

DT Swiss SAT020272S0500

DT Swiss Aerolite Spoke User Manual

Model: SAT020272S0500

1. PRODUCT OVERVIEW

The DT Swiss Aerolite is a high-performance, lightweight bicycle spoke designed for competitive cycling and high-end wheel builds. This individual spoke is 272mm in length and features a black finish. It is engineered for optimal aerodynamics and strength-to-weight ratio, making it a preferred choice for discerning cyclists.

Key Features:

- **Single J-bend spoke:** Designed for traditional hub flanges. Nipple is not included and must be purchased separately.
- **Double Butted:** Features a 2.0mm diameter at the ends and a thinner 0.9mm section in the middle, then back to 2.0mm. This design reduces weight while maintaining strength and improving elasticity.
- **Bladed Profile:** The middle section is flattened to a 2.3mm wide blade, enhancing aerodynamic performance. No special hub slotting is necessary for installation.
- **Lightweight:** An individual 264mm spoke weighs approximately 4.3g, contributing to a lighter overall wheel build.

2. SPECIFICATIONS

Specification	Detail
Model Number	SAT020272S0500
Length	272mm
Color	Black
Spoke Type	J-bend, Double Butted, Bladed
Butting Dimensions	2.0mm / 0.9mm / 2.0mm
Blade Width	2.3mm
Approximate Weight (264mm)	4.3g
Material	Stainless Steel

Manufacturer	DT Swiss
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Note: Nipple is sold separately and is not included with this individual spoke.

3. INSTALLATION GUIDELINES

Installing bicycle spokes requires specialized knowledge and tools. Incorrect installation can lead to wheel failure, injury, or damage to components. It is highly recommended that spoke installation and wheel building be performed by a qualified bicycle mechanic.

General Steps (for professional reference):

- Determine Spoke Length:** Ensure the spoke length (272mm in this case) is appropriate for your hub and rim combination. Use a spoke calculator for accurate measurements.
- Lacing Pattern:** Follow the correct lacing pattern (e.g., 3-cross, 2-cross) for your wheel build.
- Insert Spoke:** Insert the J-bend end of the spoke into the appropriate hole on the hub flange.
- Attach Nipple:** Thread a compatible nipple (sold separately) onto the spoke at the rim. Ensure sufficient thread engagement.
- Tensioning:** Gradually tension all spokes evenly using a spoke wrench and a tensiometer. Aim for the manufacturer's recommended tension for your rim.
- Truing and Dishing:** True the wheel to eliminate lateral and radial runout, and dish it correctly to center the rim between the hub locknuts.
- Stress Relieving:** Periodically stress relieve the wheel during tensioning to settle the spokes and prevent future loosening.



Image: A generic representation of a DT Swiss Aerolite individual spoke. This image illustrates the J-bend and bladed profile of the spoke.

4. FUNCTION AND PURPOSE

Bicycle spokes are critical components of a wheel, connecting the hub to the rim. They transmit power from the hub to the rim during acceleration and braking, and they support the rider's weight by carrying tension loads. The DT Swiss Aerolite spoke, with its bladed and double-butt design, serves to:

- Provide Structural Integrity:** Maintains the roundness and strength of the wheel under various forces.
- Reduce Aerodynamic Drag:** The bladed profile cuts through the air more efficiently than round spokes, improving speed.
- Minimize Weight:** The double-butt design removes material where it's not critically needed, reducing rotational mass.
- Enhance Ride Comfort:** The thinner mid-section allows for a slight amount of elasticity, which can absorb minor road vibrations.

5. MAINTENANCE

Proper maintenance of your spokes and wheels ensures safety and extends component life. Regular inspection is key.

- **Regular Inspection:** Periodically check spokes for any signs of damage, bends, or looseness. Gently squeeze parallel spokes to feel for consistent tension.
- **Cleaning:** Clean spokes with mild soap and water, then rinse and dry thoroughly. Avoid harsh chemicals that could damage the finish or material.
- **Wheel Truing:** If you notice any wobbling or unevenness in your wheel, have it trued by a professional. Loose spokes can lead to wheel damage or failure.
- **Nipple Lubrication:** For long-term maintenance, consider applying a small amount of thread locker or anti-seize compound to nipple threads during wheel building to prevent seizing and ensure consistent tension.

6. TROUBLESHOOTING

While spokes are generally robust, issues can arise. Here are common problems and recommended actions:

- **Loose Spoke:** A loose spoke will feel noticeably slacker than its neighbors. This can cause the wheel to go out of true. *Action:* Have the wheel re-tensioned and trued by a professional immediately. Continuing to ride with loose spokes can lead to further damage.
- **Broken Spoke:** A broken spoke will result in a significant loss of wheel integrity and often causes the wheel to become severely out of true. *Action:* Replace the broken spoke and have the wheel re-tensioned and trued by a professional. Avoid riding the bicycle until repaired.
- **Bent Spoke:** A bent spoke can indicate impact damage or improper tension. *Action:* A bent spoke should be replaced. Consult a professional for assessment and replacement.
- **Corrosion/Fatigue:** While DT Swiss spokes are made from durable stainless steel, extreme conditions or long-term use can lead to corrosion or material fatigue. *Action:* Inspect regularly. If significant corrosion or cracks are visible, replace the affected spokes and consider a full wheel rebuild if widespread.

7. WARRANTY AND SUPPORT

DT Swiss products are manufactured to high standards. For specific warranty information regarding your DT Swiss Aerolite spoke, please refer to the official DT Swiss website or contact their customer support directly. Keep your proof of purchase for any warranty claims.

For technical assistance, installation advice, or to locate an authorized service center, please visit the official DT Swiss website or contact their customer service department.

DT Swiss Official Website: www.dtswiss.com

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