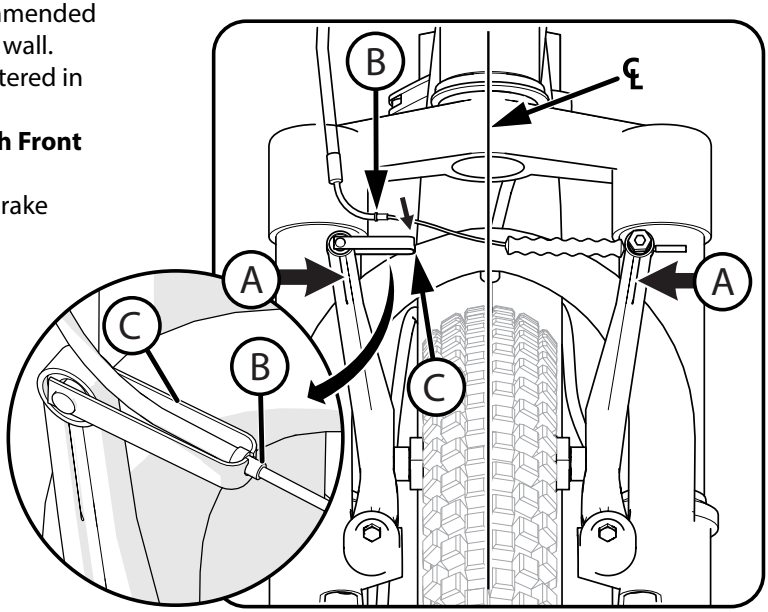
Linear Pull Brake System Adjustment - Before Starting

IF EQUIPPED: The Following Sections Describe Final Brake System Adjustments Required Before Riding.

- Inflate Tires to recommended pressure on Tire side wall.
- Make sure Tire is centered in Fork.
- **If Needed, Re-attach Front Brake Cable:**
  - Squeeze the two Brake arms together Ⓐ.
  - Insert the Brake Cable Guide Ⓑ into the cutout in the Guide Bracket Ⓒ.
  - Make sure the Brake Cable Guide Ⓑ is seated securely in the Guide Bracket Ⓒ cutout.



Final Brake Adjustment Before Riding

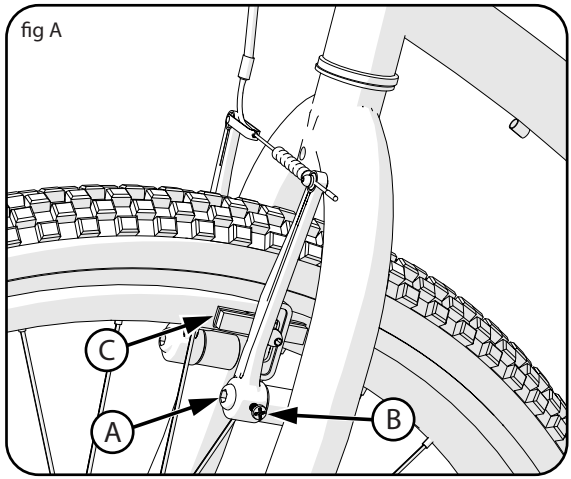
Check tightness of the cantilever mounting Bolt Ⓐ (fig A):

- Make sure each cantilever mounting Bolt is tightened securely.

Center brake shoes on rim:

1. Turn the Adjustment Screw Ⓑ on the cantilever arm to move the arm in or out so each Brake Shoe Ⓒ is the same distance from the rim.
2. Squeeze the brake lever two times.
3. Do this step again, until both brake shoes are the same distance from the rim.

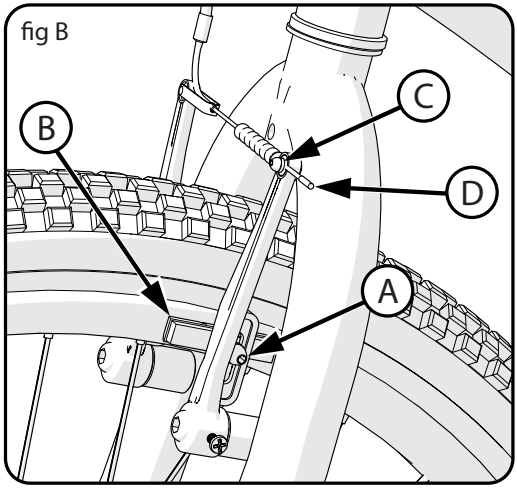
fig A



Linear Pull Brake System - Adjustment continued

NOTE: The front and rear break adjustments are the same.

WARNING: You must adjust the front and rear brakes before you ride the bicycle.



Step 1: Put the brake shoes Ⓑ in the correct position (fig B):

1. Loosen the Screw Ⓐ of each Brake Shoe Ⓑ.
2. Adjust each Brake Shoe so it is flat against the rim and aligned with the curve of the rim.
3. Make sure each Brake Shoe does not rub the tire.
4. If the surface of the Brake Shoe has arrows, make sure the arrows point toward the rear of the bicycle.
5. Hold each Brake Shoe in position and tighten the Screw.

Step 2: Test the tightness of each Brake Shoe:

1. Try to move each Brake Shoe out of position.
2. If a Brake Shoe moves, do Step 1 again, but tighten the nut tighter than before.
3. Do this test again, until each Brake Shoe does not move.

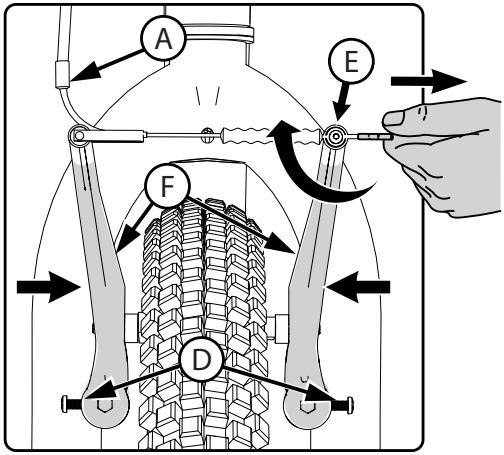
Step 3. Stretching the cable (fig B):

1. Hold both Brake Shoes against the rim.
2. Loosen the cable clamp Screw Ⓒ.
3. Pull the Cable Ⓓ tight and tighten the Screw.

WARNING: Do not over tighten the cable clamp Screw. Over tightening the cable clamp Screw may cut the cable and cause injury to the rider or to others.

4. Squeeze each brake lever firmly 20 times.
5. Hold both Brake Shoes against the rim and loosen the cable clamp Screw.
6. Pull the Cable tight and tighten the cable clamp Screw.

PUT THE BRAKE SHOES THE CORRECT DISTANCE FROM THE RIM:



1. If desired, adjust Brake Levers Ⓖ to a comfortable distance from the grip using the Adjustment Screw Ⓗ. Turning the screw IN brings it closer to the grip.
2. Make sure brake line Sheaths Ⓐ, Ⓑ are seated correctly.
3. Position each Brake Shoe 1/16 inch away from the rim:
4. Turn the caliper brake adjusting Screws Ⓓ in or out to make the adjustment.
5. If the brake shoes cannot be positioned the correct distance from the rim, hold both Brake Shoes against the rim and loosen the cable clamp Screw Ⓔ
6. Squeeze the Brake Arms Ⓕ together and pull or loosen the cable wire slightly.
7. Tighten the cable clamp Screw.

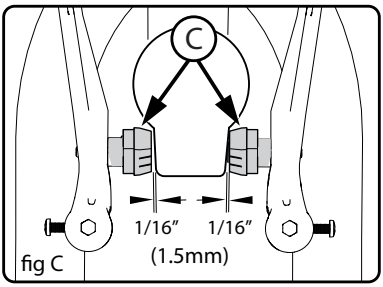
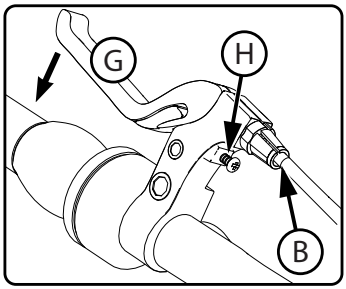


fig C



WARNING: Do not over tighten the cable clamp. Over tightening the cable clamp may cut the cable and cause injury to the rider or to others.

8. Repeat these steps until the brake shoes are 1/16 inch from the rim and the Brake Lever Ⓖ does not go all the way to the grip when squeezed (**fig C**).

WARNING: Do not move the brake shoes away from a wheel rim that is not true (straight). This can cause the caliper brake to be less effective and unsafe. To allow safe adjustment of the caliper brake, have a bicycle service shop true the wheel.

continued >>

Linear Pull Brake System - continued

Test the tightness of the cable clamp (fig C):

1. Squeeze each Brake Levers Ⓖ with firm pressure.
2. Make sure the cable does not move in the Cable Clamp Ⓔ.
3. If the cable moves in the cable clamp, adjust the brakes again but tighten the cable clamp tighter than before.
4. Do this test again, until the cable does not move in the cable clamp.

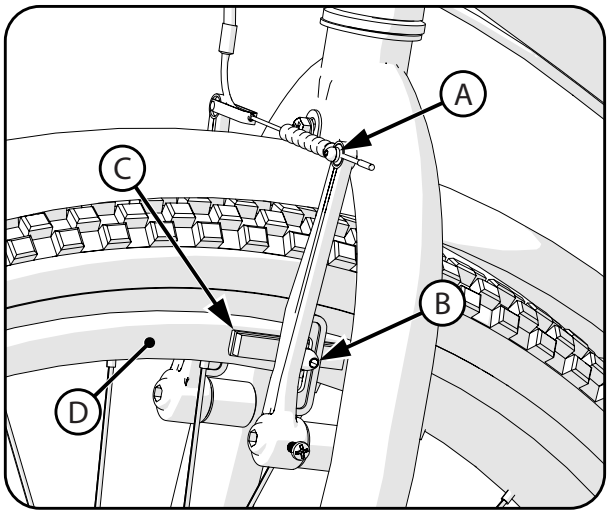
Test the travel of each brake lever:

1. Squeeze each Brake Lever Ⓖ with strong pressure
2. If the brake lever touches the grip, adjust the brakes again.

⚠ **WARNING:** After you adjust the brakes again, if either brake lever touches the grip or does not work well, have a bicycle service shop repair or adjust the brakes.

Linear Pull Brake Pad Replacement

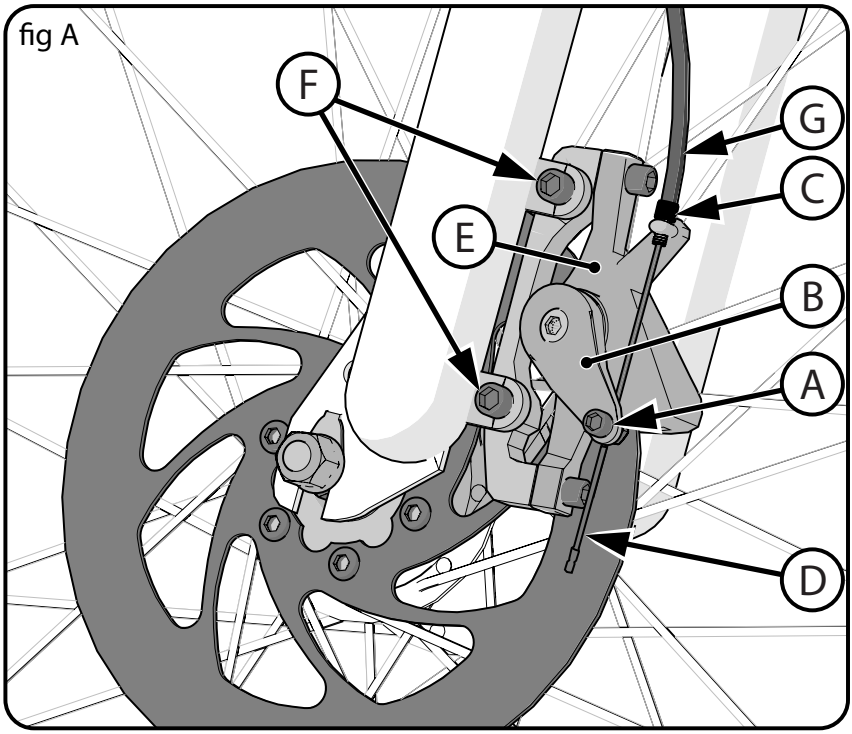
1. If necessary, loosen brake cable Adjustment Bolt Ⓐ.
2. Loosen and remove brake pad Bolt/Screws Ⓑ.
3. Remove old Brake Shoe Ⓒ.
4. Install new Brake Shoe, making sure it is pointing forward and lined up evenly with the Wheel Rim Ⓓ.
5. Tighten brake pad Bolt/Screw and Adjustment Bolt according to Torque Chart.



⚠ **WARNING:** Replace Brake Pad with same model and type as original.

Disc Brake System Adjustment: (various models)

NOTE: See Torque Table for recommended torques.



BRAKE ADJUSTMENT (see fig-A):

1. Loosen the Cable Clamp Bolt Ⓐ.
2. Push the Brake Arm Ⓑ toward the Adjusting Barrel Ⓒ (this applies the brake).
3. While holding the Brake Arm, pull the slack out of the Cable End Ⓓ (through the Cable Clamp) and tighten the Cable Clamp Bolt Ⓐ.

WARNING: Do not over tighten the Cable Clamp. Over tightening the Cable Clamp may cut the Cable and cause injury to the rider or to others.

4. Pull and release the brake lever several times to set the Brake Cable.
5. Spin the wheel. It should spin freely. If the Disc cannot spin freely in the Caliper, the Cable might be too tight. Loosen the Cable Clamp Bolt and allow the brake arm to move away from the adjusting barrel – repeat steps 1 through 4 until the wheel spins freely.

NOTE: An initial gap of 0.3mm (0.01 inch) is recommended.

6. A properly adjusted Caliper is set such that, the pads contact the Disc at approximately 1/3 lever travel and stops the disc at approximately 2/3 lever travel.
7. Minor adjustment can be made by turning the Adjusting Barrel on the brake lever or the

continued >>

Disc Brake System - continued

Adjusting Barrel Ⓒ on the Caliper. Turn the Adjusting Barrel OUT to tighten the brakes or IN to loosen the brakes.

NOTE: Make sure the Adjusting Barrel threads are fully engaged. Check adjustment again.

8. If you cannot reduce the gap by turning the Adjusting Barrel, the brake pads might be worn out and need to be replaced.

PAD REPLACEMENT:

1. Remove the Caliper Mounting Bolts Ⓕ.
2. Remove the Caliper assembly Ⓔ.
3. Remove the Brake Pads from the Caliper.
4. Install the new Pads using same type and size.
5. Install the Caliper assembly Ⓔ to the mounts on the fork (front), or frame (rear) (front shown).
6. Tighten the caliper Mounting Bolts Ⓕ securely. **See Torque Table for recommended torque.**
7. Route the Cable Ⓓ through the lower Adjusting Barrel Ⓒ and Cable Clamp Ⓐ.
   - Ensure Cable Housing Ⓖ is fully inside Adjusting Barrel Ⓒ.
8. Pull the Cable through the Cable Clamp, and tighten the Clamp Ⓐ Bolt.

NOTE: Brake adjustment involves loosening the Cable Clamp Bolt. During installation, it only needs to be tightened enough to make sure the Cable End doesn't pull back through the Camp.

9. Adjust the Brake (as described above).

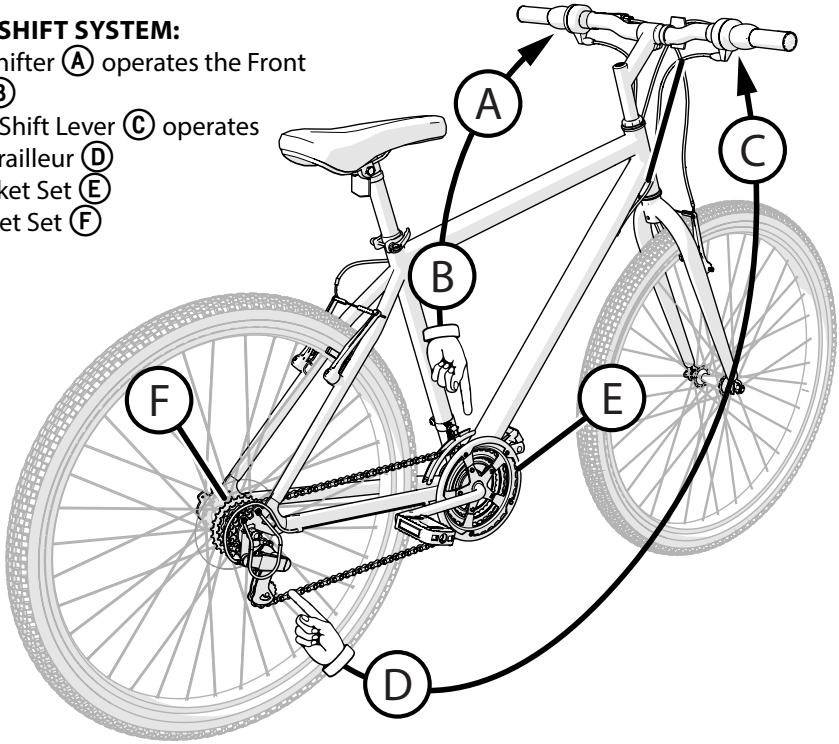
BRAKE SYSTEM MAINTENANCE:

- Check brake operation and adjustment before each ride.
- Keep the brake system free of dirt, mud, oil, and other foreign substances that will inhibit proper operation.
- Frequently check:
  - All components for damage.
  - The pads - for wear.
  - The lever - for smooth operation.
  - The cable - ensure there are no frayed ends, cuts, or kinks that inhibit operation. Add cable lube if the cable is dry.
  - All bolts and fasteners - ensure the bolts are tightened, replace any that are damaged.

Shift System

PARTS OF THE SHIFT SYSTEM:

- Left-hand Shifter Ⓐ operates the Front Derailleur Ⓑ
- Right-hand Shift Lever Ⓒ operates the Rear Derailleur Ⓓ
- Front Sprocket Set Ⓔ
- Rear Sprocket Set Ⓕ



⚠ WARNING:

- Never shift a derailleur onto the largest or the smallest sprocket if the derailleur is not shifting smoothly. The derailleur may be out of adjustment and the chain could jam, causing loss of control and injury.
- Never move the shifter while pedaling backward, nor pedal backwards immediately after having moved the shifter. This could jam the chain and cause damage to the bicycle and/or loss of control and injury.

OPERATE THE SHIFT SYSTEM AS FOLLOWS:

1. The rider turns the Rear Shift Control Ⓒ around the handlebar (for twist shift models) or moves the shift lever (thumb shift models) to an index position
2. When the rear shift control moves into each position with a "click" sound, the shift is complete
3. The rider turns the Front Shift Control Ⓐ around the handlebar (for twist shift models) or moves the shift lever to an index position (thumb shift models)
4. Each shift control pulls a cable wire that is attached to the derailleur.
5. The derailleur moves and guides the chain from one sprocket to another.
6. If there is some chain noise after the shift, turn the rear shift control a small amount to "trim" the rear derailleur.

Shift System - continued

CAUTION: Do not force the shift levers. Shift only when pedaling forward and without strong force. Do not backpedal. Backpedaling can cause the chain to come off the sprockets. Backpedaling and shifting while not pedaling can damage the sprockets and stretch the cable wire.

There is no "correct gear" in which to ride the bicycle. The "correct gear" is the one that is comfortable to you.

To select a gear or sprocket combination while riding:

1. While pedaling, shift the chain onto different front and rear sprocket combinations.
2. You will feel a difference in the rhythm and ease of pedaling.
3. Shift the chain to the gear that allows you to pedal at a rhythm and effort that is comfortable to you.
4. When riding uphill or against the wind, you may wish to keep the chain on the smallest front sprocket Ⓐ and shift the chain on the rear sprocket cluster Ⓑ.

THESE ARE THE LOWER GEAR COMBINATIONS:

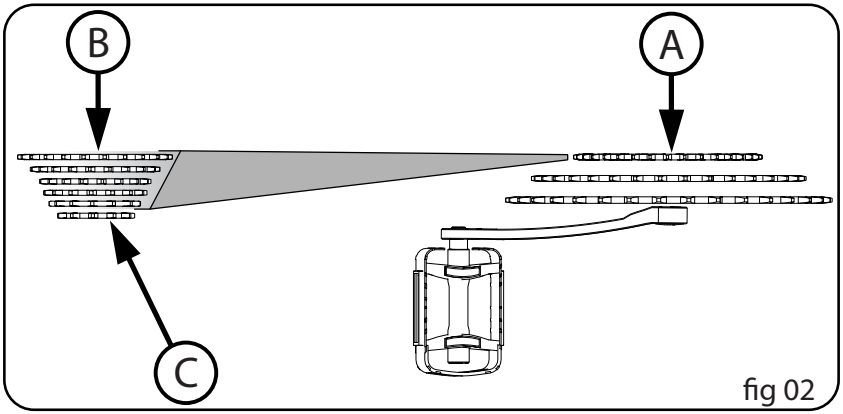


fig 02

- They allow you to pedal easier and at a faster rhythm, but with less distance traveled per pedal revolution.
- For the best performance in this case, do not use the smallest rear sprocket Ⓒ.
- When riding downhill or with the wind, you may wish to keep the chain on the largest front sprocket Ⓓ and shift the chain on the rear sprocket cluster.

THESE ARE THE HIGHER GEAR COMBINATIONS:

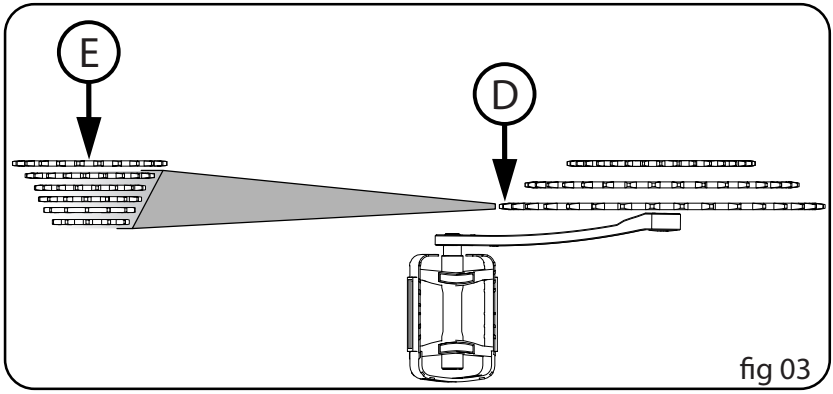


fig 03

- They allow you to pedal harder and at a slower rhythm, but with more distance traveled per pedal revolution.
- For the best performance in this case, do not use the largest rear sprocket Ⓔ.

THESE ARE THE MIDDLE RANGE GEAR COMBINATIONS:

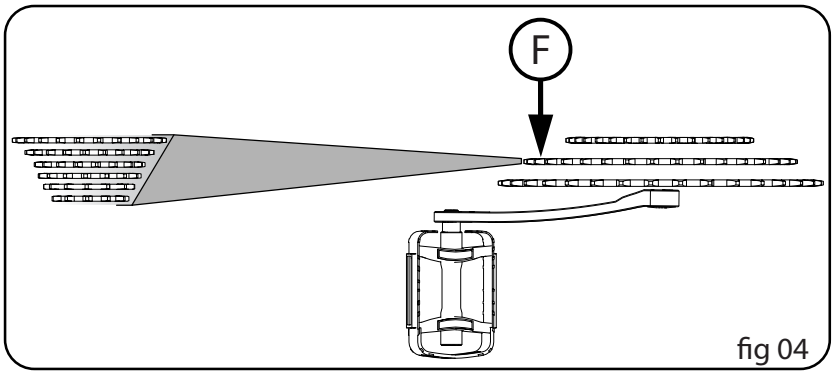


fig 04

- These overlap some of the higher and some of the lower gear combinations.
- On bicycles with three front sprockets, you may wish to keep the chain on the middle front sprocket Ⓕ and shift the chain on the rear sprocket cluster.

Rear Derailleur Adjustments

The rear derailleur has two adjusting screws. The "low" adjusting screw, sometimes marked Ⓛ, limits how far the rear derailleur and chain can move toward the wheel. The "high" adjusting screw, sometimes marked Ⓗ, limits how far the rear derailleur and chain can move away from the wheel.

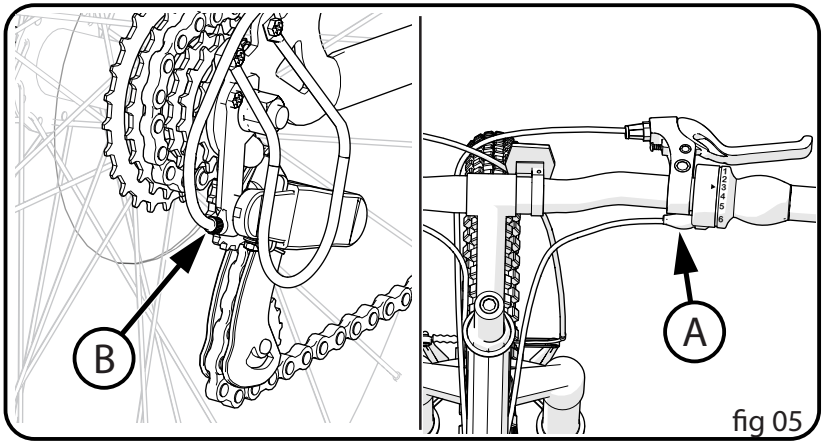


fig 05

Put the "high" adjusting screw in the correct position as follows:

- Shift the chain onto the smallest rear sprocket. Loosen Nut Ⓒ of the cable clamp.
- Turn the lever Barrel Adjuster Ⓐ and rear Derailleur Adjustor Ⓑ all the way IN (**fig 5**).
- Turn the "high" adjusting Screw Ⓖ so the Jockey Roller Ⓓ is in line with the outside edge of the smallest rear Sprocket Ⓔ (**fig 6**)
- Remove the slack from the cable wire and tighten the Nut of the cable clamp.

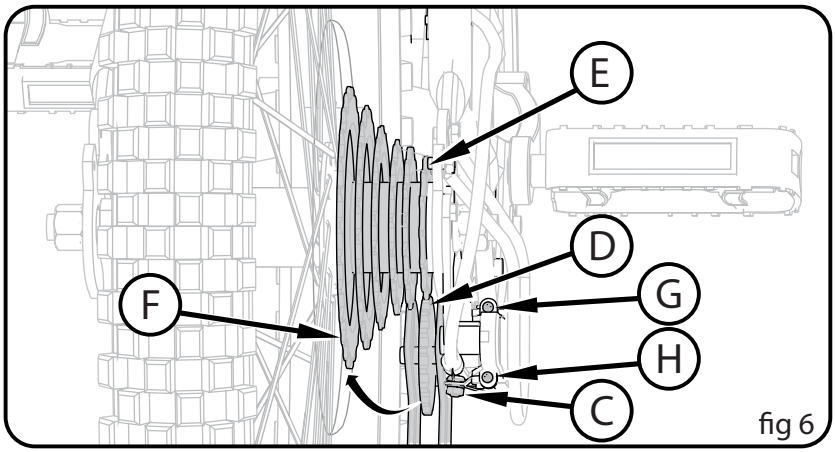


fig 6

continued >>