

TEKTRO ARIES MD-M300

TEKTRO ARIES MD-M300 Mechanical Disc Brake Set User Manual

Model: ARIES MD-M300

1. INTRODUCTION AND OVERVIEW

This manual provides essential information for the proper installation, operation, and maintenance of your TEKTRO ARIES MD-M300 Mechanical Disc Brake Set. This set includes both front and rear cable-actuated mechanical disc brakes, designed for bicycles requiring reliable stopping power.

The ARIES MD-M300 features a single-piece aluminum caliper body, a 160mm wave-type rotor (TR160-1), and organic compound pads. Key design elements include Automatic Caliper Centering (A.C.C) and inside pad adjustment for simplified setup and fine-tuning. These brakes are actuated with standard linear pull brake levers.



Image 1.1: Complete TEKTRON ARIES MD-M300 Mechanical Disc Brake Set components.

This image displays all components included in the TEKTRON ARIES MD-M300 Mechanical Disc Brake Set. It shows the disc brake caliper, the 160mm wave-type rotor, and various mounting bolts and adapters required for installation. The caliper is black, and the rotor is silver with the TEKTRON logo.

2. SETUP AND INSTALLATION

Proper installation is crucial for the safe and effective operation of your disc brakes. If you are unfamiliar with bicycle brake installation, it is highly recommended to seek assistance from a qualified bicycle mechanic.

2.1 Rotor Installation

1. Ensure your wheel hub is compatible with 6-bolt disc rotors.
2. Align the 160mm TR160-1 wave-type rotor with the 6 bolt holes on your hub.
3. Secure the rotor using the provided T25 Torx bolts. Tighten bolts in a star pattern to the manufacturer's specified torque (typically 4-6 Nm). Use a torque wrench for accuracy.
4. Ensure the rotor is clean and free of grease or oil.

2.2 Caliper Mounting

1. Mount the appropriate caliper (front or rear) to your bike's disc brake mount using the provided adapter and bolts. Ensure the adapter orientation is correct for your frame/fork.
2. Lightly tighten the caliper mounting bolts, allowing for slight movement for adjustment.
3. Connect the brake cable from your linear pull brake lever to the caliper's cable anchor bolt. Ensure the cable is routed correctly and free of kinks.
4. Pull the brake lever several times to seat the cable.

2.3 Caliper and Pad Adjustment

The ARIES MD-M300 features Automatic Caliper Centering (A.C.C) and inside pad adjustment for precise alignment.

1. Loosen the caliper mounting bolts slightly.
2. Engage the brake lever fully and hold it. This will center the caliper over the rotor due to the A.C.C feature.
3. While holding the brake lever, tighten the caliper mounting bolts to the manufacturer's specified torque (typically 8-10 Nm). Release the brake lever.
4. Check for rotor rub. If rubbing occurs, use the inside pad adjustment dial (visible on the caliper body) to fine-tune the pad position. Turn the dial "in" to move the pad closer to the rotor, or "out" to move it away.
5. Adjust cable tension at the lever or caliper barrel adjuster to achieve desired lever feel and pad engagement.



Image 2.1: Caliper with visible pad adjustment dial.

This image provides a close-up view of the TEKTRON ARIES MD-M300 disc brake caliper. The prominent feature is the silver circular dial labeled "PAD ADJ." with "in" and "out" indicators, used for adjusting the inner brake pad's position relative to the rotor.

3. OPERATING INSTRUCTIONS

The TEKTRON ARIES MD-M300 mechanical disc brakes provide consistent stopping power when operated correctly.

3.1 Braking Technique

- Always use both front and rear brakes simultaneously for optimal control and stopping power.
- Apply brake levers smoothly and progressively. Avoid sudden, hard braking, especially with the front brake, as this can lead to loss of control.
- In wet conditions, braking performance may be reduced. Apply brakes earlier and with more force.
- Familiarize yourself with the feel of your new brakes in a safe, open area before riding in traffic or on challenging terrain.

3.2 Bedding-In New Pads/Rotors

New brake pads and rotors require a "bedding-in" process to achieve full braking performance and reduce noise. This involves transferring a thin layer of pad material to the rotor surface.

1. Find a safe, open area where you can accelerate and brake.
2. Accelerate to a moderate speed (e.g., 15-20 mph) and apply both brakes firmly until your speed is reduced to a slow walking pace. Do not come to a complete stop. Repeat this 10-15 times.
3. Accelerate to a higher speed (e.g., 20-25 mph) and apply brakes very firmly, almost to a stop, but avoid locking the wheels. Repeat this 5-10 times.
4. Allow the brakes to cool down between runs. You may notice a slight smell or smoke during this process, which is normal.

4. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your TEKTRON ARIES MD-M300 disc brakes.

4.1 Cleaning

- Keep rotors and pads clean and free from oil, grease, or dirt. Contamination can severely reduce braking performance and cause noise.
- Clean rotors with a clean cloth and isopropyl alcohol or a dedicated disc brake cleaner.
- Avoid spraying lubricants or cleaning agents near the calipers or rotors.

4.2 Pad Inspection and Replacement

Inspect brake pads regularly for wear. Replace pads when the pad material is worn down to approximately 0.5mm thickness or if they become contaminated.



Image 4.1: Caliper with visible brake pads.

This image shows the TEKTRO ARIES MD-M300 disc brake caliper from an angle that reveals the organic compound brake pads positioned inside the caliper body, ready to engage with the rotor.

1. Remove the wheel from the bicycle.
2. Locate the pad retention pin or clip on the caliper. Remove it carefully.
3. Slide the old pads out of the caliper.
4. Gently push the caliper pistons back into the caliper body using a plastic tire lever or a dedicated piston press tool. Do not use metal tools that could damage the pistons.
5. Insert new organic compound pads, ensuring the spring clip is correctly positioned between them.
6. Reinstall the pad retention pin or clip.
7. Reinstall the wheel and re-adjust the caliper if necessary (refer to Section 2.3).

4.3 Cable and Housing

- Regularly inspect brake cables and housing for fraying, kinks, or corrosion. Replace them if any damage is found.
- Lubricate cables periodically with a light bicycle-specific lubricant to ensure smooth operation.

5. TROUBLESHOOTING

Here are solutions to common issues you might encounter with your TEKTRO ARIES MD-M300 disc brakes.

Problem	Possible Cause	Solution
Brakes Squeal or Squeak	Contaminated pads/rotor, misaligned caliper, new pads/rotors not bedded in.	Clean rotor with isopropyl alcohol. Check for pad contamination; replace if necessary. Re-align caliper (Section 2.3). Perform bedding-in procedure (Section 3.2).

Problem	Possible Cause	Solution
Weak Braking Power	Pads worn, contaminated pads/rotor, insufficient cable tension, new pads/rotors not bedded in.	Inspect and replace worn pads (Section 4.2). Clean rotor/pads. Adjust cable tension. Perform bedding-in procedure (Section 3.2).
Rotor Rubs on Pads	Misaligned caliper, bent rotor, incorrect pad adjustment.	Re-align caliper (Section 2.3). Use inside pad adjustment dial. Inspect rotor for bends; true or replace if necessary.
Brake Lever Feels Spongy	Loose cable, stretched cable, worn housing.	Adjust cable tension. Inspect cable and housing for damage; replace if needed.

6. SPECIFICATIONS

- **Brand:** TEKTRO
- **Model:** ARIES MD-M300
- **Brake Type:** Cable Actuated Mechanical Disc Brake
- **Rotor Type:** Wave Type (TR160-1)
- **Rotor Diameter:** Ø160mm
- **Caliper Body:** Single-Piece Aluminum
- **Pad Type:** Organic Compound
- **Features:** Automatic Caliper Centering (A.C.C), Inside Pad Adjustment, Automatic Pad Angle Adjustment Via Floating Plates
- **Weight:** 203 Grams / Wheel (Excludes Rotor, Adapter & Mounting Bolts)
- **Compatibility:** Bicycle (Front and Rear)

7. WARRANTY AND SUPPORT

The TEKTRO ARIES MD-M300 Mechanical Disc Brake Set comes with a **1-year manufacturer's warranty** from the date of purchase, covering defects in materials and workmanship.

For warranty claims, technical assistance, or further support, please contact TEKTRO customer service through their official website or authorized distributors. Keep your proof of purchase for warranty validation.

Note: Damage resulting from improper installation, misuse, neglect, or unauthorized modifications is not covered under warranty.