

USER AND MAINTENANCE MANUAL

The bicycle in your possession is the result of thorough research, including a careful selection of high-quality components and extensive testing.

This manual aims to provide fundamental instructions to simplify the adjustment and maintenance of your bicycle.

Please read it carefully before use and follow the instructions to ensure optimal performance and a long lifespan for your bicycle.

Failure to adhere to these instructions is the responsibility of the bicycle owner.

SAFETY

When using the bicycle on public roads, it is essential that the vehicle is equipped with a lighting system and warning signals compliant with local traffic regulations. For your personal safety, it is strongly recommended to always wear a helmet.

Ensure that the bicycle is used correctly and in accordance with its intended purpose. Improper use could result in serious injuries. For bicycles intended for children, it is crucial to teach them proper usage, particularly the use of brakes.

Be aware that the bicycle, like any mechanical object, is subject to significant stress and wear. Materials and components may respond differently to time, wear, or impacts. Each component might suddenly break at the end of its lifecycle, potentially causing injuries to the rider. For this reason, it is essential to have the bicycle regularly inspected and maintained. Cracks, scratches, and discoloration in heavily used parts are signs that the component needs replacement.

Safety standards comply with industry regulations:

- **UNI EN ISO 4210** for adult bicycles
- **UNI EN ISO 8098** for children bicycles

MAXIMUM PERMISSIBLE RIDER WEIGHT TABLE

| <i>Tipo di bicicletta</i> | <i>Peso Massimo del guidatore</i> | <i>Portata massima bagagli</i> |
|---|--|--|
| Biciclette da città e da trekking | 100 kg | Guardare le specifiche degli accessori |
| Biciclette misure 12"/16"/20"/24" | 40-60 kg | |
| Mountain bike | 100 kg | |
| Bicicletta pieghevole | 90 kg | |

INSTRUCTIONS FOR USE

Before using your bicycle, it is recommended to thoroughly check the brakes and ensure that the quick-release system or wheel nuts are securely fastened. Pay attention to ensure that the tire pressure is adequate and that the seat post, saddle, and handlebar stem are properly adjusted and tightened.

PERIODIC MAINTENANCE

Your bicycle requires regular maintenance and periodic inspections, which depend on the specific model, frequency of use, and environmental conditions.

| FREQUENZA | PUNTI DI CONTROLLO | SCOPO DELLA MANUTENZIONE | | |
|-------------------|--|--------------------------|---------|----------------|
| | | Ispezione | Pulizia | Lubrificazione |
| Prima di ogni uso | Bloccaggio rapido/dadi fissanti ruota Freno anteriore e posteriore Coperture: usura e pressione Funzione del sistema di illuminazione Serraggio del piantone manubrio e del canotto sella Serraggio bulloni in generale | | | |
| Ogni 500 km | Serraggio del sistema di sterzo Serraggio di pedali e pedivelle Tensione dei raggi ruota | | | |
| Ogni mese | Catena Cambio Ruota libera | | | SAE-20 |
| Ogni 6 mesi | Perno dei pedali Mozzi ruota Canotto reggisella Sistema di sterzo | | | Grasso |
| Ogni anno | Cavi dei freni e del cambio | Cambio | | |

Note: Maintenance and inspections should only be carried out by authorized dealers. The intervals indicated in the table are guidelines and apply under normal usage conditions. For mountain bikes, more frequent maintenance is recommended in cases of intensive use.

BICYCLE PREPARATION

1. ADJUSTING THE SADDLE HEIGHT

To calculate this value, multiply the internal leg measurement, including the shoes worn while riding, by a coefficient of 0.885. The result represents the ideal distance between the center of the saddle and the center of the bicycle's bottom bracket. To adjust the height, loosen the bolt and move the seat post vertically to the desired position, then re-tighten the bolt.

Caution: For safety and proper use, the horizontal mark on the seat post should always remain within the tube into which it is inserted and never above it.

2. ADJUSTING THE HANDLEBAR HEIGHT

To ensure a comfortable posture, we recommend making the following adjustments:

| <u>ALTEZZA SELLA DA TERRA</u> | <u>MAGGIORE ALTEZZA DEL MANUBRIO</u> |
|-------------------------------|--------------------------------------|
| 65/68 cm | 5/6 cm |
| 69/72 cm | 6/7 cm |
| 73/76 cm | 7/8 cm |
| 77/79 cm | 8/9 cm |
| 80/82 cm | 9/10 cm |

Caution: For traditional handlebar stems, it is essential to adhere to the height specified by the manufacturer, taking into account the minimum insertion limit. Never exceed this limit to ensure proper use and device safety.

3. TIGHTENING TORQUE FOR SCREWS, NUTS, AND BOLTS

When assembling any component, use appropriate wrenches and avoid applying excessive force. Screws, bolts, and nuts must be replaced if their threads are damaged during tightening or loosening.

Below are the recommended tightening torques for various screw sizes, unless otherwise specified:

| <u>MISURA DELLA VITE</u> | <u>TORSIONE SERRAGGIO (daN°m)</u> |
|--------------------------|-----------------------------------|
| M4x0.7 | 0.3-0.4 |
| M5x0.8 | 0.6-0.8 |
| M6x1 | 1-1.4 |
| M8x1.25 | 2.5-3.5 |
| M8x1 | 2.7-3.8 |
| M10x1.5 | 4.9-6.9 |
| M10x1.25 | 5.2-7.3 |

TEST THE BRAKING DISTANCE

Before using the bicycle, carefully verify that the front and rear brakes are in **EXCELLENT CONDITION**. Any cable showing signs of wear must be replaced **IMMEDIATELY**. Ensure that both brakes are operated **SIMULTANEOUSLY** to avoid falls, especially on wet roads. On damp surfaces, the braking distance may be approximately 40% longer than on dry ones.

CLEANING

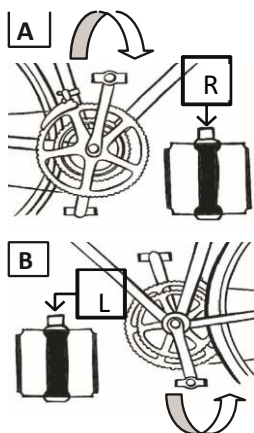
To keep your bicycle in excellent condition, follow these precautions:

- Remove dust and mud with a damp sponge and mild detergent. Avoid using solvents or aggressive and/or alkaline detergents, particularly on painted parts.
- Clean plastic components using only water and soap.
- Wipe the tires with a damp sponge and soapy water.
- Dry the bicycle with a soft cloth.
- Lubricate the chain after every cleaning.

Caution: Do not use high-pressure cleaners or steam jets.

BASIC ADJUSTMENTS

1. PEDAL INSTALLATION



RIGHT PEDAL: Identified with the letter "R" marked on the spindle. To install the pedal, screw the spindle in a clockwise direction (Figure A).

LEFT PEDAL: Identified with the letter "L" marked on the spindle. To install the pedal, screw the spindle in a counterclockwise direction (Figure B).

Note: Pay special attention to the correct placement of the pedals (right and left). If installed incorrectly, the crank arm will unscrew and become unusable.

2. HANDLEBAR STEM ADJUSTMENT



CONVENTIONAL STEM:

Loosen the fixing bolt to unlock the conical ring. Adjust the stem to the desired height and tighten the bolt.

Important: Ensure that the insertion mark is not visible.

To adjust the handlebar position:

- Loosen the handlebar fixing bolt.
- Rotate the handlebar to the desired angle.
- Re-tighten the fixing bolt securely.

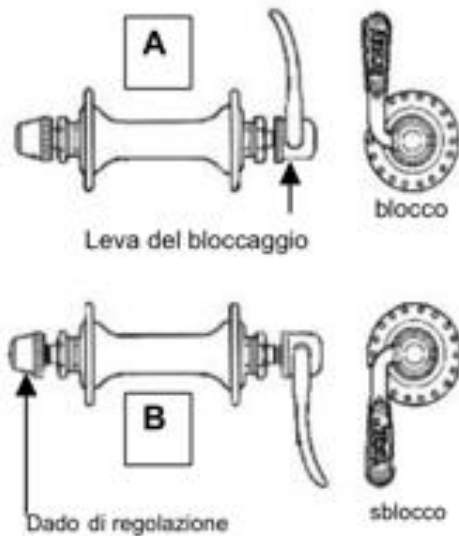
AHEAD STEM:

To adjust the height:

- Remove the top cap and the handlebar tube by loosening the fixing bolt and the tensioning bolts.
- Add the necessary spacers above or below the stem.
- Reassemble the stem and tighten the top cap until the steering operates smoothly.
- Finally, tighten the tensioning bolts securely.

Important: Ensure the gap between the top of the stem and the top of the fork tube is between **2 mm and 4 mm**

3. REMOVING AND INSTALLING WHEELS



REMOVAL: Loosen the brake calipers by releasing or loosening the brake cable. Move the locking lever from position A to position B. Manually unscrew the adjustment nut and remove the wheel.

INSTALLATION: Fully insert the wheel axle into the slot of the fork (front wheel) or frame (rear wheel), with the locking lever in the "unlock" position. Slightly tighten the adjustment nut and position the locking lever in position A.

Important: Verify that the lever requires significant force to move. If the lever moves easily, tighten both the lever and the adjustment nut further.

4. SEAT HEIGHT ADJUSTMENT



To adjust the seat height, insert the seat post into the frame tube. When the seat is at the desired height, tighten the lever or the fixing bolt.

Important: Ensure that the minimum insertion mark is never visible, thus guaranteeing the minimum required insertion length of the seat post into the frame tube.

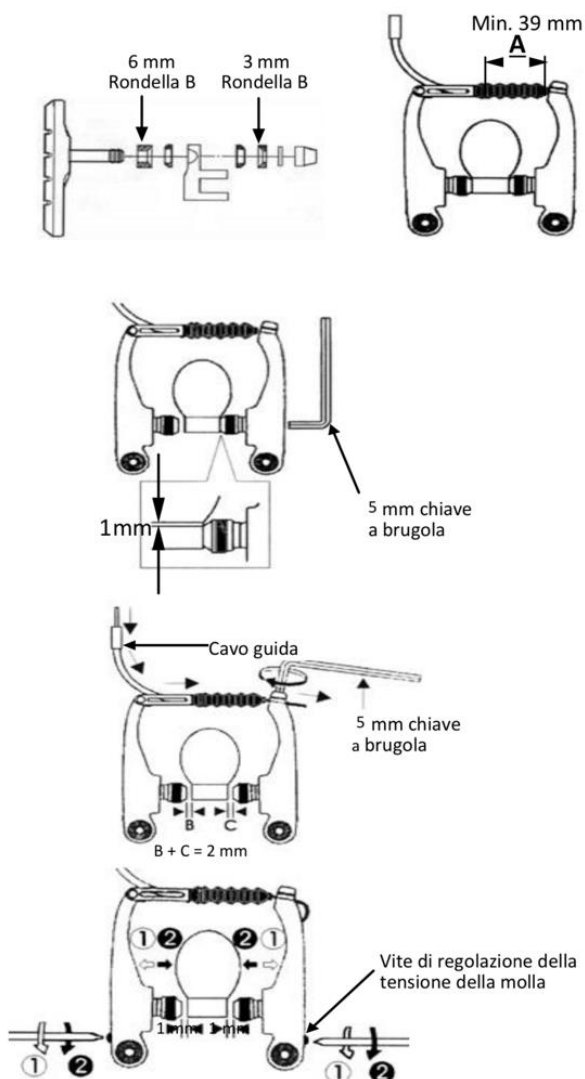
5. INSTALLATION OF THE TRAINING WHEELS

The training wheels must always be attached to the rear of the bicycle, either to the rear hub or to the frame.

To achieve greater stability, adjust the training wheels so that the wheels make contact with the ground with a friction surface between 1 and 2.5 cm when the bicycle is in a vertical position.

MAINTENANCE

V-BRAKE ADJUSTMENT



ADJUSTMENT:

1. Brake Pad Distance:

- Apply the V-brakes against the rim.
- Adjust the brake pad distance by changing washer B (3 mm or 6 mm) to ensure that distance A is at least 39 mm.

2. Brake Pad Fixing:

- With the brake pad pressed against the rim, use a 5 mm Allen wrench to tighten the brake pad fixing bolt.
- Ensure the distance from the top edge of the rim is 1 mm.
- Apply a torque between 6-8 Nm.

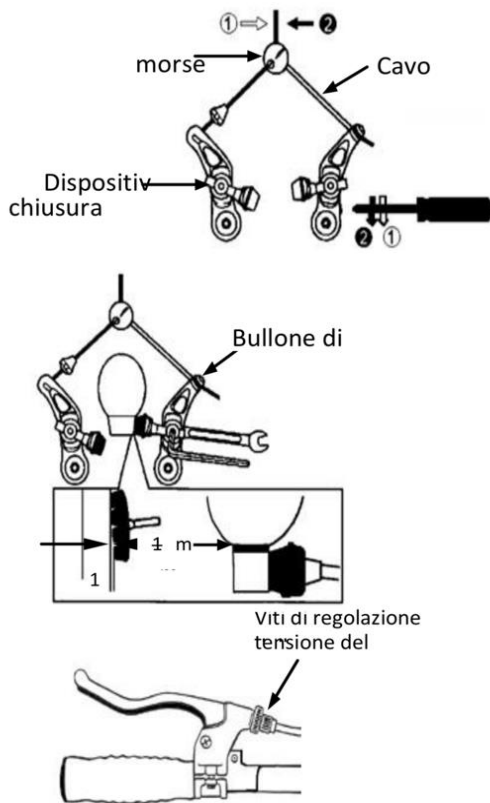
3. Brake Pad Skew Adjustment:

- Pull the cable to achieve a 2 mm gap between the right and left brake pads.
- Lock the adjustment with a torque of 6-8 Nm.

4. Final Balancing:

- Use the spring adjustment screws to balance the system, ensuring each brake pad is positioned 1 mm from the rim.

CANTILEVER BRAKE ADJUSTMENT



ADJUSTMENT:

1. Release the brake arm closure device.
2. Tension the cable by aligning it transversely with the clamp and locking it at the rear of the main clamp.
3. Adjust the balance by turning the cable tension adjustment screws.
4. Position the brake pads on the rim and adjust the height until the bolt is perpendicular to the rim. Move the brake pads 1 mm back from the rim edge.
5. Remove the cable fixing bolt and loosen the cable by 2 mm to achieve a 1 mm gap between the brake pad and the rim edge.
6. If necessary, fine-tune the balance by rotating the cable tension adjustment screws (drum) located on the brake lever.

MECHANICAL DISC BRAKE ADJUSTMENT

As with V-brakes, check the condition of the wheel to ensure it is straight. Then, make sure the disc is not warped, meaning it should not have any damage such as small dents. Now, proceed with the adjustments:

1. Loosen the Brake Caliper Bolts:

Using an Allen key, loosen the two bolts that hold the brake caliper in place, allowing it to move.

2. Tighten the Brake Lever:

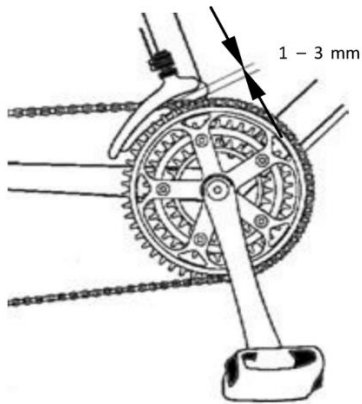
Squeeze the brake lever fully to apply pressure on the brake pads, and while doing so, tighten the two caliper bolts.

3. Check for Rubbing:

If you still hear rubbing noises, loosen the bolt holding the brake caliper and reposition it. Repeat this process as many times as necessary, making sure to tighten the caliper bolt securely at the end.

Tip: If the rubbing persists, check for any issues with the disc, such as dirt buildup or wear.

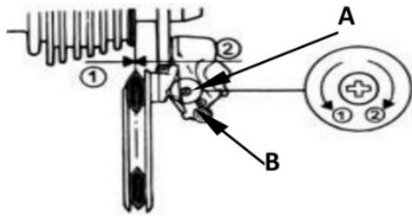
FRONT DERAILLEUR ADJUSTMENT



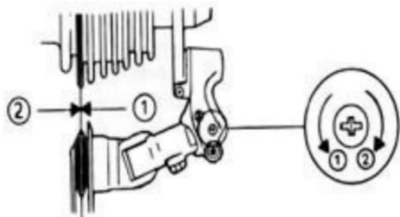
1. **Check Outer Cage Plate Clearance:** Ensure that the bottom of the outer cage plate is close to the top of the chainring teeth, with a distance of 1-3 mm.
2. **Lower Stop Adjustment:** With the chain on the smallest chainring in the front and the largest cog in the freewheel, turn the lower limit screw until you achieve a 1-3 mm distance between the chain and the outer cage plate.
3. **Upper Stop Adjustment:** With the chain on the largest chainring in the front and the smallest cog on the freewheel, turn the upper limit screw until you achieve a 1-3 mm distance between the chain and the outer cage plate.
4. **Cable Tension Adjustment:** With the chain on the middle cog of the freewheel, turn the cable tension adjustment screw clockwise if the chain touches the inner cage plate, or counterclockwise if the chain is touching the outer cage plate.

REAR DERAILLEUR ADJUSTMENT

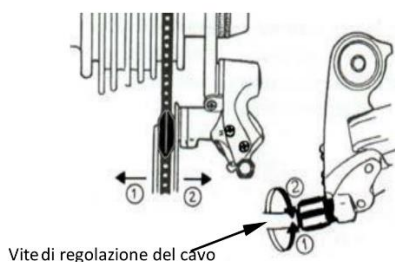
Regolazione limite inferiore



Regolazione limite superiore



Regolazione della tensione del cavo



Adjustment of Upper and Lower Limit Stops:

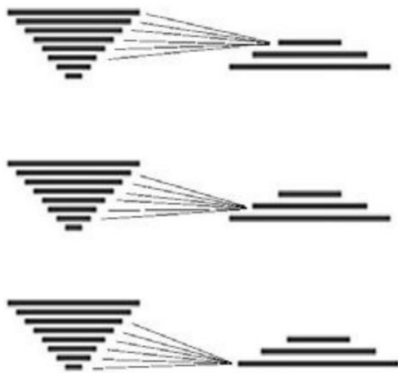
1. **Use Screws A and B to Adjust Limits:** Turn screws A and B to adjust the derailleur's limit stops.
2. **Set the Screws to Prevent Chain Overshift:** Turn both screws so that the chain does not fall off the upper or lower limit of the derailleur.
3. **Ensure Proper Alignment:** Make sure that the chain guide device is aligned with both the largest and smallest cog on the freewheel.

Cable Tension Adjustment:

1. **Shift to the Second Gear:** Move the shifter to the second gear position.
2. **Adjust the Cable Tension Screw:** Turn the cable tension adjustment screw until the derailleur aligns perfectly with the second cog on the freewheel.

This adjustment ensures that the derailleur operates correctly and that the chain moves smoothly between gears.

SHIFTING GEARS



To prevent damage to the derailleur, it is recommended not to apply too much pressure on the pedals while shifting gears. Avoid shifting during intense effort or when riding uphill. Do not use extreme gear combinations: avoid pairing the smallest rear cog with the largest front chainring and vice versa. The middle gear is designed to be used optimally across all gears. Using extreme gear combinations can cause lateral distortion of the chain, which interferes with the proper functioning of the derailleur and accelerates the wear of drivetrain components.

TIRE PRESSURE

The recommended tire pressure is usually marked on the outside of the tire. It is expressed in PSI or bar, with the maximum value clearly indicated.

Under-inflated tires are more susceptible to punctures and can damage the rim. On the other hand, excessive pressure can reduce traction on the ground.

Important: When the tires reach the wear limit, they must be replaced. A good tread pattern is essential for ensuring better bike performance and safer braking.

Remember that 14 PSI equals 1 bar, so 1 bar = 1 kg/cm².

REPLACEMENT OF WORN PARTS

Parts that wear out most frequently include tires, brake pads, discs, brake shoes, and rims (especially if part of the braking system).

1. **TIRES:** Replace tires only with identical or equivalent ones, always checking the external marking of the tire. If the replacement tire diameter is larger than the original, it may cause the front wheel or fender to touch the pedal during direction changes, compromising bike control. The same risk applies if a longer crank arm is used.
2. **TUBULARS:** Check the recommended inflation pressure in the manufacturer's manuals and follow the mounting recommendations based on the rim for the best possible grip.
3. **BRAKE SHOES:** Regularly check the wear on brake shoes. When the grooves on the brake pads are no longer visible, they need to be replaced with the same type and size.
4. **BRAKE PADS AND DISCS:** Refer to the manual provided by the specific manufacturer for instructions on how to replace brake pads and discs. Follow the manufacturer's recommendations for optimal braking system performance.
5. **RIMS:** Rim wear is greater if they are part of the bicycle's braking system, meaning the brake pads act directly on the rims. Regularly check the condition of the rims and replace them with the same type and size when signs of wear appear.