



# *F i b u l a*

Instruction book



THM Fibula\_3\_en, 2011-04

 Please bear in mind that your THM component is a lightweight construction manufactured from carbon – take this into account for assembly/maintenance work and when handling the product and proceed with caution!

 The THM-Fibula racing brake can be used with all common brake levers that exhibit a leverage ratio of 2:1 and above (brake lever travel : inner brake cable travel).

**Instruction book**

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## Preface



This manual is an integral part of your THM component and it provides you with information regarding the safe operation of your THM-Fibula racing brakes.

Carefully read this manual prior to assembling your THM components. Always read and observe all of the assembly and maintenance instructions in this manual, as well as those provided in the manuals of other manufacturers whose products are used on your bicycle (brake levers, cable system, frame, fork, wheels etc.).

### **WARNING**

Non-observance of the information contained in this manual could result in an accident and death or serious injury.

You will encounter the following symbols and references in this manual:

-  The index finger instructs you to perform a particular action.
-  The arrow indicates the consequence of your action.

### **WARNING**

This safety message indicates a hazardous situation which, if not avoided, could result in death or serious injury.

### **CAUTION**

This safety message indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

### **NOTICE**

This message warns of a risk of material damage.



This refers to additional information or tips.

Retain this manual for other users of your THM components.

Make sure that all users read, understand and observe this manual.

If you ever sell or give away your THM components, this manual should be transferred to the new owner.

We hope you get a lot of joy from your THM components!

*Your THM-Carbones Team*

## Intended use

### ⚠ WARNING

Any use differing from that intended could cause an accident and result in death or serious injury.

THM-Fibula racing brakes have been exclusively designed

- for installation on standard race- and time trial bikes.
- for combination with standard wheel rims that have a corresponding braking flank.
- for combination with common brake levers that have a leverage ratio of 2:1 and above.
- for use on a paved or tarred surfaces (streets/roads).

## Fundamental safety precautions

Always remember that riding a bicycle involves potential danger for the rider and other road users, as well as for the bicycle and its components.

Even if protective equipment and safety devices are used, accidents resulting in death or serious injury can still occur.

**You should therefore use your common sense and avoid any unreasonable behaviour!**

## Assembly & maintenance

### ⚠ WARNING

Risk of accident caused by assembly and maintenance work which has not been conducted in a professional manner.

- Do not overestimate your technical ability. All assembly and maintenance work should be performed by a specialist workshop for bicycles. This is the only way to ensure the work is conducted in a professional manner.
- Always observe all of the specified tightening torques for the screw connections.
- Only ever use original THM components which are available from your specialist dealer or directly from THM.
- Never make any modifications to the THM-Fibula racing brakes.
- Check your brakes (brake block, lever, cables and pads) to make sure they are undamaged and functioning properly every time you use your bike. Send us your THM-Fibula racing brakes before further use if damage is visible (cracks, fractures, deformations, etc.) or if you are in any doubt about their functionality.
- Check your THM components before each journey to ensure the surfaces are completely undamaged. Send us your THM components for inspection before further use if damage is visible (deep scratches in the paintwork which extend into the carbon structure, large abrasions, etc.) or if you are in any doubt about their functionality.
- Always ensure your bicycle is maintained in a flawless condition. Care and maintenance will prolong the service life of your bicycle and its components and also improve your personal safety.

## On the road

### ⚠ WARNING

Risk of accident caused by malfunctioning brakes.

- Before starting out familiarise yourself with the braking performance of the THM-Fibula racing brakes on a quiet and clear stretch of road.
- Always brake by actuating both brakes simultaneously.
- Familiarise yourself with the increased braking distances required in wet conditions on a quiet and clear stretch of road.

Risk of accident caused by erratic riding behaviour or improper equipment.

- Always ride with foresight, attention and a readiness to brake.
- Adjust your speed to the prevailing conditions (traffic, weather, visibility, etc.).
- Do not use your THM-Fibula racing brakes at ambient temperatures below -10°C (14°F).
- Do not exceed the maximum rider weight for which your THM components have been approved – see **Dimensions**, page 9.
- Do not perform jumps with your bicycle as this generates an enormous amount of force.
- Always comply with the traffic regulations that are in force in the country where you are using your bicycle.
- When riding your bicycle you should always wear a high quality cycling helmet (e.g. ANSI certified) that is in excellent condition. Your clothing should be close-fitting but not restrictive.
- Only ride your bicycle if you are in good physical condition and your bicycle and all of its components are operating in a flawless manner.
- If you are involved in a heavy fall you should not continue to ride your bicycle. If such a case occurs, send us your THM components for inspection, even if no external damage is visible. In your own interest you should treat all of the components on your bicycle which have been produced by other manufacturers in the same manner.

## Transport & storage

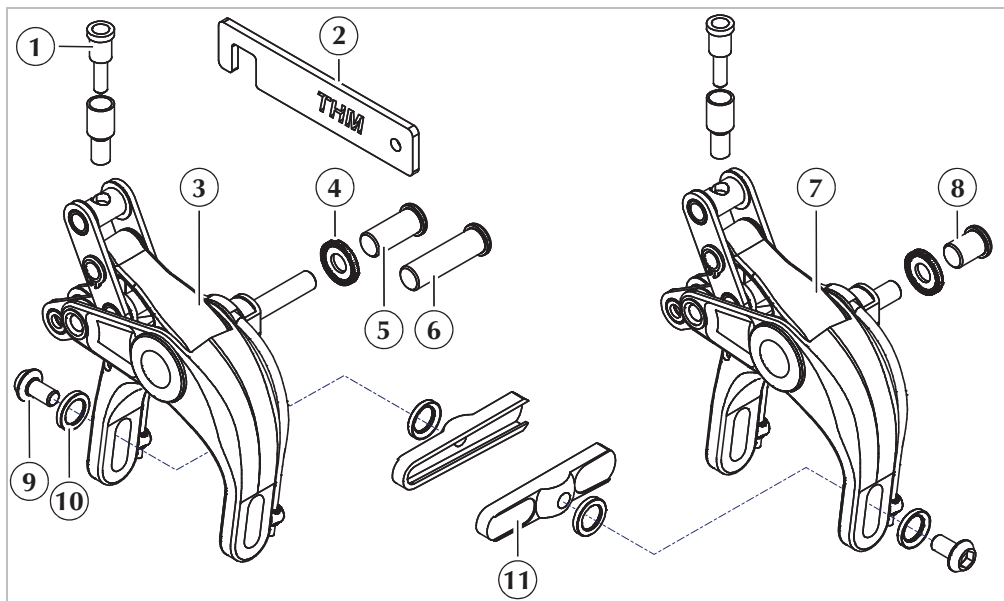
### ⚠ WARNING

Risk of accident caused by damaged bicycle components.

- Always transport your bicycle in an appropriate and careful manner.
- Do not store your THM components at an ambient temperature below -15°C (5°F) or above 55°C (131°F).

Risk of accident.

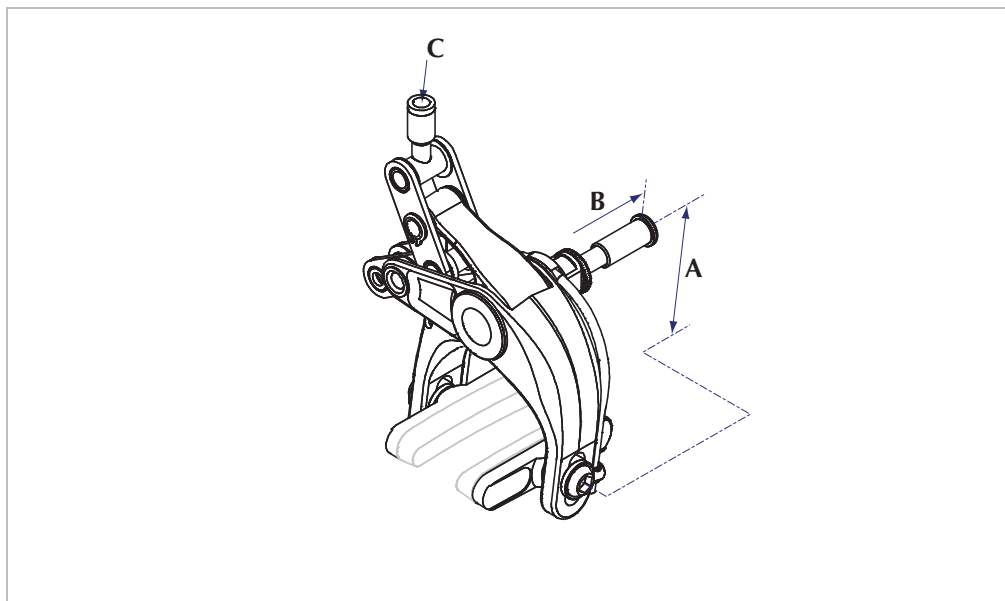
- Do not allow children to play with your bicycle.



## Delivery specifications

- 1 Cable adjuster (×2)
  - 2 THM assembly key
  - 3 Brake block, front
  - 4 Lock washer (×2)
  - 5 Sleeve nut, front – short (20.0mm (0.8in))
  - 6 Sleeve nut, front – long (29.5mm (1.2in))
  - 7 Brake block, rear
  - 8 Sleeve nut, rear (12.5mm (0.5in))
  - 9 Brake shoe bolt (×4)
  - 10 Spherical cap ring (×8)
  - 11 Brake shoe (×4)
- Instruction book





### Dimensions

	A	B	C	Weight*	Total weight**
	mm (in)			g (oz)	kg (lb), max.
Brake, front	44 ± 5	27.0–47.0 (1.1–1.9)	Internal Ø 5	60 (2.1)	120 (265)
Brake, rear		4.5–15.0 (0.2–0.6)			

\* Technical specifications, dimensions and weights are to be understood with the corresponding tolerances and can differ slightly from your THM components.

\*\* Total weight = rider + bicycle + baggage

### Tightening Torques

	N·m (lbf·in) min.–max.	
Sleeve nut	10–12 (89–106)	with thread lock
Brake cable clamping screw	3–5 (27–44)	dry
Brake shoe bolt		

### ⚠ WARNING

Risk of accident caused by malfunctioning or locking brakes due to loose screw connections.

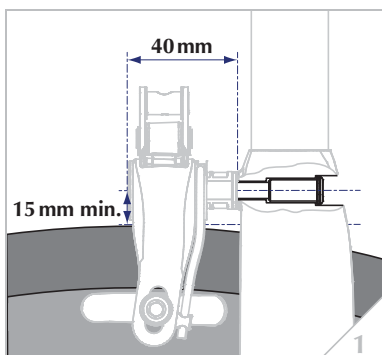
- Check the required tightening torque of all screw connections after the first 500 km (310 miles) – retighten the connections if necessary.

## Fibula assembly

### ⚠ WARNING

If not properly performed, assembly and maintenance work could cause accidents resulting in death or serious injury.

-Do not overestimate your technical ability. All assembly and maintenance work should be performed by a specialist workshop for bicycles. This is the only way to ensure that work is conducted in a professional manner.



Requirements for correct installation and adjustment of the THM-Fibula racing brakes are:

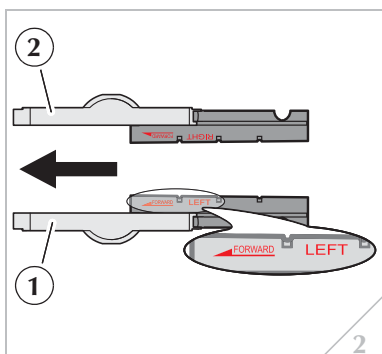
- An intact brake cable system with new inner brake cables.
- Brake cable outer sheaths and end pieces with an external diameter of max. 5 mm (0.2 in).
- Shimano® brake pads.
- Precisely centred wheels (max. 0.2 mm (0.01 in) lateral / max. 1 mm (0.04 in) radial run-out).
- Wheels mounted at the exact centre of the frame and fork.
- Suitable tyre dimensions - min. 15 mm (0.6 in) gap between the tyre and brake bolt axis (fig. 1).

### Installing the brake shoes

### ⚠ WARNING

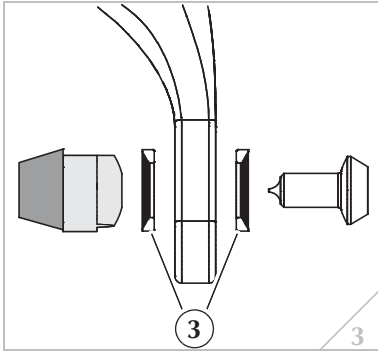
Risk of accident caused by an insufficient braking effect or erratic braking as a result of inappropriate brake pads.

-Only ever use those brake pads which have been approved by your wheel manufacturer.



☞ Make sure all brake pads are correctly installed as follows:

- The arrow (FORWARD) should be facing the direction of travel (to the front).
  - Brake pads marked with a LEFT inscription should be installed in the left-hand brake shoe (1).
  - Brake pads marked with a RIGHT inscription should be installed in the right-hand brake shoe (2).
- ☞ Insert the brake pads into the corresponding brake shoes. (fig. 2)



### ⚠ WARNING

Risk of accident caused by malfunctioning or locking brakes due to improper brake shoe assembly.

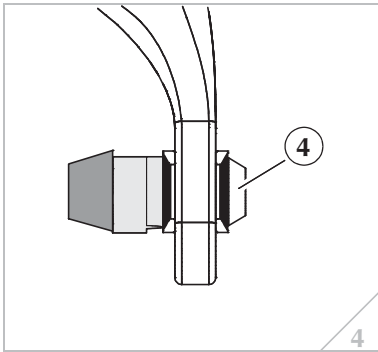
- Make sure the brake shoes are correctly installed on the brake blocks.
- Make sure that all spherical cap rings are fitted with their flat side facing the brake blocks.

☞ Assemble the brake shoes to the brake blocks by using 2 spherical cap rings (3) for each shoe.

(fig. 3)

☞ Only tighten the brake shoe bolts (4) lightly to begin with.

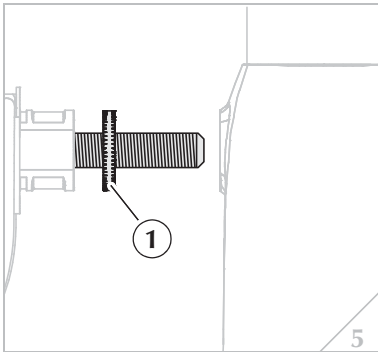
(fig. 4)



### Assembling the brake blocks

☞ Apply the lock washer (1) to the brake bolt.

(fig. 5)



☞ Determine the correct sleeve nut (2) for your front brake block.

➔ The sleeve nut must be able to be screwed onto the thread of the brake bolt through at least 6 rotations (6 mm (0.24 in)).

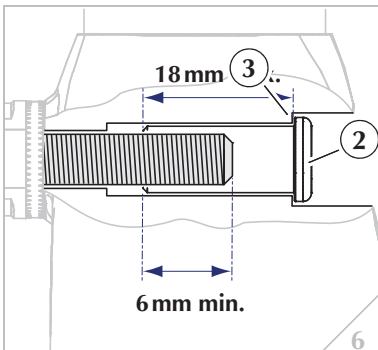
### ⚠ WARNING

Risk of accident as a result of sudden fork breakage due to carbon fibres being damaged through improper assembly.

- Make sure the head of the sleeve nut is seated against the front shoulder (3) of the fork head hole.

(fig. 6)

☞ Do not use any thread lock for the time being!

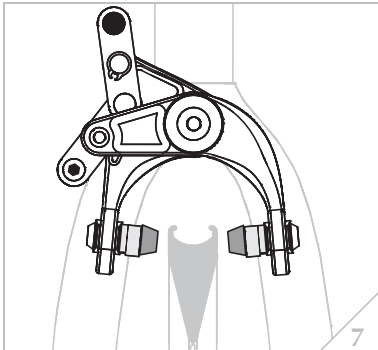




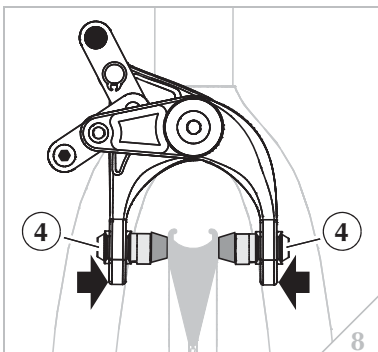
The following installation and adjusting steps are the same for both the front and rear brake blocks and for different rim types.

We have, however, restricted the illustrations used for the individual steps to

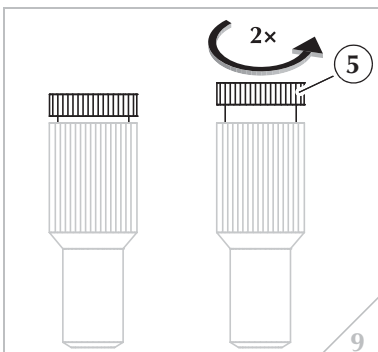
- the front brake block.
- a clincher rim without tyre.



- ☞ Assemble the brake block.
- ☞ Align the brake block so that it is as straight as possible.
- ☞ Only tighten the sleeve nut slightly to begin with. (fig. 7)

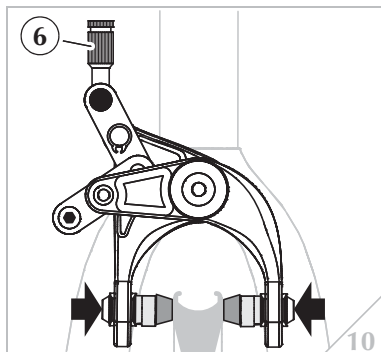


- ☞ Loosen the brake shoe bolts.
- ☞ Press the brake blocks together firmly.
- ☞ Make sure the entire surface of the brake pad has full contact with the braking rim.
- ☞ Only tighten the brake shoe bolts (4) lightly to begin with. (fig. 8)



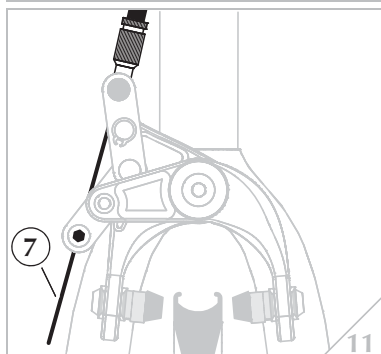
### Assembling the brake cables

- ☞ Pull both parts of the adjuster together.
- ☞ Then unscrew the nut (5) on the adjuster through approximately 2 rotations. (fig. 9)
- ☞ If necessary, remove your old inner brake cables.



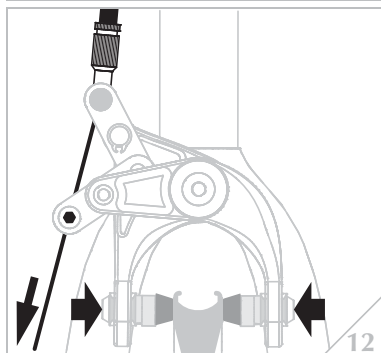
- ☞ Insert the adjuster (6) into its seating.
- ☞ Press the brake blocks together firmly.
- ☞ When the brake block is in this position make sure that the outer sheath of your brake cable is neither too short nor too long, and that it can be installed correctly.
- ☞ Adjust the outer sheath of your brake cable if necessary.

(fig. 10)



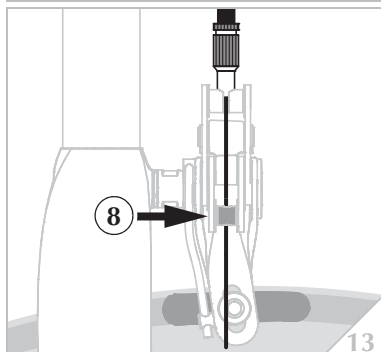
- ☞ Install the new inner brake cable (7).

(fig. 11)



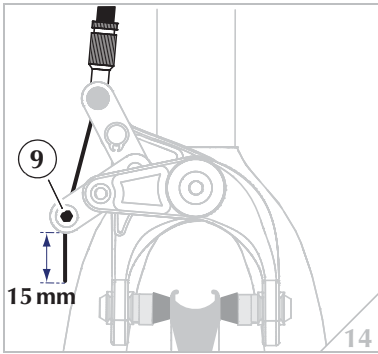
- ☞ Press the brake blocks together firmly.
- ☞ Apply tension to the inner brake cable.
- ☞ Hold the brake block and inner brake cable in this position.

(fig. 12)

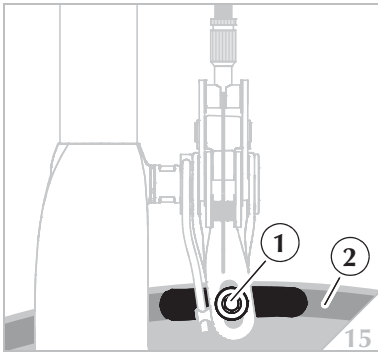


- ☞ Tighten the rear clamping screw (8) to prevent the inner brake cable from slipping out when the brake block is released.

(fig. 13)



- ☞ Shorten the end of the inner brake cable by approximately 15 mm.
- ☞ Affix a suitable ferrule to the end of the inner brake cable or solder it.
- ➔ This will prevent the end of the inner brake cable from splying.
- ☞ Insert an Allen key into the the rear clamping screw (8) and tighten the front clamping screw (9) using a torque of **3 N·m (27 lbf·in)**. (fig. 14)



### Adjusting the brake shoes

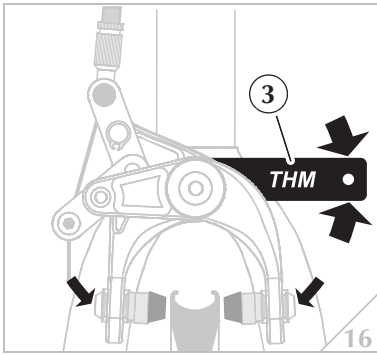
- ☞ Actuate the brake lever slightly and hold it during the following steps.
- ☞ Loosen the brake shoe bolts (1).
- ☞ Adjust the brake shoes so that the brake pads are located exactly in line with the braking rim (2).
- ☞ Make sure the entire surface of the brake pad has full contact with the braking rim.

### ⚠ WARNING

Risk of accident caused by punctured tyres or locking wheels due to incorrect brake shoe adjustment.

-Make sure that the brake pads are not able to come into contact with the tyre wall or the spokes.

- ☞ Tighten the brake shoe bolts(1) using a torque of **3 N·m (27 lbf·in)**.
- ➔ The brake shoe bolts are now fully assembled. (fig. 15)
- ☞ Actuate the brake lever 2-3 times on the handlebars.
- ☞ All components of the brake cable system have now settled and stretched.
- ☞ Remove the sleeve nut.
- ☞ Apply medium-strength thread lock to the thread of the brake bolt.
- ☞ Mount the sleeve nut and tighten it slightly to begin with.

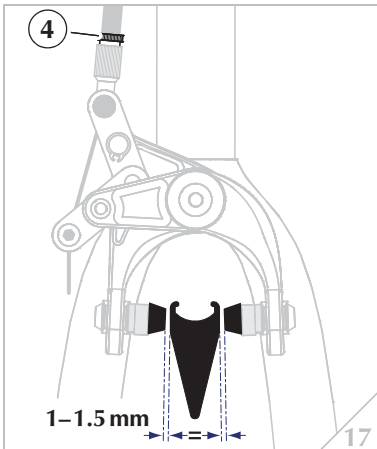


- ☞ Use the THM assembly key (3) to align the brake block at the exact centre.
  - ☞ Hold the THM assembly key in this position and actuate the brake lever 1–2 times.
  - ☞ Use the THM assembly key to align the brake block at the exact centre.
  - ☞ Hold the brake block with the THM assembly key and tighten the sleeve nut with a torque of **10 N·m (27 lbf·in)**.
- The brake block is now fully assembled. (fig. 16)

### ⚠ WARNING

Risk of accident caused by malfunctioning or locking brakes due to loose screw connections.

- Check the required tightening torque of all screw connections after the first 500 km (310 miles) – re-tighten the connections if necessary.



### Adjusting cable tension

- ☞ Check the gaps between the brake pads and the braking rim. These must be equal on both sides and should be between 1 and 1.5 mm (0.04 and 0.06 in).
- ☞ If necessary, adjust the gap by actuating the nut (4) on the adjuster - when doing this hold the lower part of the adjuster with your other hand.
  - ☞ Turn the nut (4) anti-clockwise.
    - The gap is increased.
  - ☞ Turn the nut (4) clockwise.
    - The gap is reduced.

(fig. 17)

- Assembly and adjustment of the brake block is now complete.

## Important maintenance information

### ⚠ WARNING

If not properly performed, assembly and maintenance work could cause accidents resulting in death or serious injury.

- Do not overestimate your technical ability. All assembly and maintenance work should be performed by a specialist workshop for bicycles. This is the only way to ensure the work is conducted in a professional manner.

Improperly performed assembly and maintenance work could also result in a loss of your warranty rights (liability for defects)!

### ⚠ WARNING

Risk of accident caused by damaged components.

- Never attempt to disassemble your THM-Fibula racing brakes - only THM employees are authorised to do this.
- Always read and observe all of the assembly and maintenance instructions in this manual, as well as those provided in the manuals of other manufacturers whose products are used on your bicycle (brake levers, cable system, frame, fork, wheels, etc.).
- Always observe the minimum and maximum values specified – see **Technical specifications**, from page 8.
- When conducting assembly steps that require a specific tightening torque, always use an appropriate torque wrench that is designed for the tightening torque specified.
- Only ever use original THM components which are available from your specialist dealer or directly from THM.

Always ensure your bicycle is maintained in a flawless condition. Care and maintenance will prolong the service life of your bicycle and its components and also improve your personal safety!

If you suspect that your bicycle is defective or is not functioning properly, stop using it and contact a specialist bicycle workshop immediately!

### NOTICE

Never use a high-pressure cleaner or steam cleaner to clean your bicycle, as the seals of your bicycle components are not able to withstand the pressure. If such cleaners are used, it would result in corrosion and material damage.

Never use caustic solvents (such as paint thinners, acetone, nitro compounds, etc.) as they can attack the surface of your THM components.

Only use commercially available paint care products and water to clean your THM components. Spirit or petrol should be used carefully

- when using such products avoid excessive wiping and prolonged exposure times.

## Disposal

If THM components are defective or no longer in use, you can dispose of them with your non-recyclable waste or domestic refuse, or ask a local waste disposal company for other disposal methods (e.g. recycling).



## Opening the brake blocks



Open the brake blocks before disassembling your wheels.

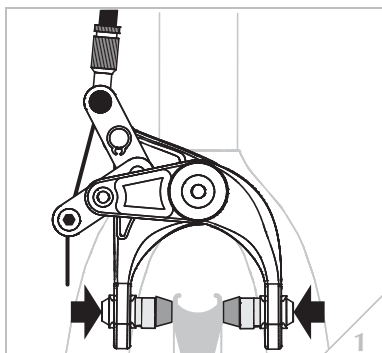
### ⚠ WARNING

Risk of accident caused by non-functioning brakes due to open brake blocks.

- Make sure the brake blocks are always properly closed before setting off.

☞ Press the brake blocks together firmly.

(fig. 1)



☞ Remove the adjuster (1) from its seating.



If the adjuster cannot be removed due to excessive cable tension, press the two parts of the adjuster together.

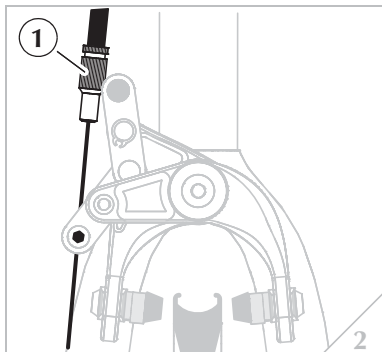
☞ Release the brake blocks.

➔ The brake blocks are now open and you can remove your wheel.

(fig. 2)

☞ After assembling your wheel reinsert the adjuster into its seating.

☞ Check the settings of your brakes and adjust if necessary – see **Adjusting cable tension**, page 15.



## Before every journey

### ⚠ WARNING

Risk of accident caused by material damage or improper assembly.

- Check to ensure the quick release elements and your wheels have been firmly and correctly secured.
- Check your brakes (brake block, lever, cables and pads) to make sure they are undamaged and functioning properly every time you use your bike. Send us your THM-Fibula racing brakes before further use if damage is visible (cracks, fractures, deformations, etc.) or if you are in any doubt about their functionality.
- Check your THM components before each journey to ensure the surfaces are completely undamaged. Send us your THM components for inspection before further use if damage is visible (deep scratches in the paintwork which extend into the carbon structure, large abrasions, etc.) or if you are in any doubt about their functionality.
- Do not exceed the maximum rider weight for which your THM components have been approved – see **Dimensions**, page 9.

- ☞ Check the braking rims of your wheels for foreign objects – remove any foreign objects found.
- ☞ Check the brake pads for damage (cracks, breakage, etc.) and foreign objects (stones, shards of glass etc.). Replace any defective brake pads with new ones before riding your bicycle or remove the foreign objects.

## Regular maintenance

The maintenance intervals required for your bicycle depend on how often and in which weather conditions it is used.

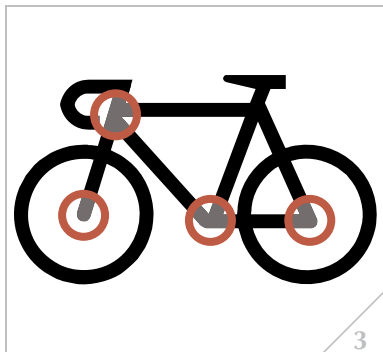
The following maintenance measures should be conducted more frequently if the bicycle is used in extreme conditions (rain, dirt, long distances, etc.).

When conducting regular maintenance procedures make sure your bicycle is always clean and well protected by lubricants and cleaning agents. Ask your specialist dealer about appropriate lubricants and cleaning agents as well as information relating to their correct application.

### NOTICE

Reduction in the free movement of the THM-Fibula racing brakes due to adherence of dirt on lubricated components.

- Do not apply any lubricant (grease, oil, silicone, Teflon, etc.) to the joints of the brake blocks.
- The free movement of the THM-Fibula racing brake can be ensured by regularly cleaning the joints with water.



### NOTICE

Never use a high-pressure cleaner or steam cleaner to clean your bicycle, as the seals of your bicycle components are not able to withstand the pressure.

If such cleaners are used, it would result in corrosion and material damage.

If you are using a hose, handle it with care – never aim the hose directly at the bearing components (fig. 3).

- ☞ Clean your THM-Fibula racing brakes at regular intervals by using water and a non-abrasive, environmentally-friendly cleaning agent.
- ☞ Use a plastic scraper to remove any brake pad residue from the braking rims of your wheels at regular intervals. If required, use a cloth moistened with a small amount of petrol or spirit to remove the last remaining residues.

### NOTICE

Risk of damage to the surface by dissolving the epoxy resins.

- Only briefly wipe the surface with the moistened cloth.
- Do not allow the petrol or spirit to react.

- ☞ When cleaning your THM components always check for signs of damage (dents, cracks, scratches, large abrasions, worn areas, etc.).

## **⚠ WARNING**

Risk of accident caused by malfunctioning brakes.

-After conducting any cleaning, maintenance or repair work make sure that the braking rims of your wheels are free from lubricants (such as grease, oil, silicon, Teflon, wax or other similar agents).

- ☞ Periodically preserve the surface of your THM components using a high quality protecting wax or other similar agent.
- ☞ Periodically check the gear and brake cables to ensure they are moving freely.
- ☞ Periodically check all bolts to ensure they are firmly secure; when doing this observe the respective tightening torques.



## Materials defect liability

We provide a 24-month warranty for all THM products which covers material and processing defects.

During this period all products accepted to be defective are replaced at no cost to the user.

The liability period starts at the time the relevant THM product was purchased.

Liability does not extend to any kind of damage caused by accidents, modifications, negligence or improper handling and use.

Liability shall expire if repair work or any other work on the THM product has been conducted by unauthorised persons.

The same shall also apply to any direct or indirect damage resulting from an action described in the preceding sentence.



Please contact us **before** returning a defective THM product!

**If products are returned without our previous agreement, the shipping costs incurred will be charged to your account!**

## Warranty

Minor damage to your THM products will be repaired by our workshop free of charge even after expiration of the 24-month liability period, provided that the work required does not exceed 0.5 hrs.

The decision regarding whether or not a repair is to be carried out free of charge rests solely with us.

**If the damage has been self-inflicted, there is no entitlement to free repair work!**

In the event of self-inflicted damage please send us the product concerned for inspection. We will then assess the level of work required and either perform the repair free of charge or send you a quotation. It is then up to you to decide whether or not to go ahead with the repair work.

When returning a damaged product to us please ensure adequate postage costs are provided. Any shipment which is not prepaid will be rejected and returned to the sender!

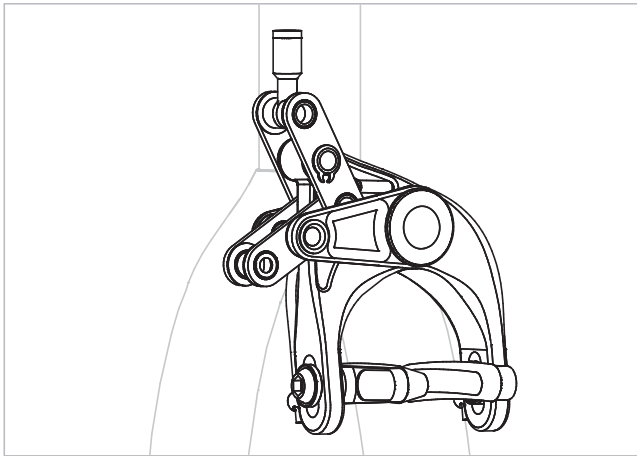
**In the event of irreparable damage (e.g. caused by an accident) we will provide a 40% discount from the respective list price if you purchase a new THM product as a replacement.**

The relevant claim must be forwarded directly to THM Faserverbund-Technologie GmbH. The irreparable product shall then remain our property.


The company THM Faserverbund-Technologie GmbH is constantly striving to improve product designs as technical developments continue. We therefore reserve the right to make alterations which must not correspond to the text and illustration contained in this manual, and without incurring obligation to alter any products previously delivered. Technical specifications, dimensions and weights are to be understood with the corresponding allowances.


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