

Measuring the turn signal/flasher circuit

As an example for this task, the turn signal/flasher circuit of the Alfa Romeo Montreal is shown in figure 1.

For more details, consult the complete diagram. The circuit is protected by a fuse.

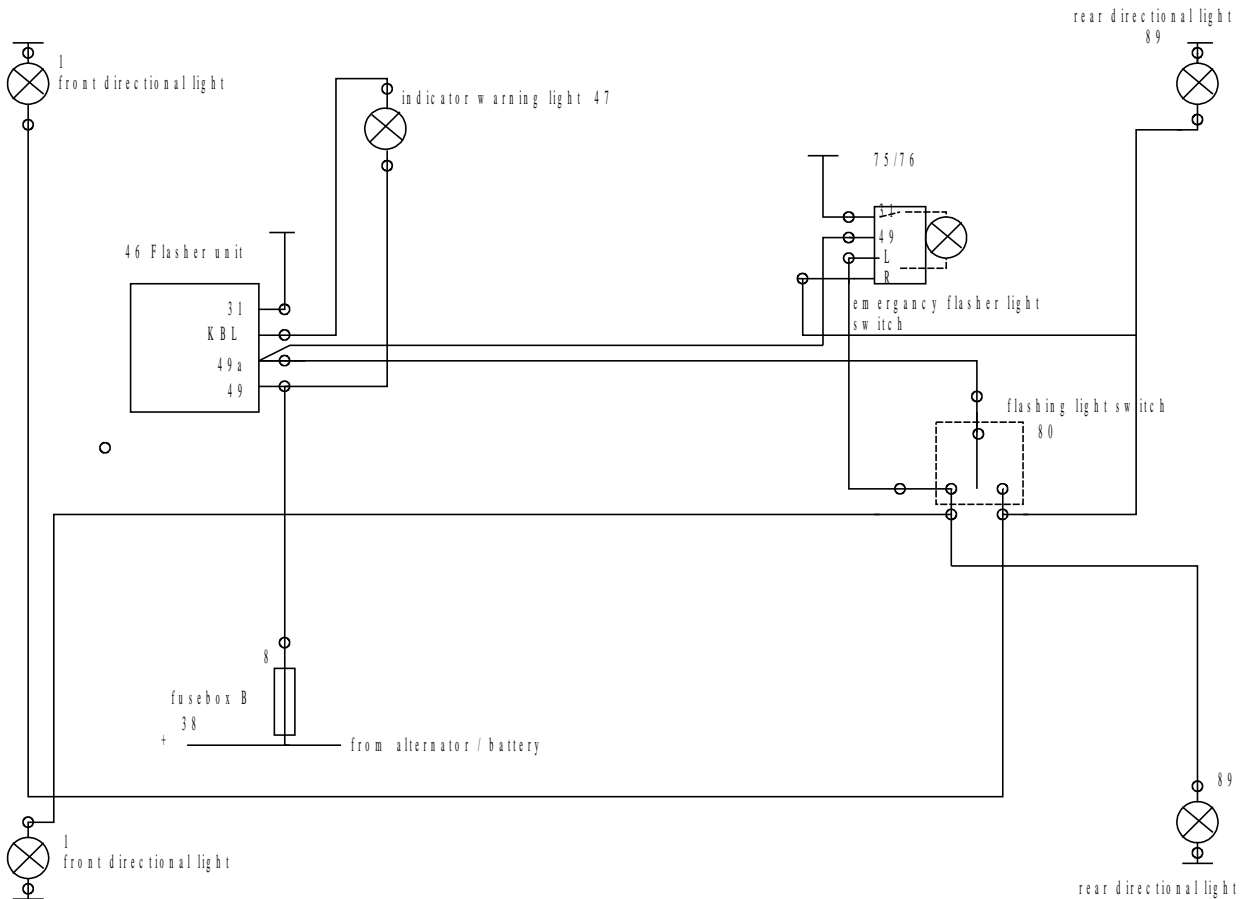


Fig. 1 Partial diagram of a turn signal/flasher circuit

Assignment

1. Using your demonstration car, check to see how the turn signal/flasher is connected. Use the demonstration car's electrical diagram for this. Locate the various components.
2. Draw your own partial diagram of the turn signal/flasher circuit and mark the measurement points for the task.
3. If desired, add simple malfunctions to the circuit on the car such as:
  - broken wire
  - poor ground connection
  - burnt-out fuse or wrong amp fuse
  - extra resistance at the switch
  - defective turn signal/flasher unit

Make sure that the measurement points are accessible for the students.

As an example, figure 2 shows a number of measurement points in the circuit along with a number of measurement tasks.

In this case, the negative probe on the multimeter must be connected to the negative pole of the battery.

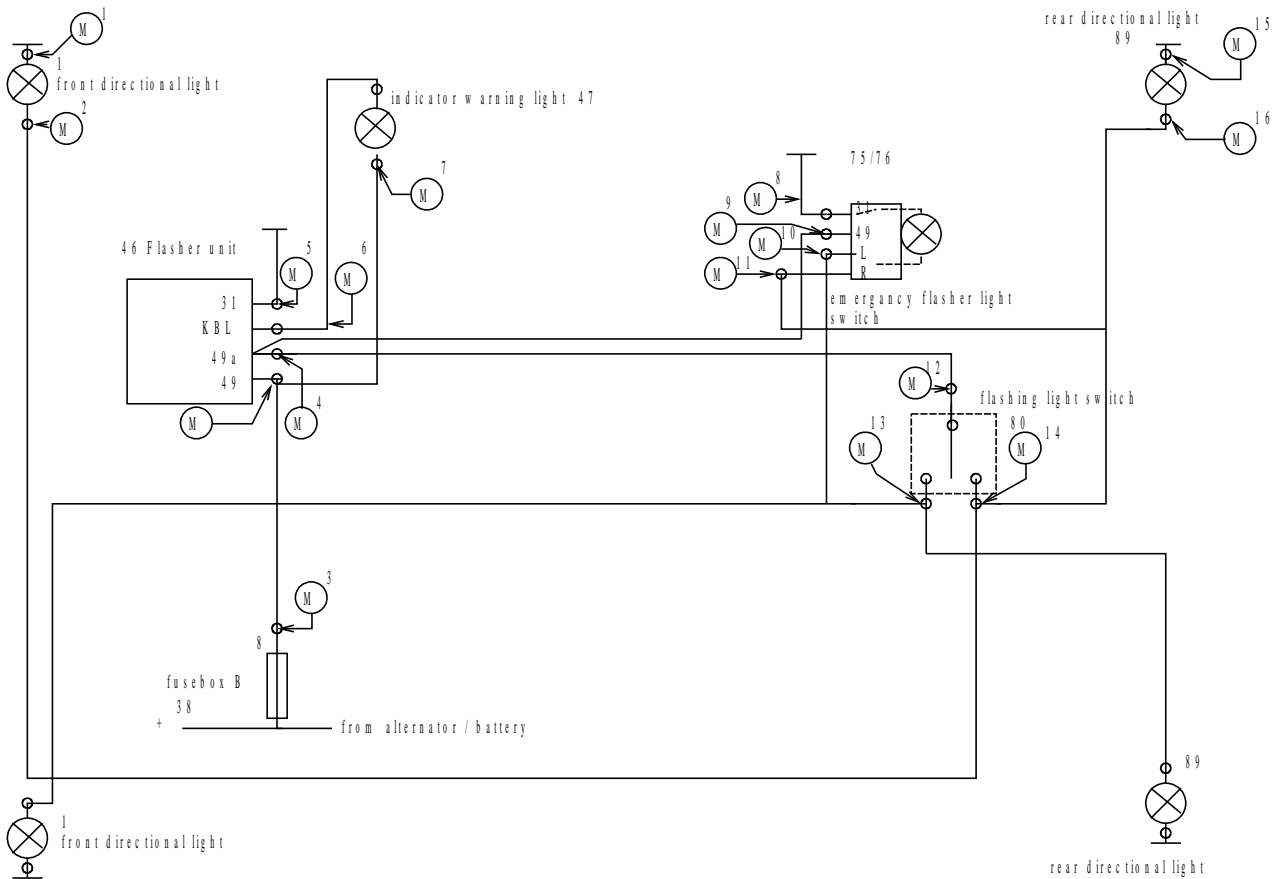


Fig. 2 Turn signal/flasher circuit diagram with possible measurement points

**Measurement tasks**

Fill in the chart below with voltmeter readings in the following situations:

- situation 1: turn indicator switch left
- situation 2: turn indicator switch right
- situation 3: turn indicator switch is off and the emergency switch is activated

	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16
situation 1																
situation 2																
situation 3																

Conclusions:  
The measured values in situation 1 are normal / abnormal

If they are abnormal, give a possible cause.

The measured values in situation 2 are normal / abnormal

If they are abnormal, give a possible cause.

The measured values in situation 3 are normal / abnormal

If they are abnormal, give a possible cause.