7. Hubs / Wheels / Spokes

Mounting the Front Wheel

Unscrew the axel nuts as far as possible. Open the brakes to that the tyre will pass the brake shoes. If the tyre has a certain rotation direction then please observe this when mounting the wheel.
(If the front wheel has a quick release lever, hub dynamo or disc brake then please observe the special instructions for these components).
Once the wheel has been mounted please make sure that the axel is sitting in the dropouts properly before tightening the axel nuts (torque 30Nm) with a 15mm open end or ring spanner.
Now you can reattach the brakes and carry on with the assembly.

Hub Bearing Play

Most bicycles are equipped with conical (cone) hubs. These are adjustable and require regular servicing and care. To adjust any play you require a so called "Cone Wrench", these are special thin open end spanners in the sizes 13, 14, 15 and 16 millimetres, in general a 17mm spanner for the lock-nut.
The hubs can be adjusted from both sides but it is simpler to adjust the rear hubs from the left because the gear cluster on the right would have to be removed.
To carry this out one must loosen the lock-nut with a spanner whilst holding with a cone wrench.
Now one is able to turn the inner side of the cone with the cone wrench.
Turn to the left (anti-clockwise) to loosen it, to the right (clockwise) to tighten it.
One should adjust the bearing so that it is neither too tight nor jerky nor too loose so that the axel has lateral play.
The hub bearing should be controlled and serviced at regular intervals.
If you notice that the bearing has play then it should be readjusted. Further use without adjustment can cause damage to the bearing or increase wear and tear. If the bearing makes a cracking noise then it should be dismantled, cleaned and subsequently put together again using a generous portion of grease.
If you can see holes on the surface of the cones or bearing bushings, this means that the bearing is worn out and the hub, or as the case may be, the wheel should be replaced.

Truing

Truing is when one readjusts the tension of certain spokes on the wheel to achieve concentricity (true running). This also adjusts the spoke tension, which is important for the durability of both the wheel and spokes.
To true a wheel one requires a spoke wrench and a truing stand. Apart from this equipment one also requires a little experience and the right feel for this type of work. For this reason it is recommendable to have a wheel trued by a professional bicycle dealer.
It is important that the spokes are trued if the bike is new and then controlled after 150 – 200 kilometres; if necessary they should be readjusted.
Even after doing this it is important that the spokes are controlled on a regular basis because loose spokes are in danger of breaking.

Quick Release Lever

Quick release levers can be fitted to the front wheel hub, rear wheel hub and seat tube; with collapsible bicycles also to the stem and frame folding mechanism.
Quick release levers must be checked before each use of the bike – If they are too loose then this may lead to serious accidents.

Quick release levers should not be closed with the use of tools but one should use quite an amount of hand force to open or close them.

The quick release system is opened and closed by throwing the lever. If too little force is required or the lever will not close at all, then it can be tensioned by means of the knurled nut at the end of the release lever.

On some frames or saddle clamps the quick release lever is fixed directly to the component. In this case the quick release lever must be turned in the frame or saddle clamp to adjust.

If possible, on bicycles with brake discs the quick release lever should be fitted so that the lever is opposite the disc brake. One may suffer burns when removing the wheel or the plastic components could soften with the disc brakes sometimes heating up.

Hub Dynamo

The hub dynamo is to be treated in exactly the same manner as a front hub with quick release lever or normal fixing. One must only pay attention to the rotation direction and the position of the electrical connection.
Detailed information can be found under the "Hub Dynamo" "Lighting" section.