SHIMANO BR-M6120

SHIMANO Deore BR-M6120 Hydraulic Disc Brake Rear Instruction Manual

Model: BR-M6120

1. Product Overview

The SHIMANO Deore BR-M6120 is a hydraulic disc brake caliper designed for mountain biking. It features a four-piston system engineered to provide consistent stopping power and efficient retraction of the pistons after the lever is released. This design aims to reduce rotor wobble, noise, and chatter during braking. The system incorporates One Way Bleeding technology to facilitate air removal from the hydraulic lines, enhancing braking feel and safety. Additionally, Shimano's ICE Tech is integrated to manage heat during prolonged braking periods.

Key Features:

- Caliper Type: Hydraulic Disc
- Mount Type: Post Mount
- Four-Piston Caliper Design
- One Way Bleeding Technology
- ICE Tech for Heat Management
- Claimed Weight: 329g



Figure 1: SHIMANO Deore BR-M6120 Hydraulic Disc Brake Lever and Caliper Assembly.

2. Included Components

The SHIMANO Deore BR-M6120 Disc Brake package typically includes the following components:

- 1 x BR-M6120 Caliper
- 1 x Brake Hose
- 1 x Brake Lever
- 1 x Bleed Block
- 2 x Caliper Mounting Bolts
- 1 x Olive and Barb (for hose connection)
- 1 x Grommet

3. Setup and Installation

Proper installation is crucial for safe and effective braking. If you are unsure about any steps, it is recommended to seek assistance from a qualified bicycle mechanic.

3.1 Mounting the Caliper

1. Ensure your frame or fork has post mount tabs compatible with the BR-M6120 caliper.
2. Attach the caliper to the frame's rear post mount using the provided mounting bolts. Do not fully tighten the bolts at this stage.
3. Install the brake rotor onto the wheel hub according to the rotor manufacturer's instructions.



Figure 2: SHIMANO Deore BR-M6120 Caliper.

3.2 Connecting the Brake Hose

1. Route the brake hose from the lever to the caliper, ensuring it does not interfere with steering or suspension movement.
2. Cut the brake hose to the appropriate length if necessary, using a specialized hose cutter to ensure a clean, square cut.
3. Install the olive and barb onto the hose end and connect it to the caliper and lever as per Shimano's technical documentation.

3.3 Mounting the Brake Lever

1. Mount the brake lever onto the handlebar in a comfortable and accessible position.
2. Tighten the lever clamp bolt securely.



Figure 3: SHIMANO Deore BR-M6120 Brake Lever.

3.4 Caliper Alignment

1. With the wheel installed and the caliper bolts loose, squeeze the brake lever firmly and hold it.
2. While holding the lever, tighten the caliper mounting bolts evenly. This aligns the caliper with the rotor.
3. Release the lever and check for proper alignment. The rotor should spin freely without rubbing the brake pads. Adjust if necessary.



Figure 4: Rear SHIMANO Deore BR-M6120 Caliper installed on a bicycle.

4. Operating Instructions

The SHIMANO Deore BR-M6120 hydraulic disc brake system provides responsive and controlled braking. Familiarize yourself with its operation before riding.

4.1 Engaging the Brake

To apply the brake, gently squeeze the brake lever. The amount of braking force is proportional to the pressure applied to the lever. Practice modulating the brake force to achieve desired deceleration without locking the wheel.

4.2 Lever Reach Adjustment

The distance of the brake lever from the handlebar can be adjusted to suit individual hand size and preference. Locate the reach adjustment screw on the brake lever body and turn it to move the lever closer or further from the handlebar.

4.3 Free Stroke Adjustment

Some SHIMANO levers allow for free stroke adjustment, which controls how much the lever moves before the pads contact the rotor. Refer to your specific lever model's documentation for details on this adjustment.

5. Maintenance

Regular maintenance ensures optimal performance and longevity of your SHIMANO Deore BR-M6120 disc brakes.

5.1 Brake Bleeding (One Way Bleeding)

Over time, air can enter the hydraulic system, leading to a spongy lever feel. The BR-M6120 features One Way Bleeding technology designed to simplify the bleeding process. This process typically involves connecting a funnel to the lever's bleed port and a bleed syringe to the caliper's bleed port, then flushing the system with mineral oil. Always use genuine SHIMANO mineral oil. Refer to SHIMANO's official technical service instructions for detailed bleeding procedures.

5.2 Brake Pad Inspection and Replacement

Inspect brake pads regularly for wear. The BR-M6120 is supplied with metal brake pads. Replace pads when the friction material is worn down to approximately 0.5mm or less. Contaminated pads (e.g., with oil or grease) should also be replaced immediately. When replacing, ensure the new pads are compatible with the BR-M6120 caliper and rotor material.

5.3 Rotor Cleaning

Keep brake rotors clean and free of oil, grease, or other contaminants. Use a clean cloth and isopropyl alcohol to wipe down the rotor surface. Contaminated rotors can lead to reduced braking power and noise.

5.4 General Cleaning

Clean the caliper and lever body with mild soap and water. Avoid using high-pressure washers directly on brake components, as this can force water and contaminants into seals.



Figure 5: Diagram highlighting key features of the SHIMANO Deore BR-M6120.

6. Troubleshooting

This section addresses common issues you might encounter with your hydraulic disc brakes.

Problem	Possible Cause	Solution
Spongy or soft brake lever	Air in the hydraulic system	Bleed the brake system (refer to Section 5.1).
Reduced stopping power	Worn brake pads, contaminated pads/rotor, air in system, overheating	Inspect/replace pads, clean rotor, bleed system, allow brakes to cool.
Brake noise (squealing, grinding)	Contaminated pads/rotor, misaligned caliper, worn pads, loose bolts	Clean/replace pads/rotor, realign caliper (Section 3.4), check bolt tightness.
Brake lever not returning fully	Piston sticking, lever mechanism issue, insufficient fluid	Clean pistons, inspect lever, check fluid level and bleed.

For persistent issues not resolved by these steps, consult a professional bicycle mechanic.

7. Specifications

Feature	Detail
Brand	SHIMANO
Model Number	BR-M6120 (Manufacturer Part Number: EM61201JRRXMA170)
Caliper Type	Hydraulic Disc, 4-Piston
Mount Type	Post Mount
Brake Fluid	SHIMANO Mineral Oil
Brake Pads	Metal (Included)
Exterior Finish	Black
Vehicle Service Type	Bicycle
Activity	Mountain Biking
Claimed Weight	329g
UPC / GTIN	192790687179

8. Warranty Information

This SHIMANO product is covered by a **Limited Warranty**. For specific terms, conditions, and duration of the warranty, please refer to the warranty documentation provided with your purchase or visit the official SHIMANO website. Keep your proof of purchase for warranty claims.

9. Support

For further assistance, technical inquiries, or to locate authorized service centers, please visit the official SHIMANO website or contact SHIMANO customer support. Always ensure that any repairs or complex maintenance procedures are performed by qualified personnel to maintain product safety and warranty validity.

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