

## SHIMANO IR71202DRRDSC170A

# SHIMANO 105 ST-R7120-R Shift/Brake Lever and BR-R7170 Hydraulic Disc Brake Caliper User Manual

Model: IR71202DRRDSC170A

## 1. INTRODUCTION

This manual provides essential instructions for the proper installation, operation, and maintenance of your SHIMANO 105 ST-R7120-R Shift/Brake Lever and BR-R7170 Hydraulic Disc Brake Caliper. Please read this manual thoroughly before use to ensure safe and optimal performance of your cycling components.



**Figure 1:** SHIMANO 105 ST-R7120-R Shift/Brake Lever (left) and BR-R7170 Hydraulic Disc Brake Caliper (right). This image displays the complete set of the right-hand shift/brake lever and the corresponding hydraulic disc brake caliper, both in a black finish.

## 2. SAFETY INFORMATION

Always observe the following safety precautions to prevent personal injury and damage to your bicycle components.

- Ensure all components are installed correctly and securely tightened to the manufacturer's recommended torque specifications. Incorrect installation can lead to loss of control and serious injury.
- Regularly inspect brake pads for wear. Replace worn pads immediately to maintain effective braking performance.
- Check brake fluid levels and condition periodically. Use only SHIMANO genuine mineral oil for hydraulic brake systems.
- Do not modify any components. Unauthorized modifications can compromise safety and performance.
- Wear appropriate safety gear, including a helmet, when cycling.
- If you are unsure about any installation or maintenance procedure, consult a professional bicycle mechanic.

### 3. PACKAGE CONTENTS

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Verify that all items are present in your package:

- SHIMANO 105 ST-R7120-R Shift/Brake Lever (Right/Rear, 12-Speed)
- SHIMANO BR-R7170 Hydraulic Disc Brake Caliper (Flat Mount)
- Brake Pads (L05A-RF Resin with finned backplate)
- Hydraulic Brake Hose (pre-bled or requiring bleeding, depending on specific kit)
- Mounting Hardware (bolts, washers)
- User Manual (this document)

### 4. SETUP AND INSTALLATION

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Proper installation is crucial for the performance and safety of your SHIMANO 105 components. If you lack experience, professional installation is recommended.

#### 4.1. Shift/Brake Lever Installation (ST-R7120-R)

1. **Mounting to Handlebar:** Position the ST-R7120-R lever on the right side of your drop handlebar. Ensure the lever is at an ergonomic angle that allows comfortable reach to both the brake lever and shift paddles. Tighten the clamp bolt to the specified torque.
2. **Reach Adjustment:** The lever features customizable reach adjustment. Use a small hex key to adjust the lever position to suit your hand size and preference. Refer to the technical service instructions for detailed adjustment procedures.
3. **Cable Routing:** Route the shift cable internally or externally according to your frame's design. Ensure smooth cable movement without kinks or excessive friction.
4. **Hydraulic Hose Connection:** Connect the hydraulic brake hose from the caliper to the lever. Ensure a secure, leak-free connection. This may involve cutting the hose to length and installing olives and barbs.

#### 4.2. Hydraulic Disc Brake Caliper Installation (BR-R7170)

1. **Mounting to Frame/Fork:** The BR-R7170 is a flat mount caliper. Attach it to the designated flat mount points on your frame or fork using the provided mounting bolts. Ensure correct bolt length for your frame/fork thickness. Tighten to the specified torque.
2. **Rotor Clearance:** The caliper offers 10% wider pad clearance, which helps reduce rotor rub. After mounting, ensure the brake rotor is centered within the caliper and does not rub against the pads when the brake is disengaged. Adjust caliper position if necessary.
3. **Pad Installation:** The L05A-RF resin pads are pre-installed or can be easily inserted. Ensure the finned backplate is correctly oriented for heat dissipation.

### 4.3. Brake System Bleeding

After connecting the hydraulic hose, the brake system must be bled to remove any air and ensure proper function. SHIMANO's one-way bleeding system facilitates this process.

- Use SHIMANO genuine mineral oil and a SHIMANO bleeding kit.
- Follow the detailed instructions provided in the SHIMANO technical service manual for hydraulic disc brakes.
- Ensure no air bubbles remain in the system for consistent and powerful braking.

## 5. OPERATION

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### 5.1. Shifting

The ST-R7120-R lever provides smooth and rapid 12-speed shifting for your rear derailleur.

- **Upshifting (to a smaller cog/higher gear):** Push the smaller lever blade inwards.
- **Downshifting (to a larger cog/lower gear):** Push the main brake lever blade inwards.
- Ensure smooth pedal rotation during shifting for optimal performance and to prevent chain stress.

### 5.2. Braking

The BR-R7170 hydraulic disc brake caliper, paired with the ST-R7120-R lever, delivers powerful and consistent stopping power.

- Gently squeeze the main brake lever blade to engage the brake. Apply pressure progressively for controlled deceleration.
- Avoid sudden, hard braking, especially in wet or loose conditions, to prevent skidding.
- Familiarize yourself with the brake feel and modulation before riding in challenging conditions.

## 6. MAINTENANCE

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Regular maintenance ensures the longevity and reliable performance of your SHIMANO 105 components.

### 6.1. Brake Pad Replacement

Inspect brake pads regularly for wear. Replace them when the pad material is worn down to the wear indicator line or if braking performance diminishes significantly.

1. Remove the wheel.
2. Remove the pad retaining pin and slide out the old pads.
3. Gently push the caliper pistons back into their bores using a pad spreader tool.
4. Insert new L05A-RF resin pads, ensuring the finned backplate is correctly positioned. Secure with the retaining pin.
5. Reinstall the wheel and pump the brake lever several times to reset the pistons.

### 6.2. Brake System Inspection

- Check hydraulic hoses for any signs of damage, kinks, or leaks.
- Ensure all bolts are tightened to the correct torque specifications.
- Periodically check brake fluid for contamination or degradation. Bleed the system if necessary.

### 6.3. General Cleaning

Clean your components regularly with mild soap and water. Avoid high-pressure washing directly on seals or bearings. Lubricate moving parts of the shift mechanism as recommended by SHIMANO.

## 7. TROUBLESHOOTING

This section addresses common issues you might encounter.

Problem	Possible Cause	Solution
Weak braking power	Air in hydraulic system, worn brake pads, contaminated rotor/pads.	Bleed the brake system. Replace worn pads. Clean rotor and pads with isopropyl alcohol.
Brake lever feels spongy	Air in hydraulic system.	Bleed the brake system thoroughly.
Rotor rub/noise	Caliper misalignment, bent rotor, sticky piston.	Realign caliper. True the rotor or replace if bent. Clean and lubricate pistons (consult professional).
Difficulty shifting	Cable friction, incorrect derailleur adjustment, bent hanger.	Check cable routing and tension. Adjust derailleur limits and B-tension. Inspect derailleur hanger.

If you cannot resolve an issue using this guide, please contact SHIMANO customer support or a certified bicycle mechanic.

## 8. SPECIFICATIONS

Feature	Detail
Model Numbers	ST-R7120-R (Shift/Brake Lever), BR-R7170 (Brake Caliper)
Brand	SHIMANO
Speed Compatibility	12-Speed (Rear)
Brake Type	Hydraulic Disc Brake
Caliper Mount Type	Flat Mount
Brake Fluid	SHIMANO Mineral Oil
Brake Pads	L05A-RF Resin with finned backplate
Lever Material	Composite / Resin
Caliper Material	Aluminum
Hand Orientation	Right (for Rear Brake/Shifter)
Special Features	Enhanced ergonomic design, adjustable reach, 10% wider pad clearance, one-way bleeding.
Item Weight	Approximately 1.53 pounds (for the set)
Product Dimensions	9.5 x 5 x 1 inches (packaging/overall)

Feature	Detail
ASIN	B0CKLKN6SW
UPC	192790819143



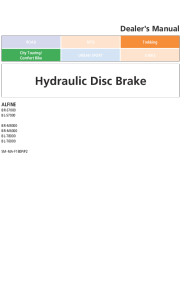
## 9. WARRANTY AND SUPPORT


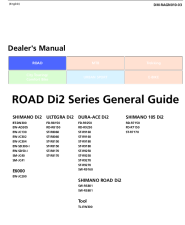

SHIMANO products are manufactured to high standards and are covered by a limited warranty against defects in materials and workmanship. For specific warranty terms and conditions, please refer to the official SHIMANO website or contact your local SHIMANO distributor.

For technical support, spare parts, or further assistance, please visit the official SHIMANO website or contact their customer service department. Always provide your product model numbers (ST-R7120-R, BR-R7170) when seeking support.

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### Related Documents - IR71202DRRDSC170A

	<p><a href="#">Shimano Hydraulic Disc Brake Dealer's Manual for Road and MTB</a></p> <p>Comprehensive Shimano dealer's manual for hydraulic disc brakes, covering installation, adjustment, and maintenance procedures for DURA-ACE (ST-R9120, BR-R9170, SM-RT900) and ULTEGRA (ST-R8020, BR-R8070, SM-RT800) series components. Essential guide for professional bicycle mechanics.</p>
	<p><a href="#">Shimano Dealer's Manual: Torque Chart for Bicycle Components</a></p> <p>This dealer's manual from Shimano provides essential torque specifications for a wide range of bicycle components, including Dura-Ace, Ultegra, and 105 series. It details torque values and required tools for hydraulic disc brake calipers, dual pivot caliper brakes, dual control levers, derailleurs, wheel sets, cranksets, bottom brackets, and disc brake rotors.</p>
	<p><a href="#">Shimano Hydraulic Disc Brake Dealer's Manual: Installation and Maintenance Guide</a></p> <p>A comprehensive dealer's manual for Shimano hydraulic disc brakes, providing detailed instructions for installation, maintenance, and safety procedures. Covers models like ALFINE, BR-M8000, BR-M6000, and related components, including bleeding, hose replacement, and pad replacement.</p>

	<p><a href="#">Shimano Hydraulic Disc Brake User Manual</a></p> <p>User manual for Shimano hydraulic disc brakes, covering important notices, safety information, regular inspections, operation, and bed-in procedures.</p>
	<p><a href="#">SHIMANO ROAD Di2 Series Dealer's Manual General Guide</a></p> <p>Comprehensive dealer's manual for SHIMANO's ROAD Di2 series electronic shifting systems, covering installation, wiring diagrams, component compatibility, maintenance, and troubleshooting for professional bicycle mechanics.</p>
	<p><a href="#">SHIMANO Dual Control Lever (Di2) Hydraulic Disc Brake User Manual</a></p> <p>User's manual for the SHIMANO Dual Control Lever (Di2) with Hydraulic Disc Brake Type. Provides detailed instructions on operation, safety precautions, maintenance, and specifications for bicycle mechanics and users.</p>