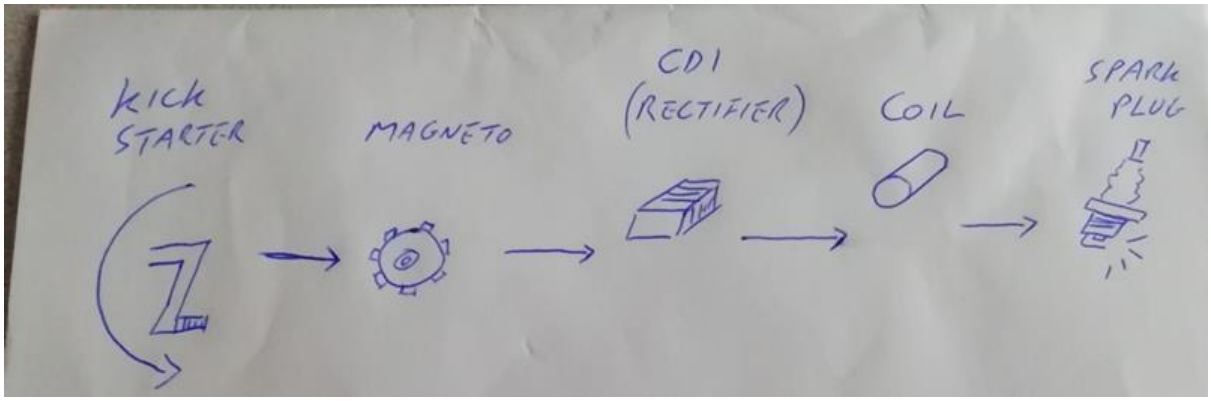
Project Piglet 2022-23

Progress has been a little slow over the last few weeks due to other commitments.
The school open day meant we missed a week, but I'm told the display for the open day generated a lot of interest in the project.

The following week, 4th years were involved in a sailing event so again we missed out.

However, last week Mr Tom Thornton came in and very kindly went through the electrics. Tom restores old vehicles and had some valuable observations and suggestions to make.

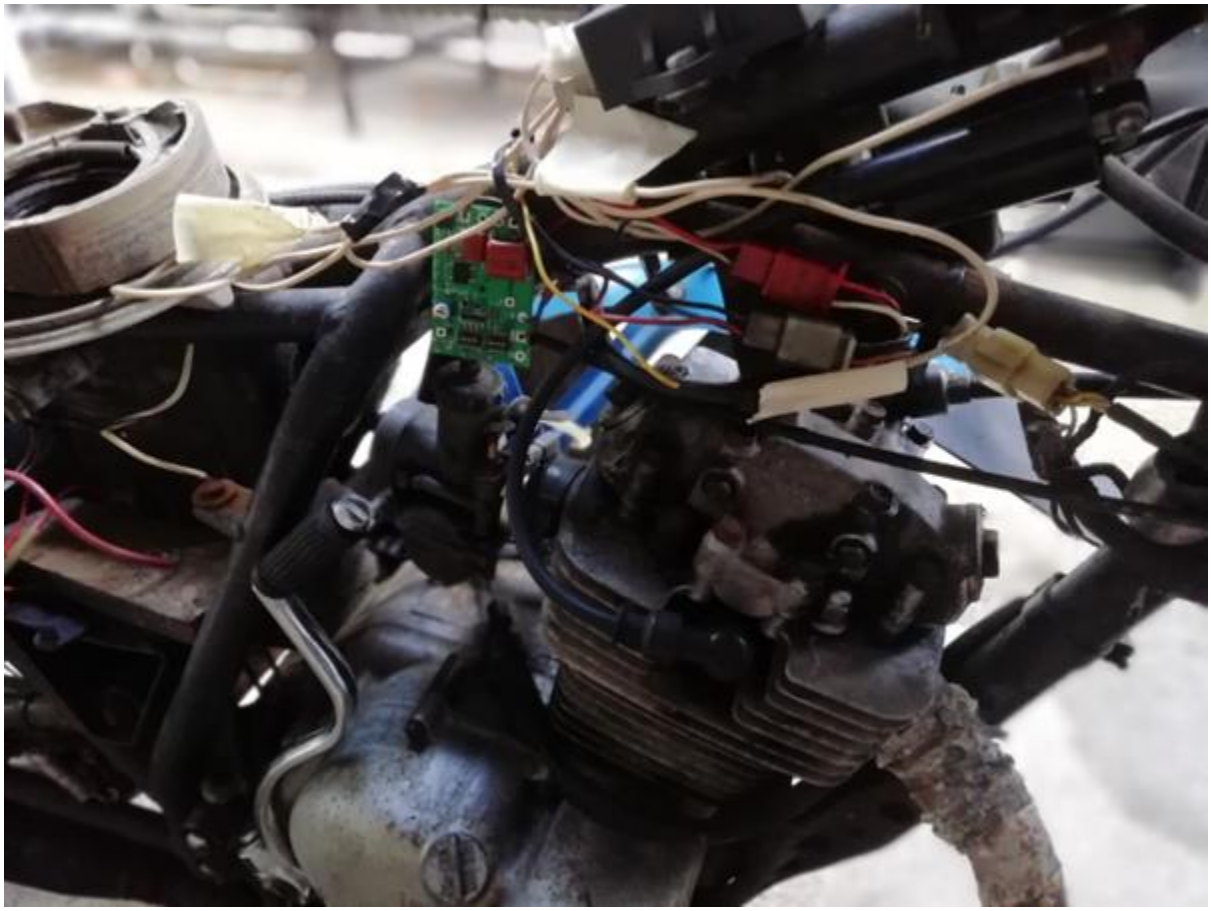
Essentially, there are only a few parts to the starting system:



As the bike has no starter motor, it has to be started by kicking the kick start. This turns the magneto, which generates an AC current which then goes to the rectifier (or CDI) unit. This converts the power to DC, it also sends some electricity to the battery to keep it charged and generates the pulse for the spark plug. Electricity is then passed to the coil which converts or 'steps up' the charge to a higher charge and then sends pulses to the spark plug in the correct order.

Tom was able to identify some issues with our bike, some connections that weren't connected correctly, and also that the CDI unit had been bypassed, as someone had tried to insert an alternative one (see the spare circuit board in the picture below).

To fix it we will have to replace the CDI unit, remove all the wiring for the bypass then follow the wiring to make sure all the wires go to the correct place.
You can see the bird's nest below!



Week 30th November

We moved on a little this week. Students removed the front wheel and changed the brake shoes. The bike has a drum type front brake, so this involved loosening the lever for the brake cable, taking the front axle out, taking the wheel from between the forks and separating the part of the wheel hub with the brake shoes from the drum.

Adam unhooked the old brake shoes and replaced them with the new brake shoes, then the wheel was put back together and reinstalled.

We took a look at the rectifier again, a new one has been sourced but has an electrical 4 pin connector (plus a black earth wire) that has no match on the bike.

It seems the previous owner possibly removed the existing connection to try to connect wires directly to the incorrect rectifier they used. On their set up they have connected two wires from the Stator (magneto) to the rectifier, one to the battery and two directly to the coil. However, I'm not sure if this is correct and need to research this. If anyone has an answer please get in touch at resource@dgs.ie.

Finally, we took a look at the new indicators. One of the old ones has been removed leaving a mounting hole that is too narrow for the new indicator, this will have to be drilled out, or we might just use a bracket to mount the new indicator.

Week 07th December

Following on from the last work, we took the back wheel off to replace the rear brake shoes. This proved tough as many of the bolts were seized tight and needed WD-40 before they would loosen.

Taking the wheel off proved difficult as well, due to the connections of the brake cable and tension bar and the closeness of the exhaust, but finally, the wheel was off and the brake shoes could be changed. On removing the old brake shoes, the friction material came away as the brake shoes had oxidised, demonstrating why it was essential that they be changed.

Week 14th December

We came in from the cold. The aim was to take the old split cover off the seat and replace it with a new one. Some time was lost in sourcing tools, but we managed to get the old cover off. This revealed that the cover was a replacement itself, installed over the original.

We now need to mark out the places where the old cover was held in place by bolts, so we can make the corresponding holes in the new cover. The holes can be seen in the photo below. Or, we can try to staple the new cover in place if we can find a suitable (powerful) staple gun.

Week ending 20th January

Over the Christmas period the petrol tank was sanded down so it can be primed it for painting.

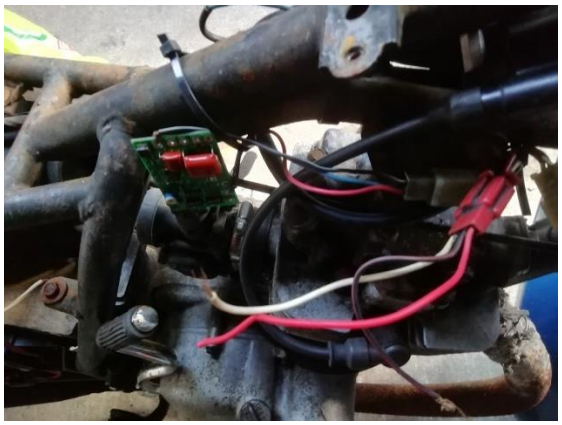
Interestingly, when sanded, the tank appeared to be originally black, with gold stripes (a bit like the John Player Special livery in the 70's /80's).

The log book gives the colour of the bike as being blue, so this is not the original tank for the bike. Maybe the original was damaged or sprung a leak or got rusty inside.

The fuel tap was removed from the tank to be cleaned, but the on/off lever remains stuck fast, a little lug on the rear of the lever has broken off, so unfortunately a new tap is needed.

The rear brake spring was replaced to allow the brake pedal to go back into position when pressed.

The spurious wiring was removed, leaving a jumble of wires that had no obvious way to be connected to the CDI.



Rather than the 3 wires from the stator that were expected, there were 6 wires in two groups. In the photo above you can see the red connector and clear connector on the right, each with 3 wires emerging. This was very puzzling as there seemed no way to match up the wires to the CDI. However, on researching the problem the picture below was found, showing a different CDI with two connection points. Now the wiring makes sense, we just have the wrong CDI (I hope the suppliers take it back!) The former owner has cut off the connectors/plugs that would have entered the CDI, leaving the 6 wires exposed and no easy way to figure out which wire goes where.

The next jobs to do are to order the new CDI, change the oil and filter (the sump plug has now been loosened to allow this to happen), to prime and paint the fuel tank and front mudguard, and to source and drill brackets for the new indicators.