

PNEUMA CRANKSETS

USER MANUAL

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RIDEA

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Please consider the environment before printing.

INSTALLATION DIAGRAM

For detailed installation information, please read pages 3-4.



CONTENTS

- PneuMA right crank arm and spider
- PneuMA left crank arm
- PneuMA spindle
- Ridea BB tool
- Magnetic charging cable (power meter version only)
- 3 mm spacer (M412 spindle only)
- 4.5 mm spacer (M413 spindle only)
- This user manual

LIST OF TOOLS

- Torque wrench
- 2 mm hex wrench
- 4 mm hex wrench
- 8 mm hex wrench
- 10 mm hex wrench
- Ridea BB tool (included)
- Rubber mallet
- Grease and anti-seize



Chaining installation

1. Use a **4 mm hex wrench** to tighten the chaining screws to **10 Nm**. Do not tighten to the final torque one screw before tightening the others. Instead, alternatively tighten each screw, switching between them, until all of them reach the recommended torque. Note: Apply anti-seize to the threads before installation. Tip: To facilitate the tightening of the spider's locking ring, chaining installation can be done after step 5.

Crankset installation

2. Refer to bottom bracket manufacturer's user manual to perform its installation. The spindle diameter of your PNEUMA crankset is indicated in the spindle: a D24 mark refers to 24 mm spindle diameter, while a D29 refers to 29 mm. Note: Crank arm code, located in the inner side of each crank, near the pedal interface, also references the spindle diameter. The code is like LF29 R-175L or LF24 M-170R. The number in bold, bolded here for your reference, indicate the diameter of your spindle in millimeters.

3. Identify the left and right crank arms. The code in the inner side of each crank will guide you. The last letter of the code (LF29 R-175L or LF24 M-170R, bolded here for your reference) denotes the side of the crank: L for left and R for right crank.

4. The spider comes preinstalled in the right-side crank arm in the standard position. The spider has three possible positions, described below.

a. Standard position: The central position (marked **the spider as "0"**) is the standard and recommended for most riders and conditions. This is the position already preinstalled. If you do not want to change the position of your spider now, jump to step 5 after checking that the torque of the locking ring is 30 Nm.

b. Climbing position: Starting from the standard position, rotate the spider one step in counter-clockwise direction, this position is recommended for climbers and it is marked in **the spider as "+10"**.

c. Rouleur position: Starting from the standard position, rotate the spider one step in clockwise direction. This position is recommended for rouleur riders and it is marked in **the spider as "-10"**.

Note: the position marks of the spider (+10; 0; -10) should be visible after installing the crank arm. In other words, when the crank arm is in the 9 o'clock position, these marks should be towards the rear wheel of the bicycle.

5. Once you have chosen your desired position, apply grease (or anti-seize) to the contact areas between the spider, the right crank arm and the locking ring, as well as the threads of the locking ring and crank. Use the included Ridea BB tool and a **10 mm hex wrench** to tighten the locking ring to **30 Nm**. Clean the grease excess. Attention: if installing the SPM2 power meter spider, the crank must always fit in the crank slot of the SPM2. Never try to install the crank in the opposite direction.

6. To facilitate the installation of the crank arms into the spindle, you can loosen both retaining caps. You can either remove them entirely in order to apply a bit of thread-locker in step 17, or you can loosen them just a half-turn until they spin freely. Use a **10 mm hex wrench**. Attention: this is a left-handed thread. Therefore, to loosen the cap, turn the wrench in clockwise direction.

7. Apply anti-seize compound to the threads of the spindle/crank arm bolt, and apply grease to the spindle-crank interface (the union between the spindle and crank arm) in the right side of your crankset. Note: Do not use thread-locker compound with titanium spindles.

8. Carefully align the spindle and the crank arm bolt to avoid cross-threading. Fix the spindle to the right-side crank arm. Use an **8 mm hex wrench** to tighten it to **40 Nm**. Note: spindle is symmetrical. Therefore, there is neither right nor left side. Tip: To prevent cross-threading, a good tip is to turn the wrench counter-clockwise until you hear/feel a click, then start fastening the screw in clockwise direction. If you feel unusual resistance at the beginning, loosen the bolt and start over. Attention: To tighten the bolt that fixes the crank arm to the spindle, the required tool is an **8 mm hex wrench** and it is a right-handed thread (righty-tighty). The **10 mm hex wrench** is required only to tighten the retaining caps during step 17.

9. Provisionally insert the right crank arm unit in the bottom bracket and measure the chainline. If needed, you can adjust it with the appropriate chainline adjusters. These should be installed in the crankset spindle, between the bottom bracket and the crankset.

10. Take the crankset out of the BB to apply grease in the bearing contact areas. Note: only use grease on these areas. Never use anti-seize or any other compound.

11. Insert the right crank arm unit into the BB shell with the appropriate chainline adjusters (if needed). If required, use a **rubber mallet** to tap the crank to make sure that the spindle is fully inserted into the BB shell.

12. Counter-clockwise turn the preload adjuster of the left crank arm until it contacts the crank arm. This is an important step, because if the preload adjuster position is towards the bottom bracket, it can prevent the correct tightening of the crankset and the preload of the bottom bracket bearings. Note: If the preload adjuster is not turning, try loosening the preload adjuster bolt (**hex wrench 2 mm**).

13. Apply anti-seize compound to the threads of the spindle/crank arm bolt, and apply grease to the spindle-crank interface (the union between the spindle and crank arm) in the left side of your crankset.

14. Carefully align the spindle and the crank arm bolt to avoid cross-threading. Fix the spindle to the left-side crank arm. Use an **8 mm hex wrench** to tighten it to **40 Nm**. Note: check tips and reminders noted in step 8 above.

15. Clockwise turn the preload adjuster until it contacts the bottom bracket. Hand-tighten it. Do not over tighten it, or the cranks may not spin smoothly.

16. Tighten the preload adjuster bolt to fix preload adjuster's position. **Hex wrench 2 mm**. Maximum torque: **2 Nm**. Tip: A small amount of thread-locker can be applied to this bolt.

17. Tighten both retaining caps. Use a **10 mm hex wrench** to tighten them to **5 Nm**. Attention: this is a left-handed thread. Therefore, to tighten the cap, turn the wrench in counter-clockwise direction.

18. Check the crankset for play by moving the cranks laterally. If you feel any play, check the tightening torques and the preload adjuster position in case they need a higher tightening. Check that the cranks rotate freely. If the cranks do not **spin freely**, check the preload adjuster position (it may be too tight).

