter motor) as shown in figure 1?

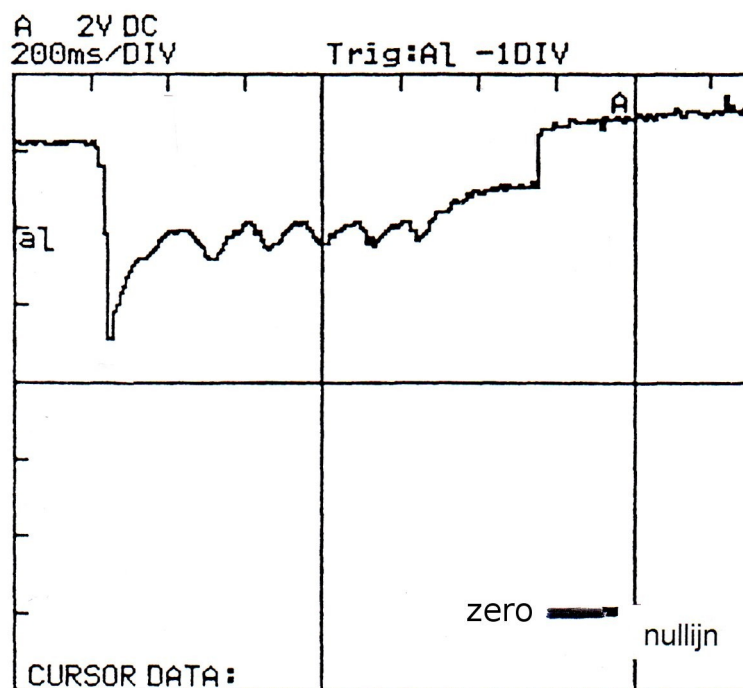


Fig. 1