Zundapp – Little Sister

Bella's little sister

Introduction

In the December 2019 issue of our club magazine a quick reference was made to Bella's little sister the Zündapp R50. As it's Zündapp's only other scooter model, it might be nice to know a little more about it.

Design

The design of scooters, and their more stylish appearance, was not one of Zündapp's strengths. For the Bella (Parilla) and for the R50 (Lambretta Slimline) they looked for external 'inspiration'. That's nice language for a straight knock-off of the exterior design. Take a look for yourself; the Lambretta on the left and the Zündapp on the right:

Of course, there are some differences; the R50’s front mudguard moves like it does on the Bella whereas the Lambretta’s is fixed. But other than that, they truly look like twins.

Technical Specifications

Technically, the R50 also borrowed an awful lot from the Lambretta. The gearshift on the clutch handle, the front suspension, the main stand, the rear suspension, the construction of the frame, and the bodywork construction.

For the engine, Zündapp pulled the same trick as for the Bella. For the Bella they used a slightly modified engine that was already used for decades in the

DB, Elastic and S series. For the R50 they took a successful engine from the moped range (in this case the ‘Combinette’ models) and made it fit under the body.

Zündapp clearly did not want to spend much development time or money on the R50 as the setup under the body panel is less than pretty. The engine is really a transplant and could have fit and looked much better. Especially the kickstarter is a bit of a ‘make it work’ job where a short chain extends the normal kickstart assembly. But, as in true Zündapp fashion, it all works and it works remarkably well.

The small two stroke 50cc engine in the R50 is cooled by a fan ‘gebläsegekuhlt’. You can see the ‘straight transplant’, the kickstart solution and the fan here:

Success

Despite it being a relatively quick job, the R50 was enormously successful as a city runabout. It was very economical, cheap to insure and no driver’s license required as it was only 50cc. As a bonus it would keep you a bit dryer in the rain. It was initially marketed for the female demographic, but proved quite popular amongst a diverse population over the years; especially when the small Italian scooters also grew in popularity like the Vespa.

What is especially astounding is that the R50 was sold for 20 consecutive years (!) and in that period the exterior and technical design remained

largely the same. Between 1964 and 1984 when Zündapp went into administration, the R50 remained part of its standard offering.

While it was produced a lot longer than the Bella, fewer were made. Across the production run approximately 65000 left the factory while over 130000 Bellas were made. That is still a very respectable number however; especially considering most Zündapp owners outside Germany have never even heard of the model!

The main reason is that in large parts of Europe 50cc scooter models were not allowed. Being 50cc, or the 'Schnapps glass (gin glass)' class, referring to the cm3, they were technically mopeds in many countries. And as the name implies mopeds need to have pedals. In France and the Netherlands for example, you will only find the R50 as individual imports from Germany. This is where for example Vespa was a step ahead as they produced a 50cc model that actually had pedals! In addition, the R50 was not exported to many other countries where the interest for small engine scooters was limited, like the UK. Usually this was due to more lenient tax regimes or reduced driver's licence requirements.

Models

The R50 came in various models over the years. The R in the model stands for Roller (German for scooter) as it does in the Bella range. The 'Super' model, or the RS50 differed in that it had more horsepower (4.3 vs 2.4 HP) and was classed as a light motorcycle rather than a moped in many countries. The extra horsepower made travelling longer distances that much more pleasant.

The base model does between 40 and 48 km/h depending on the country and power restrictions that apply in the country. Usually this was done by using a slightly smaller carburetor (15mm vs 16mm) or by a smaller front sprocket and a larger rear one. This means that where the max speed was 40 k/m it was a very nippy little moped.

The RS model did approximately 65 km/h which is plenty fast on 10-inch wheels with tiny drum brakes.

The first models had handlebar shift mechanisms on the clutch side where you pull the clutch and move the entire handle up or down to shift gear. This mechanism works OK but can be a bit of a pain to get right as it will only function well when the gears are properly set and very smooth Bowden cables are used. In addition, if you need to shift frequently it can be a bit tiring on the hands.

Later models also came with foot shift mechanisms. While again 'made to fit', it works better than the hand shift models. The RS model came in a 4 speed version whereas the R model mostly came in 3 speeds.

Other improvements were a fully electronic ignition that was placed from late seventies and a bit better lighting. The R50's lighting is pretty poor with one 15 watt bulb in front. The RS version has a high beam which works much better at night. With 40 k/m an hour lighting is not as important as when

riding a motorcycle but it can still be plenty dark on a country road doing 40 km/h.

Uses

The R50 was mostly used for city traffic given its relatively low top speed and design. For that purpose, it is very suited however with fast acceleration, a very small turning circle and a maneuverable body. Compared to the Bella it’s very nimble. Even today, as long as two strokes engines are allowed in the city, it can keep up with traffic and its modern brethren.

The German postal service also made use of the R50 (as it did of the Bella) to deliver mail for some time and they were used by city police in Germany.

Practical Use and Handling

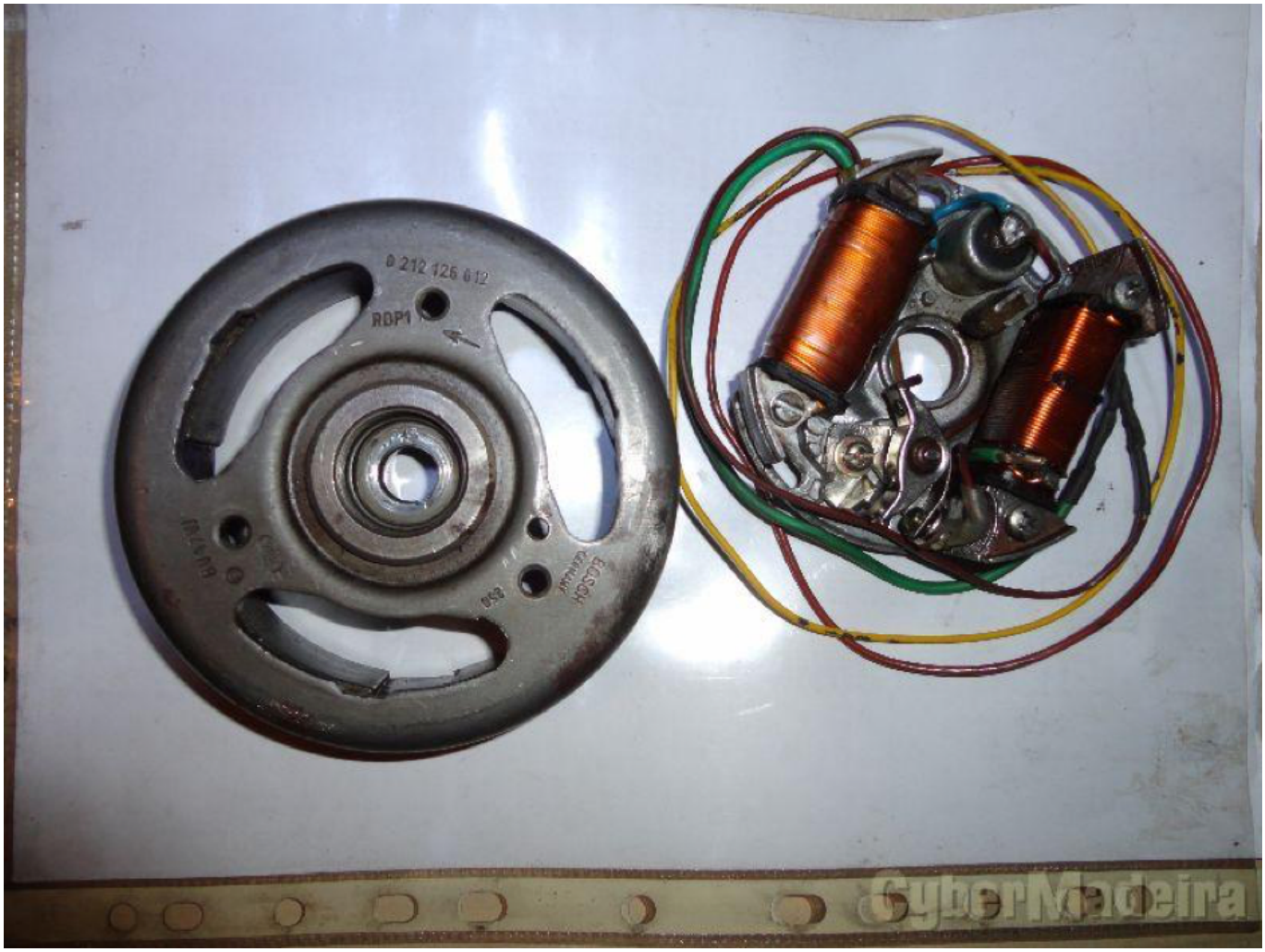
We all know that the Bella is a bit of a Rolls Royce of scooters that was meant as a ‘second car’ back in the day. The R50 is very much a city runabout. For that purpose it’s very well suited. It will carry two people to 40 km/h uphill and in the city you hardly ever go over 40 km/h anyway, so the top speed there is fine.

The 10 inch wheels however mean that it’s a nervous ride at higher speeds. My R50 gets up to about 50 km/h and that’s fast enough for me. In addition, the frame construction is much lighter than the Bella where many models can handle a sidecar. I need to keep both hands on the handlebar at all times as letting go will result in a quickly escalating resonance in the front wheel. That might just be my R50 however, but it does make for a nervous ride at higher speeds, especially if the tires aren’t inflated properly.

Given the low top speed, the gears are changed frequently and the hand shift mechanism does get a bit tiring if you ride for more than 45mins. The foot shift version is more practical, but does have a different look to it. The hand shift mechanism is very characteristic of the period.

The engine is small but very reliable as all Zündapp 50cc models are. They can easily do 100.000 km before they need a full rebuild when kept stock and are very easy to tune.

What is great is that the R50 does not have a battery as all power comes directly from the magnetic flywheel. So, unlike the Bella, there is no regulator to contend with and no batteries to keep charged. This is what it looks like:



This ignition is common to all 50cc Zündapp models and many other makes of the time provided, like for the Bella, by Bosch.

The condenser, points, lighting coil(s) and ignition coil are built onto the ignition plate under the magnetic flywheel. Those of you who have opened up their engines will know that the Bella works the other way around: that is, the magnets remain static in the housing and the coil turns, whereas here the magnets turn in the flywheel and the coils remain static.

Personally, I find this a brilliant bit of engineering with no parts external to the engine and the setup being so simple that very little can go wrong. The only downside is that adjustment of the points may require removal of the flywheel whereas this is not necessary for the Bella. They rarely overheat and there are fewer problems with ignition coils as a result.

The R50 is quite economical. Mine (not fully stock) does approximately 20 kilometers per litre, but a fully stock model can do about 30. With a tank of 7.5 litres that gets you where you need to be. The oil to fuel ratio is 1 to 50, so it’s a bit cleaner than the Bella too.

Under the buddy seat is a quite spacious storage area where I keep my rain suit and my lock. As extras you can get a shopping basket, some chrome bling on the front mudguard and round the headlamp and you can get a spare wheel and package carrier for the back.

A practical downside is that (like with the Bella) it’s tricky to properly use a chain lock and you need one when using it in the city. I tend to use my package carrier for this, but I’m acutely conscious it’s not the most secure when leaving it in the city like that. It does have a steering lock like the Bella does and a lock for the Buddy Seat, but the R50 is so light that it easily disappears in the back of a van.

Another small downside is that the whole power output of the R50 is only 23 Watt at an unregulated 6V, so that makes the use of LED lamps or a 5V outlet for your phone or SatNav difficult to achieve without some wizardry.

The overall quality of the R50 is great for such a small machine. The bodywork is cast aluminium and very durable. The front mudguard is relatively strong steel and the leg shields are OK, although a thicker size sheet metal would have been preferable. As is, there tends to be rust at the sides of the leg shields and in the footwell.

Buyer’s tips

If you want to try your hand at an R50 or RS50, there are a few buyer’s tips:

- On the main stand should be a rubber that sits between it and the frame when the stand is not used. If the rubber has perished (which it will have over time) the stand starts to hit against the frame. On your Bella you will find that one oil drain screw is probably very worn; this is due to the same happening. A clever piece of engineering as the hardened steel screws last a long time and can are easily be replaced. On the R50 however, the stand will keep hitting the frame and over time wear out the metal so a hole opens up. Some frames will be beyond repair as a result and this needs to be checked prior to purchase to prevent disappointment. Here’s a fine example below. This can only be checked by looking under the scooter but should not be omitted. Ask for a photo when bidding auction.

- The fuel tap and operating steel are equally as hard to get as for the Bella, so ensure it’s present.The cast aluminium parts around the handlebar can get cracked over time. Check that these are still in OK order.

- Parts for the R50 are very hard to get outside Germany. Ensure that you buy a complete scooter to restore; be especially wary of basket cases. The good news is that parts are not as expensive as for the Bella as the 50cc models are still in daily use today given they were produced till 1984.
- Ensure the metal of the leg shield is repairable. Welding of the sheet metal will be hard to do.

If you opt for an RS50, this model will have two Hella bakelite switches on the handlebars (one for the high beam, the other for the optional indicators / horn). These are extremely hard to get as no aftermarket versions are made. Here's what they should look like

Don't forget that there is a special section in the zuendapp-bella blog of our German Bella friends that is dedicated to the R50 should you be in need of .

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