Vape

A Vape stator-rotor-unit will be the bais for the first OpenSimSpark CDI. It's the most common modern ingition system for Simson, so there is a wide range of users of this ignition.

There are two types available:

A70-3 (SZ10) http://www.vape.cz/img/Podpora/Rozmer/A-SZ10.pdf

A70-5 (SZ11) http://www.vape.cz/img/Podpora/Rozmer/A-SZ11.pdf

On the first view they look both very similar. But tecnically they are different. The A70-3 is the newest version and has much higher ignition voltage than the A70-5. And also the most sold version is the A70-3. Therefore all development at OpenSimSpark is performed for the A70-3.

There would be too much compromises developing a version working on both types. To understand a little bit more the next paragraph will give you an idea of the problem.

A70 R3 and R5 mix

Sometimes you can read a question: can you mix A70-3 and A70-5?

Here is a test made in 2017 (just on the test bench, no driving experience):

CDI Z54 and stator/rotor A70-3

It works, but the spark (without spark plug) is much shorter than the original Z71 CDI. With the Z54 the ignition voltage is decreasing with rising revolutions, while it is almost constant with original Z71. This behavior is exactly as in the datasheets of both ignitions SZ10 and SZ11.

CDI Z71 and stator/rotor A70-5

The Z71 can not be used with A70-5 stator/rotor. The working speed starts at 1500 1/min, so it is impossible to start the bike by kicking. But over 1500 1/min you get a huge spark! This could mean a really overload for die CDI.

Measurement A70-3

Stator

cable to ground (stator)

cable	impedance	inductance
red	475 Ω	1,4 H
white	63,5 Ω	14 mH
yellow	0,4 Ω	0,97 mH
yellow-red	0,4 Ω	1,08 mH

cable to cable

cable	impedance	inductance
yello to yello-red	0,1 Ω	0,11 mH

Connectors

To install a DIY CDI to the Vape wiring harness you need connectors from TE:

TE 626062:
https://www.digikey.de/de/products/detail/te-connectivity-amp-connectors/626062/2135398

TE 626064:
https://www.digikey.de/de/products/detail/te-connectivity-amp-connectors/626064/1136278

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