

General Safety Information

WARNING

– To avoid serious injuries:

- It is important to completely understand the operation of your bicycle's brake system. Improper use of your bicycle's brake system may result in a loss of control or an accident, which could lead to severe injury. Because each bicycle may handle differently, be sure to learn the proper braking technique (including brake lever pressure and bicycle control characteristics) and operation of your bicycle. This can be done by consulting your professional bicycle dealer and the bicycle's owners manual, and by practicing your riding and braking technique.
- The SB-8S20 / SB-7S45 / BL-IM60 / BL-IM45 brake levers are equipped with a mode switching mechanism. Be sure to use the IB-DR70 / IB-DR50 / IB-HR70 / IB-HR50 with the mechanism in the C.R mode position.

C.R mode position

The C indicates the mode position for compatibility with cantilever brakes.
The R indicates the mode position for compatibility with roller brakes.

- Obtain and read the service instructions carefully prior to installing the parts. Loose, worn, or damaged parts may cause serious injury to the rider. We strongly recommend only using genuine Shimano replacement parts.
- Always make sure that the front and rear brakes are working correctly before you ride the bicycle.
- If the road surface is wet, the tires will skid more easily. If the tires skid, you may fall off the bicycle. To avoid this, reduce your speed and apply the brakes early and gently.
- Read these Technical Service Instructions carefully, and keep them in a safe place for later reference.

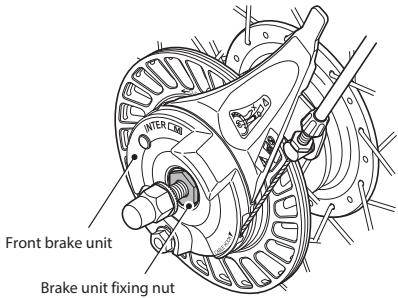
CAUTION

– To avoid serious injuries:

- When using the Shimano Inter-M brake system, avoid continuous application of the brakes when riding down long slopes, as this will cause the internal brake parts to become very hot, and this may weaken braking performance. It may also cause a reduction in the amount of brake grease inside the brake, and this can lead to problems such as abnormally sudden braking. The design of the Shimano Inter-M brake system has been carried out based on standards such as ISO 4210 and DIN 79100-2. These standards specify the performance for an overall weight of 100 kg. If the overall weight exceeds 100 kg, the braking force provided by the system may be insufficient for correct braking, and durability of the system may also be reduced.
- The front Inter-M brake system should only be installed to the left side of a bicycle which is 26" or larger. If it is used on a bicycle which is smaller than 26", the braking force may be too great, which could cause accidents.
- In order to get the best performance from the Shimano front Inter-M brake, be sure to use Shimano brakes cables and brake levers as a set. (Refer to the product line-up.)

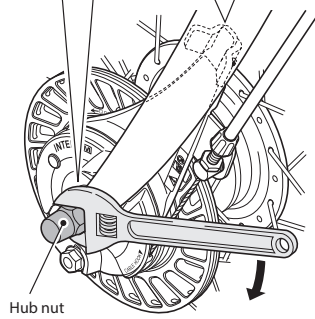
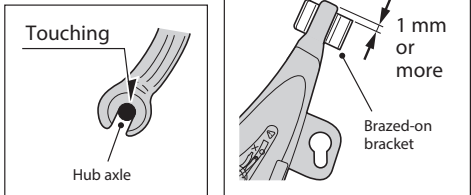
(The amount of movement of the inner cable must be 14.5 mm or more when the brake lever is depressed. If it is less than 14.5 mm, braking performance will suffer, and the brakes may fail to work.)

- Check that the front brake unit is firmly secured to the hub body with the brake unit fixing nut.



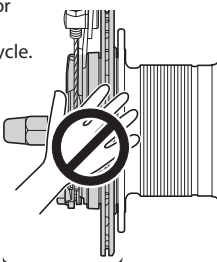
Tightening torque:
15 – 20 N·m {130 – 174 in. lbs.}

- Check that the hub axle is touching the back of the fork end, and that the end of the brake arm is protruding 1 mm or more from the brazed-on bracket. Check also that the wheel is firmly secured to the frame with the hub nut. If the wheel is not installed properly, it may come off the frame, which could result in serious accidents when riding.



Tightening torque:
20 – 25 N·m {174 – 217 in. lbs.}

- If any of the following occur while using the brakes, stop riding immediately and ask the place of purchase to carry out inspection and repairs.
 - If abnormal noise is heard when the brakes are applied
 - If braking force is abnormally strong
 - If braking force is abnormally weakIn the case of 1) and 2), the cause might be not enough brake grease, so ask the place of purchase to grease the mechanism with special roller brake grease.
- If the brake is used frequently, the area around the brake may become hot. Do not touch the area around the brake for at least 30 minutes after you finish riding the bicycle.



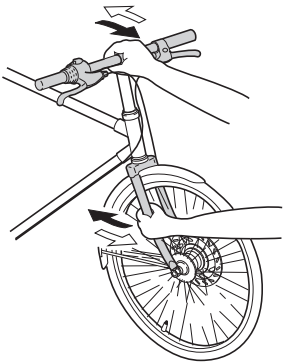
Area around the brake

- If the brake cable becomes rusted, braking performance will suffer. If this happens, replace the brake cable with a genuine Shimano brake cable and re-check the braking performance.

- The IB-DR70 / IB-DR50 / IB-HR70 / IB-HR50 front brake unit should never be disassembled. If they are disassembled, malfunctions and damage to the front brake unit could result.
- Consult the place of purchase for details on removing and installing the front brake unit.

NOTE:

- Use a wheel with 3x or 4x spoke lacing. Wheels with radial lacing cannot be used because the spokes and the wheel can be damaged when applying the brakes and brake noise can be generated.
- The front Inter-M brake is different from conventional band brakes in that the inside of the brake drum is filled with grease. This may cause the turning of the wheel to be slightly heavier than usual, particularly in cold weather.
- The front Inter-M brake has a built-in power modulator which controls the braking force applied to the hub. Noise is generated by the operation of the power modulator when the brake is applied, but this is not a sign of a malfunction.
- If you apply the front Inter-M brake strongly while the bicycle is stopped and then shake the wheel, you will notice that there is a small amount of play in the brakes. This is normal, and will not cause any problems at all while riding.
- To check the amount of looseness in the head parts, grasp the middle of the handlebar and one of the front forks as shown in the illustration, and then move the head parts back and forth in the directions indicated by the arrows. Moreover, because the brakes give a small amount of play if you apply the brakes fully and shake the wheel as described above, this will make it more difficult to check the looseness in the head parts.



- For maximum performance we highly recommend Shimano lubricants and maintenance products.
- Parts are not guaranteed against natural wear or deterioration resulting from normal use.

SI-2ZG0A

Front Inter-M Brake System

Technical Service Instructions

In order to realize the best performance from the Shimano front Inter-M brake system, we recommend that the following combination be used.

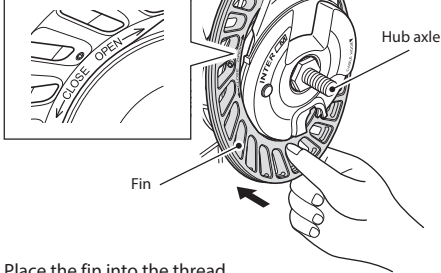
Hub unit with integrated brake	IB-DR70 / IB-DR50 / IB-HR70 / IB-HR50
Lever	SB-8S20 / SB-7S45 / BL-IM60 / BL-IM45
Brake cable	

Installing the cooling fin (IB-DR70 / IB-HR70 only)

Be sure to assemble the wheel before installing the cooling fin to the hub.

- Pass the fin over the brake arm and the hub axle. Turn the wheel at this time to move the spokes to a position where the fin can be inserted more easily.

Note:
Install the fin so that the embossed letter is facing toward the outside.

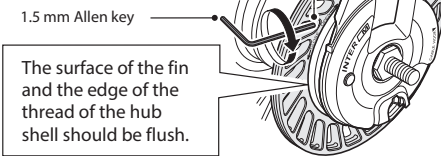


- Place the fin into the thread on the left side of the hub shell and screw it in. Note that the fin has a left-hand thread. After this, use the fin tightening tool to securely tighten the fin.

Tightening torque:
3 – 3.5 N·m {26 – 30 in. lbs.}

- Check that the fin has been tightened so that the surface of the fin is at the same height as the edge of the thread of the hub shell, and then tighten the set bolt to secure the fin.

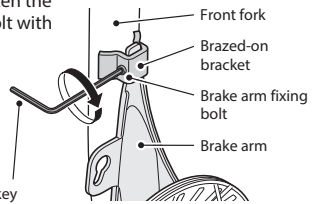
Tightening torque:
0.4 – 0.5 N·m {3.5 – 4.3 in. lbs.}



The surface of the fin and the edge of the thread of the hub shell should be flush.

Securing the brake arm

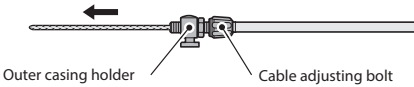
Set the brake arm into the brazed-on bracket of the front fork, and then tighten the brake arm fixing bolt with non-turn stopper. (Use of genuine Shimano parts is recommended.)



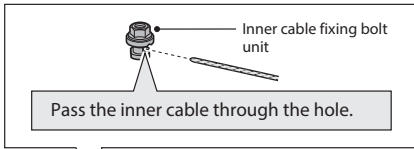
Tightening torque:
0.4 – 0.5 N·m {3.5 – 4.3 in. lbs.}

Installing the brake cable

- Pass the inner cable coming from the brake lever through the cable adjusting bolt and the outer casing holder.



- Attach the inner cable fixing bolt unit to the inner cable.

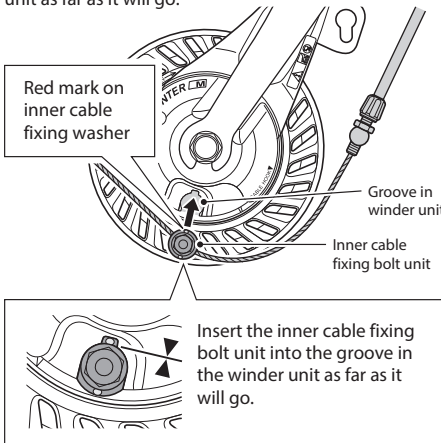


125.5 mm

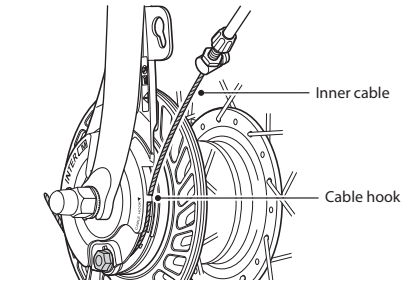
Pull the inner cable while securing the inner cable fixing bolt unit.

Tightening torque:
6 – 8 N·m {52 – 69 in. lbs.}

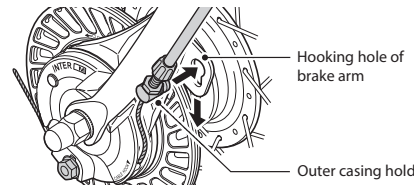
- Align the red mark on the inner cable fixing washer so that it faces in the direction of the groove in the winder unit, and then insert the inner cable fixing bolt unit and push it into the groove in the winder unit as far as it will go.



- Hook the inner cable onto the cable hook.

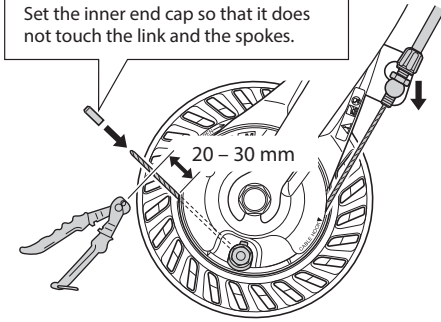


- Place the outer casing holder into the hooking hole of the brake arm and then slide it downward.

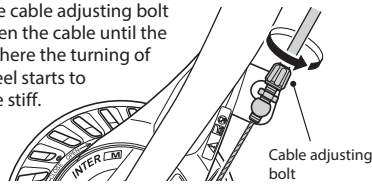


- Check that the outer casing holder is securely sitting at the bottom of the hooking hole of the brake arm, and then cut off any excess length of inner cable. After this, install the inner end cap.

Note:
Set the inner end cap so that it does not touch the link and the spokes.



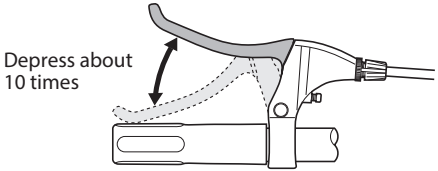
- Turn the cable adjusting bolt to tighten the cable until the point where the turning of the wheel starts to become stiff.



This completes the installation of the brake cable. To remove the brake cable, carry out the installation procedure in reverse. In addition, be sure to remove the fin first before replacing any spokes.

Adjusting the brake cable

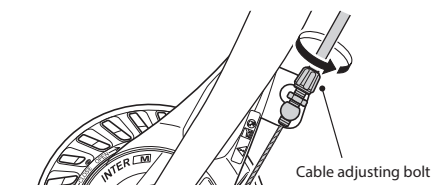
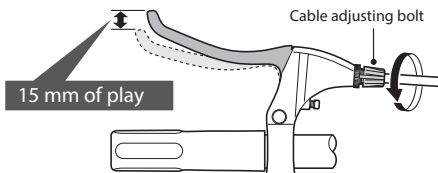
- After checking that the wheel does not easily turn while the brake cable is being pulled, depress the brake lever about 10 times as far as the grip in order to run in the brake cable.



Note:
If the brake cable is not run in, it will need to be adjusted again after only a short period of use.

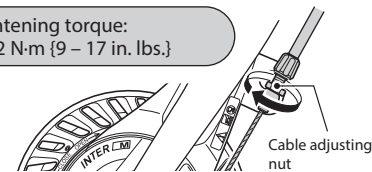
- Turn the cable adjusting bolt of the brake unit or brake lever so that there is about 15 mm of play in the brake lever.

(The amount of brake lever play is the distance from the position where the brake lever is not operated to the position where a force is felt suddenly when the brake lever is pulled.)



- After depressing the brake lever to check the braking performance, secure the cable adjusting bolt with the cable adjusting nut.

Tightening torque:
1 – 2 N·m {9 – 17 in. lbs.}



These service instructions explain how to use and maintain the Shimano bicycle parts which have been used on your new bicycle. For any questions regarding your bicycle or other matters which are not related to Shimano parts, please contact the place of purchase or the bicycle manufacturer.

Please note: Specifications are subject to change for improvement without notice. (English)

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