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> AL-KO 251S Braked Coupling for Trailers User Manual

AL-KO 247581

AL-KO 251S Braked Coupling for Trailers

Model: 247581

INTRODUCTION

This manual provides essential information for the safe and effective installation, operation, and maintenance of your AL-KO 251S braked coupling. Please read this manual thoroughly before using the product to ensure proper function and safety.

SAFETY INFORMATION

- Always ensure the coupling is correctly attached to the towing vehicle's hitch before driving.
- Regularly inspect all components for wear, damage, or corrosion. Do not use if any critical parts are compromised.
- Ensure the breakaway cable is properly connected to the towing vehicle as a safety measure.
- Do not exceed the maximum permissible total weight of the trailer or the maximum support load specified for this coupling.
- Maintenance and repairs should only be performed by qualified personnel using genuine AL-KO spare parts.

PRODUCT OVERVIEW

The AL-KO 251S is a high-quality braked coupling designed for trailers with a gross vehicle weight ranging from 1500 kg to 2700 kg. It features an inertia braking system and is suitable for V-drawbar top mounting.

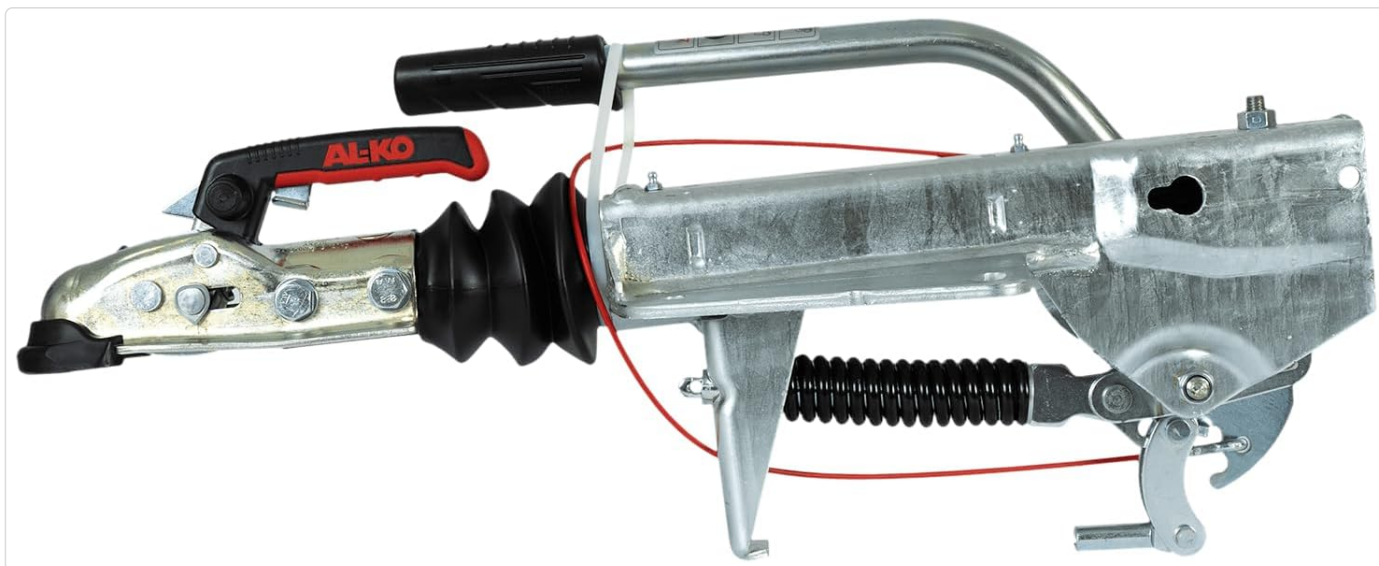


Figure 1: Side view of the AL-KO 251S Braked Coupling. This image shows the main body of the coupling, the integrated hitch head, the rubber bellows protecting the internal mechanism, and the brake lever with its associated linkage.

SPECIFICATIONS

Feature	Detail
Model	AL-KO 251S (Type 581 No 247)
ETI Number	811023 / 811/023
Gross Vehicle Weight (GVW)	1500 kg - 2700 kg
Maximum Support Load	Up to 100 kg
Drawbar Type	V-drawbar, top mounting
Compatible Brake Systems	AL-KO 1637, 2050, 2051 wheel brake systems, and other brands
Front Hole Spacing	120 mm
Rear Hole Spacing	Approx. 166 mm - 217 mm
Overall Spacing (Diameter)	Approx. 166 mm (Ø 13 mm)
Item Weight	15 Kilograms



Figure 2: Technical drawing illustrating key dimensions and mounting points of the AL-KO 251S Braked Coupling. This diagram is crucial for proper installation and fitment on a trailer's V-drawbar.

SETUP AND INSTALLATION

The AL-KO 251S braked coupling is designed for top mounting on a V-drawbar. Proper installation is critical for safety and performance.

- Preparation:** Ensure the trailer drawbar is clean, free from rust, and structurally sound. Verify that the mounting holes on the drawbar align with the coupling's hole pattern (front: 120mm, rear: 166-217mm spacing, 13mm diameter).

2. **Mounting:** Position the coupling onto the V-drawbar. Secure it using appropriate high-strength bolts, washers, and self-locking nuts. Ensure all fasteners are tightened to the manufacturer's specified torque settings.
3. **Brake Linkage Connection:** Connect the brake rod or cable from the coupling's brake lever to the trailer's brake system. Ensure there is no excessive slack and that the brake system engages smoothly when the coupling compresses.
4. **Breakaway Cable:** Attach the breakaway cable securely to a fixed point on the towing vehicle, ensuring it is long enough to allow for turns but short enough to activate the trailer brakes if the trailer detaches.
5. **Final Check:** Before first use, perform a thorough visual inspection of all connections. Test the braking function by manually compressing the coupling and observing the trailer brakes engage.

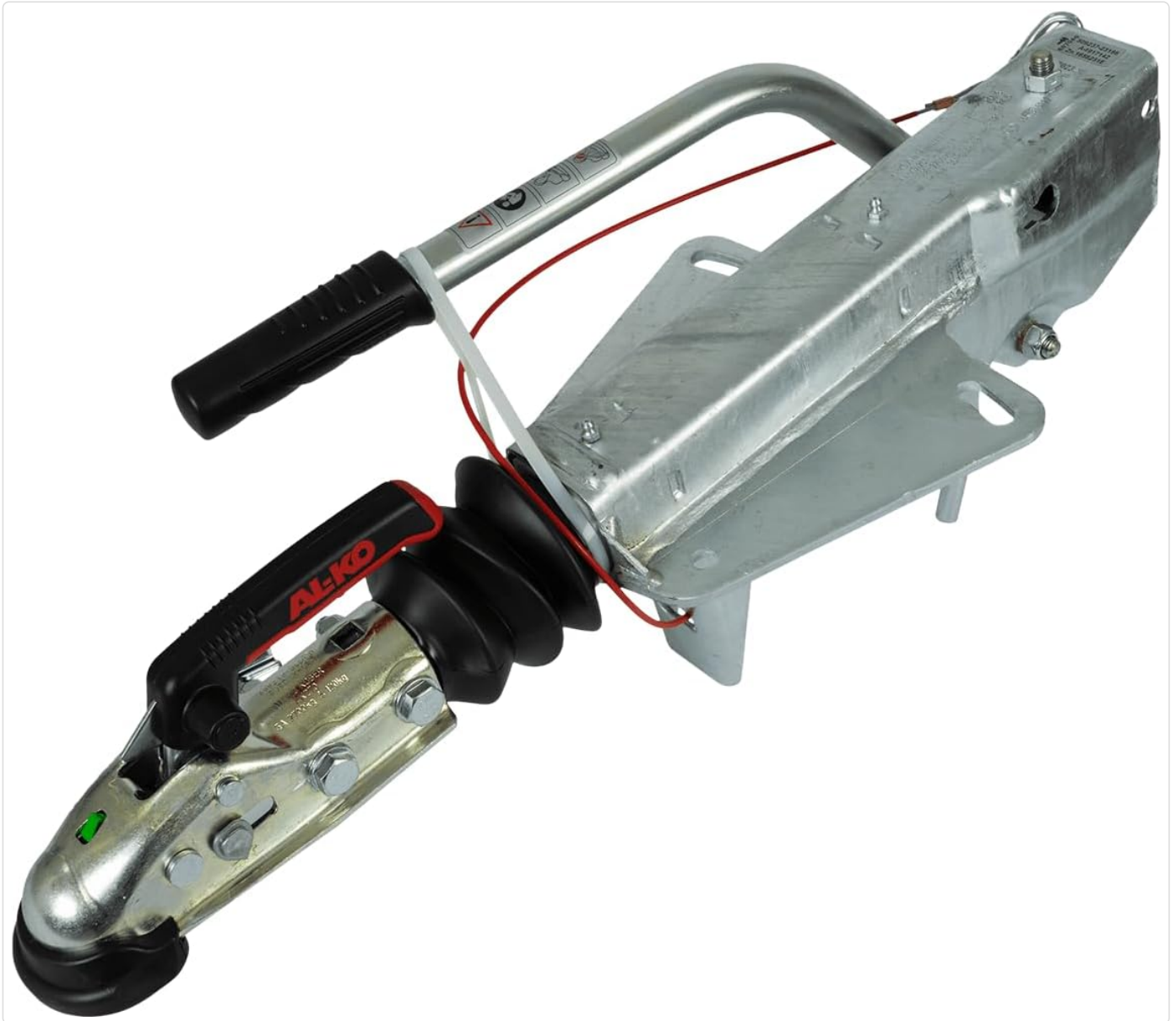


Figure 3: Top-down view of the AL-KO 251S Braked Coupling, highlighting the mounting plate and bolt holes for attachment to the trailer drawbar. This perspective is useful for aligning the coupling during installation.

OPERATING INSTRUCTIONS

Operating the AL-KO 251S coupling involves connecting and disconnecting the trailer from the towing vehicle and understanding its braking mechanism.

1. Connecting the Trailer:

- Ensure the towing vehicle's hitch ball is clean and lubricated.
- Raise the trailer jockey wheel to position the coupling head above the hitch ball.

- Lower the coupling onto the hitch ball. Listen for a positive click indicating it is securely latched.
- Verify the connection by attempting to lift the coupling off the ball. It should remain firmly attached.
- Connect the breakaway cable to the towing vehicle.
- Connect any electrical connections (lights, etc.).

2. Braking Mechanism:

The 251S coupling operates on an inertia braking principle. When the towing vehicle decelerates, the trailer pushes against the towing vehicle, causing the coupling's drawbar to compress. This compression activates the internal linkage, which in turn pulls the brake rod/cable, applying the trailer brakes. The system is designed to apply braking proportionally to the deceleration force.

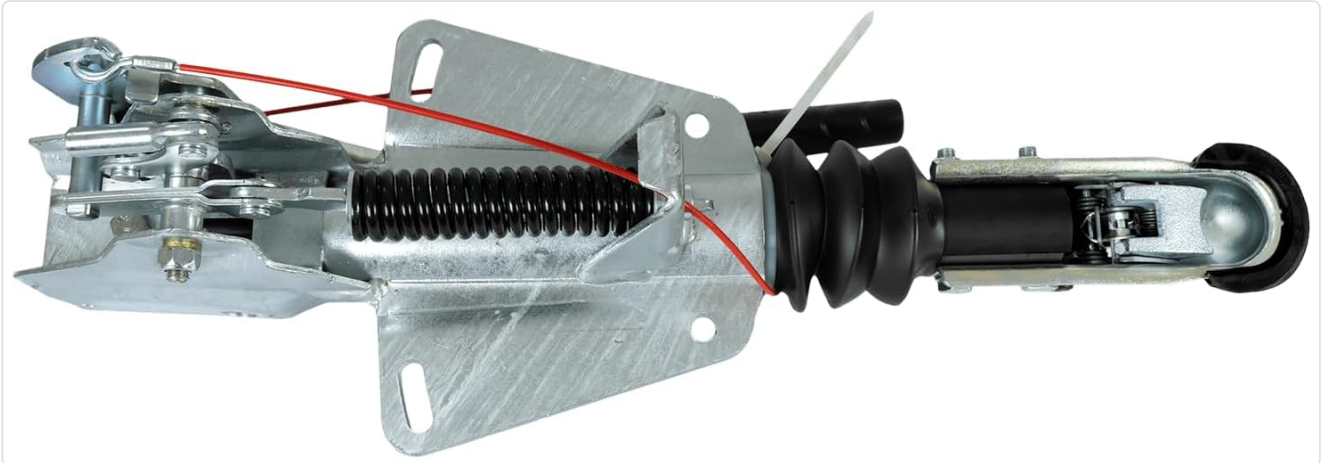


Figure 4: Close-up view of the brake mechanism and linkage within the AL-KO 251S Braked Coupling. This shows the spring and lever system responsible for activating the trailer brakes when the coupling compresses.

3. Disconnecting the Trailer:

- Ensure the trailer is on level ground and the parking brake is engaged.
- Disconnect electrical connections and the breakaway cable.
- Operate the coupling release mechanism (usually a lever or button) and raise the jockey wheel to lift the coupling off the hitch ball.
- Move the towing vehicle away from the trailer.

MAINTENANCE

Regular maintenance is essential to ensure the longevity and safe operation of your AL-KO 251S braked coupling.

- **Visual Inspection:** Before each use, inspect the coupling head, drawbar, bellows, brake linkage, and all fasteners for signs of wear, damage, cracks, or corrosion. Pay close attention to the condition of the rubber bellows; replace if torn or cracked.
- **Lubrication:** Periodically lubricate all moving parts, including the hitch ball socket, the sliding mechanism of the drawbar, and pivot points of the brake linkage. Use a suitable grease or lubricant as recommended by AL-KO.
- **Brake Adjustment:** Ensure the trailer brakes are correctly adjusted. The coupling should compress smoothly and activate the brakes without excessive force or play. If braking feels spongy or ineffective, have the brake system inspected and adjusted by a qualified technician.
- **Fastener Torque:** Periodically check the tightness of all mounting bolts and nuts. Re-torque to manufacturer specifications if necessary.
- **Cleanliness:** Keep the coupling clean, especially the sliding parts of the drawbar and the hitch head. Dirt and debris can impede smooth operation.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Coupling difficult to attach/detach	Hitch ball or coupling head is dirty/corroded; release mechanism stiff.	Clean and lubricate hitch ball and coupling head. Lubricate release mechanism.
Trailer brakes not engaging or weak	Brake linkage loose/damaged; trailer brakes out of adjustment; insufficient compression of coupling.	Inspect brake linkage for damage. Adjust trailer brakes. Ensure proper weight distribution. Consult a qualified technician.
Trailer brakes dragging or locking up	Brake linkage too tight; internal mechanism seized; trailer brakes over-adjusted.	Check brake linkage for proper slack. Lubricate sliding parts. Adjust trailer brakes. Consult a qualified technician.
Excessive play in coupling	Worn hitch ball socket; loose mounting bolts; worn internal components.	Inspect hitch ball and socket for wear. Tighten mounting bolts. If wear is significant, replacement of components may be necessary.

WARRANTY AND SUPPORT

For warranty information regarding your AL-KO 251S braked coupling, please refer to the documentation provided at the time of purchase or contact the original seller. AL-KO products typically come with a manufacturer's warranty covering defects in materials and workmanship.

If you require technical support, spare parts, or professional assistance with installation or repair, please contact the authorized AL-KO service center or the retailer from whom you purchased the product. Provide your model number (247581) and any relevant purchase details when seeking support.