

Congratulations!

Congratulations on the purchase of your new Brodie Bike! Your choice puts you among the exclusive group that demands the most advanced technology and superior craftsmanship available in the bike industry.

This manual will assist you in setting up and maintaining your bicycle. Please read through it to familiarize yourself with your Brodie Bike. We recommend inspecting your bicycle frequently. Remember, proper maintenance and adjustment will greatly enhance safety, performance and riding enjoyment.

Read this entire manual carefully.

Reading this manual before your first ride will enable you to maximize all the benefits and features of your Brodie bike. It was written to help you gain the ultimate in performance, comfort, enjoyment and safety when riding your new Brodie. For the most current manual visit www.brodiebikes.com

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IMPORTANT - READ BEFORE YOU RIDE

We urge you to read this entire manual before riding your Brodie bicycle. It is important that your bike fits you properly and that you understand how to use and maintain it. Before each ride check your bike over to ensure that it is in safe working order. Ask your Brodie dealer if you have any questions about your bike.

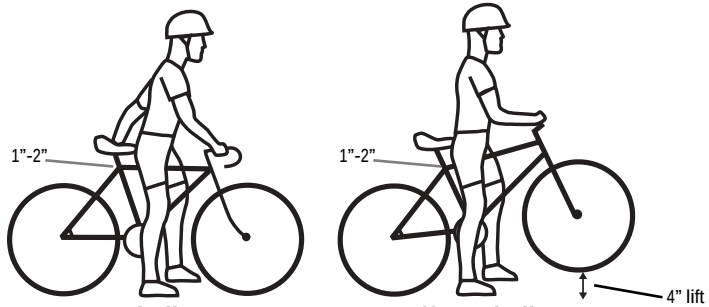
Under the warranty, your bicycle must be assembled by an authorized Brodie dealer and it must be properly maintained. Take your bicycle to your Brodie dealer for periodic maintenance.

If you have any doubt about your ability to perform any of the safety checks or repairs described in this manual, consult your dealer. If you are not familiar with ANY feature on your bike, practice in a safe, flat area that is free of traffic until you become comfortable with its use.

!!WARNING!! Failure to inspect and maintain a bicycle properly, or failure to ride in a safe manner, may result in serious injury or death to the rider or others, as well as damage or excessive wear to the bicycle. Brodie Bicycles recommends that you always avoid riding in an unsafe manner.

FRAME FIT

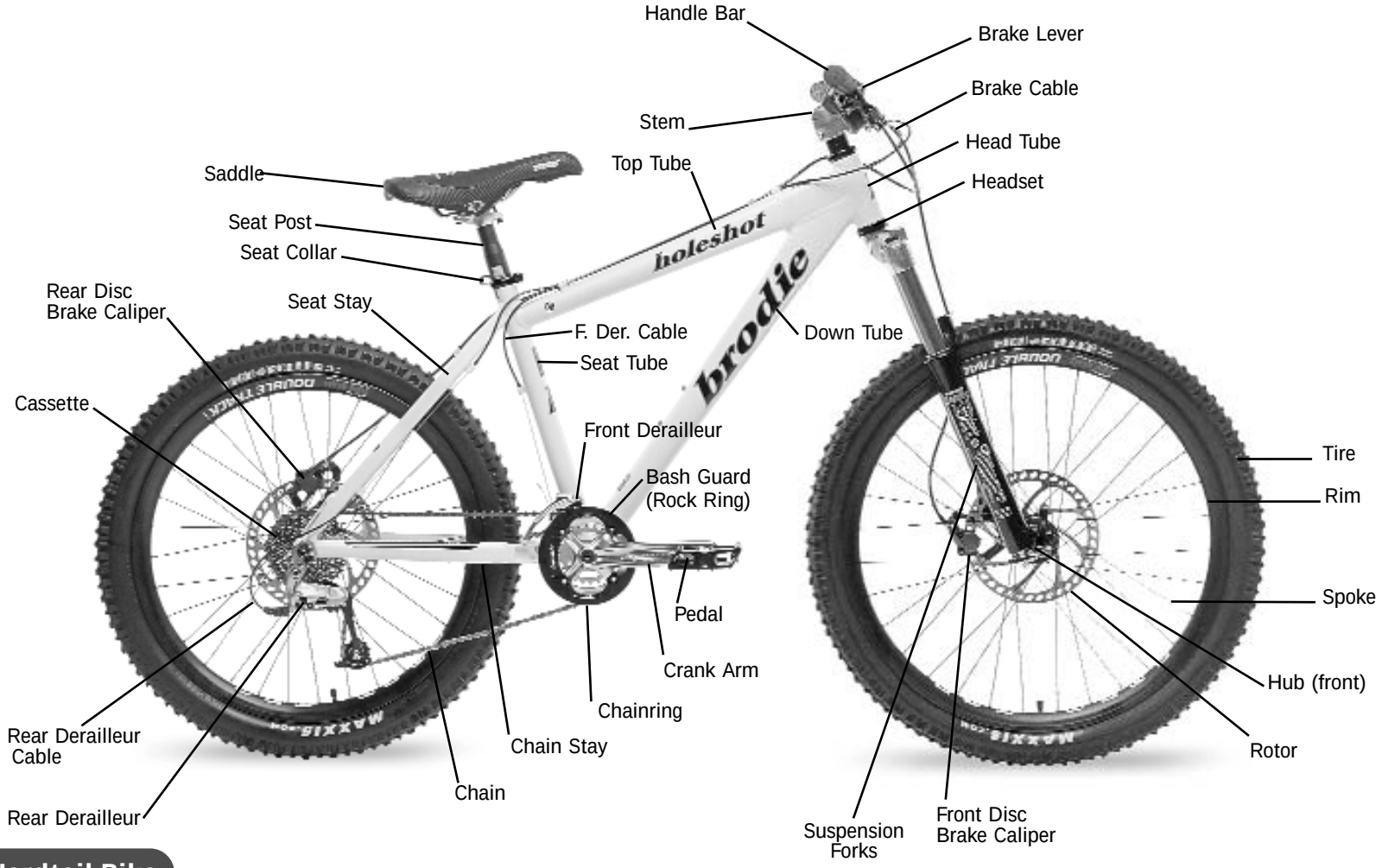
For safety, comfort and efficiency, it is important that your bike is the right size for you. Your Brodie bicycle dealer will work with you to make the necessary adjustments to ensure your bike is a good fit. For a correct frame fit the rider must be able to straddle the bicycle with 1"-2" clearance, for off road bikes allow 1"-2" clearance while lifting the front end of the bike 4"-6".



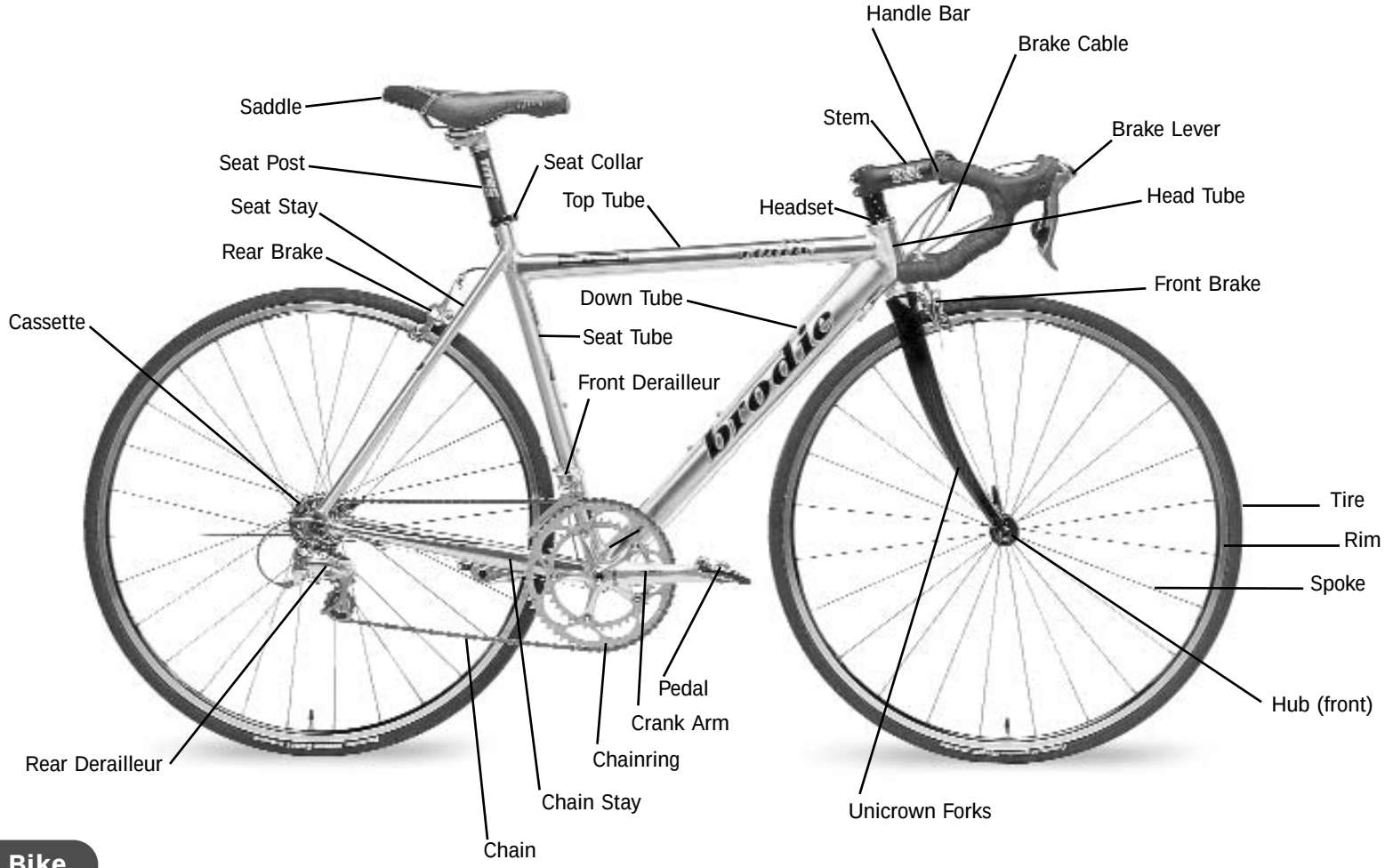
Road Bike **Off Road Bike**



Full Suspension Bike



Hardtail Bike


Handle Bar
Brake Cable
Saddle
Stem
Brake Lever
Seat Post
Seat Collar
Top Tube
Headset
Head Tube
Seat Stay
Rear Brake
Front Brake
Down Tube
Cassette
Seat Tube
Front Derailleur
brodie
Tire
Rim
Spoke
Pedal
Crank Arm
Hub (front)
Rear Derailleur
Chainring
Chain Stay
Unicrown Forks
Chain

Road Bike

PART I

Understanding the Hub Quick Release

The quick release lever is a cam-action device that tightens when the lever is swung around its pivot 180 degrees. Do not try to tighten it as if it were a wing-nut. If you are unfamiliar with the usage of hub quick releases have your dealer explain and demonstrate how they work. Always be certain before you get on your bicycle that the wheels are firmly and properly attached to the frame by the hub quick releases. Never assume that a quick release is properly engaged, especially if the bike has been left unattended.

To check adjustment of quick release:

Flip the quick release lever to the open position. With the wheel axle fully seated in the fork slots (or rear dropout slot for rear wheel) and the wheel centered between fork or frame, close the quick release lever. If the lever closes too easily, open the quick release and adjust the nut on the opposite side of the wheel (adjust in quarter turns, clockwise to tighten, counter-clockwise to loosen). If you can close the lever without wrapping your fingers around the frame or fork for leverage the quick release is too loose. The lever should leave a clear impression in your palm when you close it. If you have any doubt about the correct tension consult your dealer.

If the tire contacts the brake pads once inserted, check to make sure the axle is fully inserted into the fork dropouts. Never ride with the brake pads touching the tire. Ensure the closed quick release lever will not interfere with other parts of the bike and cannot be snagged by objects or obstacles as you ride.

!!WARNING!! Improper adjustment or incorrect use of hub quick releases can result in the wheel disengaging from the bicycle. Damage to the bicycle, serious injury, or death can result.

DIAGRAMS - OPEN AND CLOSED QUICK RELEASE LEVER

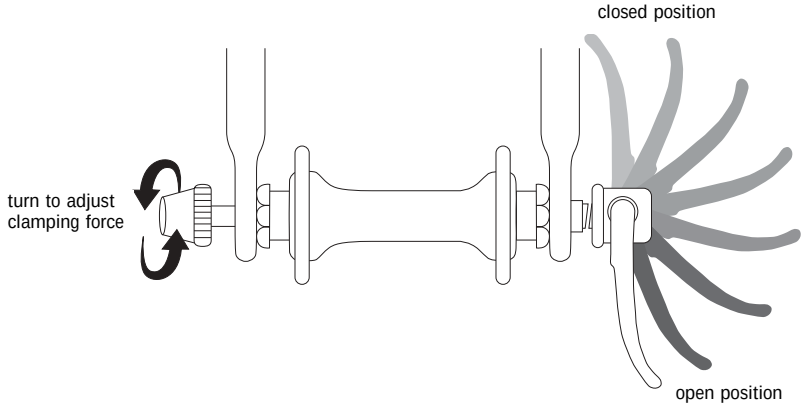


FIGURE 2 - Diagram of hub quick release. Note that this is a cam-action device, not a wing-nut or nut-and-bolt unit. Follow instructions carefully.



FIGURE 3 - Front hub quick release in closed position.

PART II
PRE-RIDE SAFETY CHECK

!!WARNING!! Failure to perform safety checks before every ride and to take corrective action when necessary may result in serious injury or death to the rider and others, as well as damage or excessive wear to the bicycle.

CAUTION If you find or suspect a problem, refer to the maintenance section of this manual. If the necessary repairs are not covered by the manual take your bicycle to your Brodie dealer. It is not safe to ride your bike if it is not functioning at 100% efficiency. If any part gets damaged or seems to malfunction during a ride, check and adjust it immediately, or take it to your dealer. The manufacturer is not responsible for injury or damages that result from faulty assembly or improper maintenance.

Parts Inspection

1. Clean any dirt or debris from your bicycle.
2. Inspect the frame and fork for cracks, deep scratches, dents, bulges or discolouration.
3. If your Brodie bicycle has front suspension or full suspension, consult the accompanying manuals for more information on these components.
4. Ensure that your wheels are properly secured. If you are unfamiliar with the proper use of the wheel's quick release mechanism read the "Hub Quick Release" portion of the manual for more information.
5. Make sure nuts, bolts and hardware are tightened correctly.
6. Check your brakes to make sure that you have adequate braking power every time you get on your bike.

CAUTION A damaged frame can fail suddenly and result in injury. If you are in any doubt about the condition of your frame take it to your Brodie dealer for inspection. If you crash your bike, be sure to inspect it thoroughly to identify any problems. Any damaged or suspect parts should always be replaced as soon as possible.

CAUTION In addition to pre-ride safety checks, regular maintenance of your Brodie bicycle is required to keep it operating at peak performance. Bicycle maintenance courses may also assist in your ability to maximize the life span of your bike and its components.

PRE FLIGHT CHECKLIST

PART	PROBLEM	SOLUTION
Hubs	Binding, Grinding, Axle play	See dealer
Rims	Untrue, Flat Spot, Loose Spokes, Scoring	See dealer
Tires	Incorrect pressure	Air pump with gauge
	Seated incorrectly	See dealer
	Worn tread or side wall, abrasions, foreign objects	New tire purchase
Clipless Pedals	Grinding, looseness or roughness	Adjustment or replacement.
Pedals	Loose cleat or strap assembly	Tighten to spec
Reflectors	Broken, Loose	Replace, tighten to spec
V-Brakes	Wearing tire wall, Uneven wear	See dealer
Disc Brakes	Bent rotors, Leaking hydraulics	See dealer
Cables	Frayed, Kinks, Stretch	Replace cable
Derailleurs	Misalignment	See dealer
Handlebar/Stem	Bends, Cracks	Replace bar
	Looseness	Tighten to spec
Headset	Binding, Looseness	See dealer
Crank Assembly	Binding, Looseness, Grinding,	See dealer
	Loose bolts or crank arms	
Chain/Rings/Cogs	Wear, Damaged/broken teeth or links, Rust	See dealer and replace
Seat Post/Saddle	Improper positioning	See dealer
Nuts/Bolts/Pivots	Loose	Tighten to torque specs
Frame	Check for damage	See dealer

PART III
RULES FOR SAFE CYCLING

1. Always wear a properly fitted ANSI or Snell approved helmet. See your local dealer for proper fitting.
2. Make sure your shoes can be removed quickly from pedals with toe-clips.
3. Eye protection and padded cycling gloves may protect you in the event of a crash and can make your ride more comfortable.
4. Know how to use the shifters and brakes on your bike. See dealer for instructions.

Make sure you understand the rules of the road where you live and obey them. Contact your local Ministry of Transport office for further details.

BRODIE RODIE HINTS

1. Obey all traffic signals.
2. ALWAYS use hand signals for left and right turns and when you slow or stop.
3. Ride with the flow of traffic, not against it.
4. If two or more road users reach an intersection simultaneously, the road user on the right has the right of way. However, never assume that a car will yield right of way. Never assume that pedestrians or drivers have seen you or will yield right of way.
5. Cyclists are entitled to full use of the road and should take up enough space to ensure their safety. However, to avoid impeding and annoying faster road users stay in the outermost lane or use bike lanes and designated bike routes if available.
6. Many drivers are not aware of the rights and concerns of cyclists. Never challenge a vehicle. Try to maintain a positive image for cyclists by acknowledging the consideration of courteous drivers and avoiding confrontations with inconsiderate road users.

7. Be alert for cars pulling out into traffic, turning into your path or stopping. When riding past parked cars watch for doors opening or pedestrians stepping out from between cars. Periodically look behind you to be aware of following traffic and always shoulder check before initiating a lane change or turn.
8. Cross railroad tracks and bridge expansion joints at right angles to avoid getting your wheel stuck in the gap. Be extra careful on steel bridge decks and similar surfaces as they can be very slippery for two-wheeled vehicles. If necessary, walk your bike over.
9. Ride single file when riding with other cyclists and always call out or signal with a bell or horn when overtaking other cyclists.
10. Never hold on to moving vehicles, stunt-ride, or race in traffic.
11. Never carry other riders, packages, or any items that obstruct your vision or present the possibility of getting caught in your wheels or drivetrain.
12. Wear high visibility clothing both during the day and night. Use an appropriate lighting system for night riding.
13. In wet conditions lower your speed and brake sooner than you would on dry roads. Other wet weather riding hazards to look out for include manhole covers, storm drains, wet leaves and painted lines on the roadway.
14. Riding after dark without reflectors and/or lights is extremely dangerous. If you plan to ride at night install a cycling specific headlight so you can see and be seen from the front, and a red tail light to assist vehicles in stopping and avoiding you. Bright clothing with reflective tape will also aid others in seeing you in low light conditions. Have your Brodie dealer replace any damaged or broken reflectors to ensure your low light riding safety.

PART IV
RULES OF THE TRAIL,
International Mountain Bicycle Association (IMBA)

Ride on open trails only. Respect trail and road closures; obtain permits and authorization as required. If you're not sure about access, ask. In areas where some riding is allowed, certain trails may be closed because of environmental concerns or conflicts with other users.

Leave no trace. Do not ride where you will leave evidence of your passing, for example, in mud where your tires leave marks. Skid marks can cause erosion. Stay on the trail; do not create new ones. Pack out what you pack in. Control your bicycle. Inattention for even a second can cause disaster. Be alert to conditions; anticipate potential problems.

Always yield trail. Call out a friendly greeting or use a bell to make your approach known. Be very careful not to startle other users. Show your respect for others when passing, by slowing to a walk or stopping. Approach corners or blind spots as if other users are just around them.

Never spook animals. Startling or disturbing wild animals or livestock can be dangerous for you, others, and the animals. Give animals plenty of room and time to adjust to you. In passing horseback riders, use special care; follow their directions. Leave gates as you found them, or as they are marked.

Plan ahead. Know your own abilities and the area in which you will ride; be prepared and self-sufficient. Keep your bicycle in excellent repair, and carry tools and supplies for changes in weather or other conditions. Your cycling trip should be satisfying for you, and not a burden or an offence to others. Keep trails open by setting a good example.

ON THE TRAIL TOOLS
When riding your Brodie bike off-road, you must carry a minimum of important tools and equipment with you at all times. If anyone fails to carry necessary tools and equipment, they may put themselves in an undesirable position often resulting in injury or death.
The following list may assist you on your off-road mountain bike adventures. Note: the following items are used in addition to the proper clothing and protective cycling gear.

Don't Forget your...
- first aid kit.
- tire and tube patch kit with spare tube and tire levers.
- pump with gauge and necessary valve adapters.
- various sizes of allen keys (2mm through 8mm), phillips driver.
- Extra cable.
- Chain tool and additional chain pins.
- WATER via bottles or hydration pack.
- See your dealer for any of these and/or additional items.



PART V
MAINTENANCE
Inspection, Lubrication, Adjustment

!!WARNING!! Improper adjustment or servicing may result in damage to your bicycle or serious injury or death to the rider.

Ongoing maintenance of your bicycle keeps it running in good condition, extends the life span of parts and components, and decreases the likelihood of riding an unsafe bike. Periodic checks of your bicycle and regular maintenance are an integral part of keeping your bike running in good order.

Repairs and maintenance of your Brodie bicycle may require special tools and/or knowledge. If you have any doubt about your ability to perform a repair take your bicycle to your Brodie dealer.

Cleaning your Bicycle

Wash your bike with water and mild soap. Use a soft cloth to dry it. Never wipe off mud or dirt without water as the dirt will act as an abrasive. Do not use pressurized water as it can force dirt and water into bearings causing contamination and reducing bearing life span. Do not submerge bearings. After cleaning, lubricate the chain, pivots and cables.

Inspection

Always give your bike a thorough inspection as you wash it. Inspect the frame and all components for damage. Touch up any chipped paint once bike is clean and dry and use a good quality automotive wax on painted areas of the bike to make the finish last longer.

Storage

Avoid leaving your bicycle outdoors. Rain and snow causes corrosion and the sun fades paint and cracks rubber and plastic.

Maintenance Schedule

After an initial break-in period some parts of your bicycle will require an initial adjustment to ensure optimum performance. Ask your dealer when you should bring your bike back for any needed adjustments. If you ride your bicycle in rain, snow, or severe off-road conditions, it will need more frequent maintenance.

Frame and Fork

Inspect your frame and fork for damage such as dents, cracks, bulges, and deep scratches. If your Brodie bicycle has a front suspension fork consult the accompanying user manual for more information. If you find or suspect damage to your frame or fork take your bicycle to your Brodie dealer for inspection. Do not ride your bike until the problem has been corrected.

!! WARNING !! A bicycle and its components are subject to wear and stress. If a component's life expectancy is exceeded the component can fail without warning, causing serious injury or death to the rider. Cracks, bulges, deep scratches, and discolouration are signs of stress-caused fatigue. A part exhibiting such characteristics is at the end of its life cycle and should be replaced immediately. If you have any doubt about a part on your bike take it to your Brodie dealer.

A damaged frame or fork can fail suddenly, with the possibility of serious injury or death to the rider. Be aware that all metals fatigue.

Parts Check Schedule

Every ride	Check nuts and bolts.
Every week	Check tire pressure with gauge.
	Lubricate chain
Every month	Wash and dry bicycle, inspecting closely for damage.
	Lubricate brake lever pivots.
	Lubricate brake pivots.
	Lubricate front and rear derailleur pivots.
	Lubricate control cables at cable housing stops.
Every 3 months	Check torque values of nuts and bolts.
	Re-grease seatpost
Every 6 months	Take bicycle to dealer for overhaul.
	Re-tension and true wheels.
	Grease and adjust brake cables.
	Replace brake pads.
	Grease and adjust derailleur cables.
	Re-grease hub bearings.
	Re-grease brake arch pivots.
	Re-grease handlebar stem.
	Re-grease headset bearings.
	Re-grease crank bearings.
	Re-grease crank arm spindle taper.
	Replace chain.
Every year	Re-grease pedal bearings

Consult your Brodie dealer for additional recommendations

TECH 1.1 - Maintenance Tools

The tools listed below are necessary to perform this manual's maintenance procedures. Tightness of nuts and bolts is measured in inch/pounds - a unit of torque, or force required to tighten a nut or bolt to its correct setting. It can be dangerous to over or under-tighten nuts and bolts. Use a torque wrench to ensure that you are within the correct parameters. You will need Allen keys, wrenches and screwdriver heads to fit the torque wrench. Consult your Brodie dealer to find out which sizes you will require.

- Torque wrench with inch/pound or Newton-meter graduations; Allen keys, wrenches and screwdriver heads to fit
- Metric open-end wrenches
- 14mm socket wrench (Venturi)
- 15mm open-end pedal wrench
- Allen keys (sizes needed depend on model)
- #2 Phillips-head screwdriver
- Bicycle tube patch kit
- Bicycle tire pump and gauge
- Tire levers
- Bike stand that holds at least the rear wheel off the ground



FIGURE 4 - Beam type torque wrench.

TECH 1.2 - Torque Values

Before every ride, do a quick check of the nuts and bolts on your bicycle to make sure none have come loose. You should also periodically go over your whole bike, checking torque values. It can be dangerous to over-tighten or under-tighten bolts, so you should use a torque wrench. The list below provides torque values for various parts of your Brodie bicycle.

Brake lever [MTB] clamp bolts	(25 to 40 in/lbs.; 2.8 to 4.5 N/m)
Brake lever [Road] clamp bolts	(50 to 70 in/lbs.; 5.5 to 8.0 N/m)
Brake lever pivot bolts	(25 to 35 in/lbs.; 2.8 to 4.0 N/m)
Brake arch pivot bolts	(30 to 50 in/lbs.; 2.8 to 5.5 N/m)
Brake pad nuts	(70 to 80 in/lbs.; 5.5 to 9.0 N/m)
Brake cable anchor bolts	(50 to 70 in/lbs.; 5.5 to 8.0 N/m)
Derailleur cable anchor bolts	(35 to 50 in/lbs.; 4.0 to 5.5 N/m)
Front derailleur clamp bolt	(20 to 35 in/lbs.; 2.3 to 4.0 N/m)
Rear derailleur fixing bolt	(60 to 75 in/lbs.; 6.8 to 8.5 N/m)
Shimano shift lever clamp bolts	(25 to 40 in/lbs.; 2.8 to 4.5 N/m)
Grip Shift shifter clamp bolts	(25 to 40 in/lbs.; 2.8 to 4.5 N/m)
Shimano shift lever pivot fixing bolts	(22 to 30 in/lbs.; 2.5 to 5.5 N/m)
Handlebar stem/steerer bolts, AheadSet stems	(80 in/lbs.; 9.0 N/m)
AheadSet draw bolt	(22 in/lbs.; 2.5 N/m)
Split cable hanger bolt [AheadSet]	(25 to 40 in/lbs.; 2.8 to 4.5 N/m)
Handlebar clamp bolt	(80 to 100 in/lbs;9 to 11 N/m)
Bar end bolts	(50 to 70 in/lbs.; 5.5 to 8.0 N/m)
Crank fixing bolts	(200 to 240 in/lbs.; 23 to 27 N/m)
Chainring bolts	(70 to 90 in/lbs.; 8 to 10 N/m)
Pedals	(310 in/lbs.; 35 N/m)
Toeclip screws	(25 to 30 in/lbs.; 2.8 to 3.4 N/m)
Step-in shoe cleats	(44 in/lbs.; 5.0 N/m)
Saddle fixing bolt	(140 to 175 in/lbs.; 16 to 20 N/m)

Note:

1 inch/pound (in-lb)= 0.113 Newton/meters (N/m)
1 inch/pound (in-lb)= 1.13 kilograms/cubic meter (kg/cm)
1 inch/pound(in-lb)= 0.083 foot/pounds (ft/lb)

TECH 1.3 - Wheel Removal

Disc Brakes

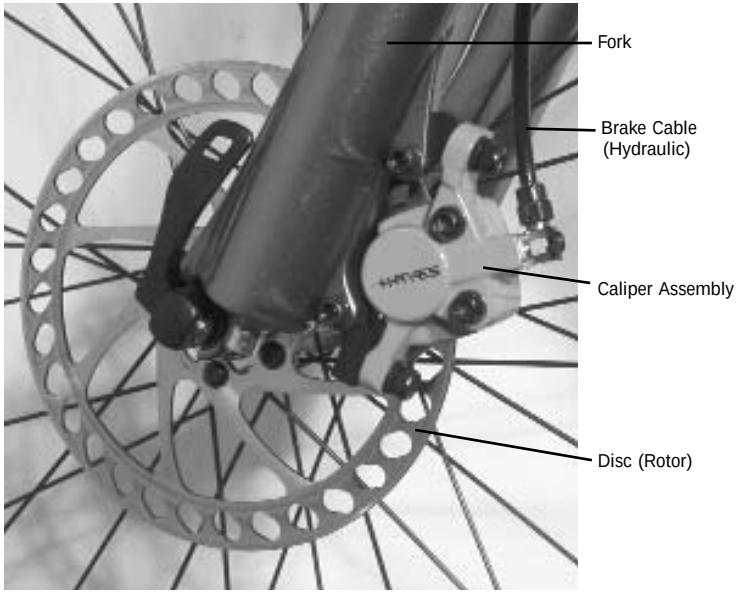


FIGURE 5 - Picture of Disc Brake with labeled parts (side view)

For information on removing and remounting wheels on disc brake equipped Brodie bicycles consult the accompanying disc brake owner's manual.

Linear style brake (V-brake)

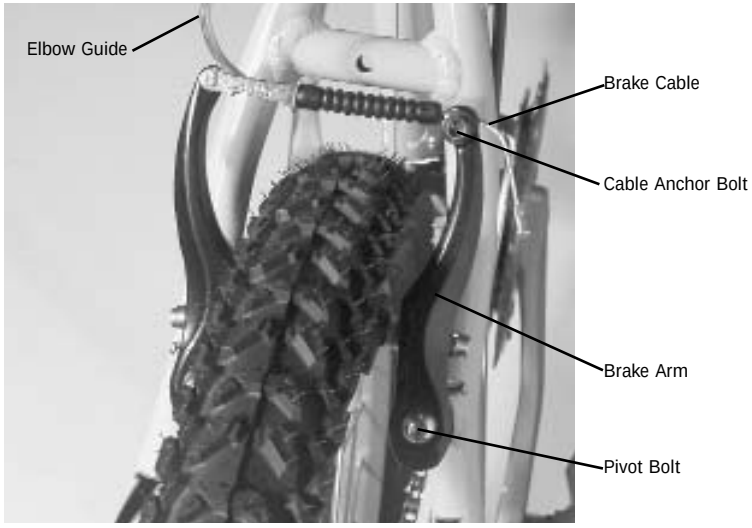


FIGURE 6 - Picture of linear style brake with labeled parts (rear view)

1. Push the two brake arms together and slide the brake cable elbow guide up and away from the brake arm to release the V brakes and provide the necessary clearance to remove the tire.
2. Disengage the hub quick release lever, loosen the adjustment nut on the opposite side of the wheel's axle and slide the wheel out of the dropouts.
3. If you are removing the back wheel make sure the chain is on the largest front chain ring and smallest rear cog.
4. Push the rear derailleur back and lift the rear of the bike.
5. The wheel should slide out of the rear dropouts and can then be freed from the chain.
6. To remount wheel, repeat steps 1-5 in reverse order.

NOTE: Always make sure the wheel is completely inserted into the dropouts and that the brake pads do not rub against either the rim or tire.

TECH 1.4

Tire tube Replacement

- remove wheel from bike.
- deflate the tube, remove tire and tube from the rim using tire levers.
- inspect tire for cuts, damage or debris.
- check the rim to make sure that the rim strip covers the spoke heads.
- Re-install the tire in the orientation/direction marked on the sidewall.
- Insert tube (avoid pinching/twisting) into tire while aligning the valve stem with valve hole.
- Reseat the tire bead inside the rim. Do NOT pinch the tube between the tire and the rim.
- Inflate the tire to approximately half pressure and check to make sure that the tire is seating properly on the rim. With the tire properly seated inflate the tire to the proper pressure and reinstall the wheel on the bicycle.

How to Fix a Flat

- With the tube removed from the tire check the tire for foreign objects.
- To find the puncture(s) in the tube, inflate the tube and immerse it in water. Look for bubbles coming from the tube where the air is escaping.
- Dry the tire and follow the instructions that come with your patching kit to repair the hole. With the hole repaired reinstall the tube as described in the preceding section.

Shifting Hints

- On the front chainrings, the largest gear is the most difficult to pedal but offers the highest gear ratio.
- On the rear cogset, the largest gear offers the lowest gear ratio and the most torque.
- The best gear combination for steep uphills is the smallest "granny" gear and the largest rear cog.
- On downhills use the big chainring and smallest cog.
- In general, find the right combination of gears to allow you to maintain a steady pedal stroke.
- Avoid gear combinations such as small ring/small cog and big ring/big cog which puts undue stress and excessive wear on the drivetrain.
- Always pedal forward while shifting, reducing pedalling pressure slightly to avoid jamming or straining the chain.
- If you hear any rubbing or grinding noise after shifting, see your dealer.

NOTE: Drivetrain misalignment may result in a broken chain, derailleur moving into spokes, or chain derailment, potentially causing serious injury or death to the rider. If you are at all unsure of your abilities to properly adjust the derailleurs on your Brodie bicycle take it to your dealer to have your bike's drivetrain inspected and adjusted as necessary.

A Headset Loose??

- Straddle the bike and apply the front brake.
- Rock the bike back and forth checking for looseness or knocking in the headset.
- Lightly bounce the front wheel to check for rattles in the forks.
- To check for tight headset bearings lift the front of the bike and turn the handlebars. The wheel should swing easily.
- If ANY problem persists see your dealer.

TECH 1.5 - Brake System

Test your brakes every time you get on your bike. They are the most critical piece of equipment on your bike. If they are not working properly do not ride your bike until they are fixed.

Brake systems are difficult to adjust without a thorough understanding of the way they work. For this reason Brodie Bicycles recommends that you have your Brodie dealer perform your brake set-up and adjustment.

For larger adjustments, loosen the cable anchor bolt on the brake arm and adjust the amount of cable between the brake lever and the brake arms. A longer length will increase the distance between brake pad and rim, a shorter length will decrease the distance. Always make sure that full braking power can be applied without the brake lever touching the handlebar grip.

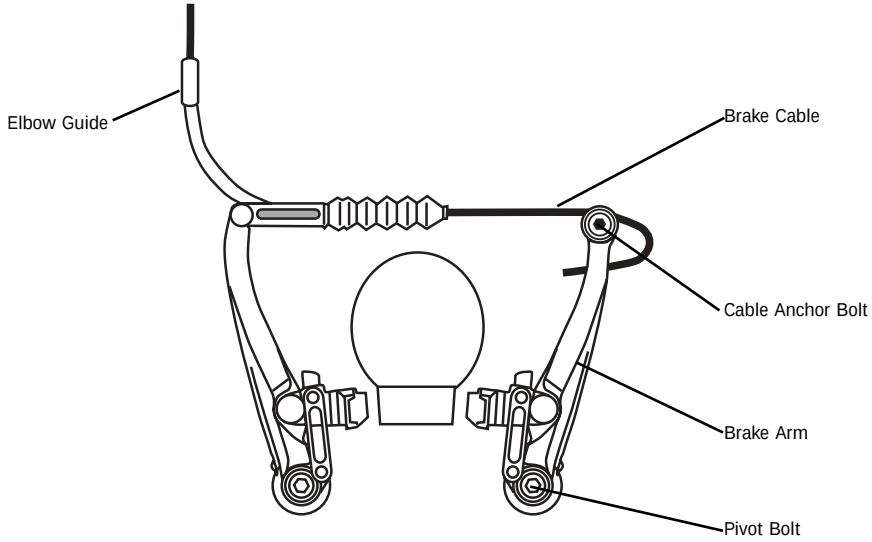


FIGURE 7 - Illustration of linear type V-brake assembly

Brake pad position.

Proper position, and in good condition. When the brakes are applied, the pads must be centered on the rim. (See Figure 7)

NOTE: Brake pads wear down with use.

To fine-adjust brake cable length, loosen the locknut of the brake lever's adjustment barrel (see Figure 8), screw the barrel in (to loosen cable) or out (to tighten cable).

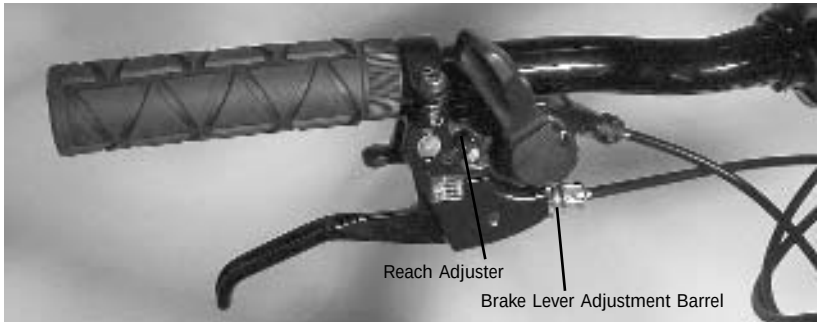


FIGURE 8 - Lever. On some brake levers, the reach adjuster is on the rear side of the lever and is adjusted with a 2mm allen key or flathead screwdriver.

TECH 1.6 - Inspection I

Cables

- Look for kinks, broken strands, and frayed ends before each ride.
- Check cable housings for bent or pinched ends and excessive wear.
- If you find a problem with brake cables fix or replace the problem part before riding your bike.
- Make sure that end caps cover all exposed cable ends to prevent fraying.
- Once a month, lubricate the cables where they enter the cable housings.
- Twice a year have the cables inspected, greased, and adjusted by your Brodie dealer.

Derailleur System and Shifting

- The derailleur system consists of the components that allow you to shift gears: The front and rear derailleur, shifters, and shift cables.
- The left shifter operates the front derailleur
- The right shifter operates the rear derailleur.
- Each shift should automatically position the derailleur chain guide so that it does not rub the chain.
- The chain should not fall off the inner or outer chainring or cog; if it rubs or falls off, the derailleur needs adjustment.

Front Derailleur Position Inspection

- The height and angle of the front derailleur are important to its performance.
- The outer chain guide should be parallel to the large chainring when above it.
- The lower edge of the outer chain guide should be positioned 1mm to 3mm above the large chainring teeth when it is directly above them. (See Figure 9)

Rear Derailleur Position Inspection

- To check alignment of rear derailleur, stand to the rear of the bicycle and make sure that the small cog, the two derailleur pulleys, and the chain are all in line (see Figure 10).
- If they are not in line, the rear derailleur needs adjustment

Derailleur Cables Inspection

- Inspect derailleur cables for wear before each ride.
- Look for kinks, broken strands, frayed ends or damaged cable housings.
- Cable housing ends (ferrules) should be properly seated in their stops.
- Always have end caps on exposed cable ends.
- Front and rear derailleur cable anchor bolts should be tightened to 35-50 inch/pounds.

For instructions pertaining to the use of the shifting system on your Brodie bike, please refer to the respective system instructions and manual. See your dealer for details.

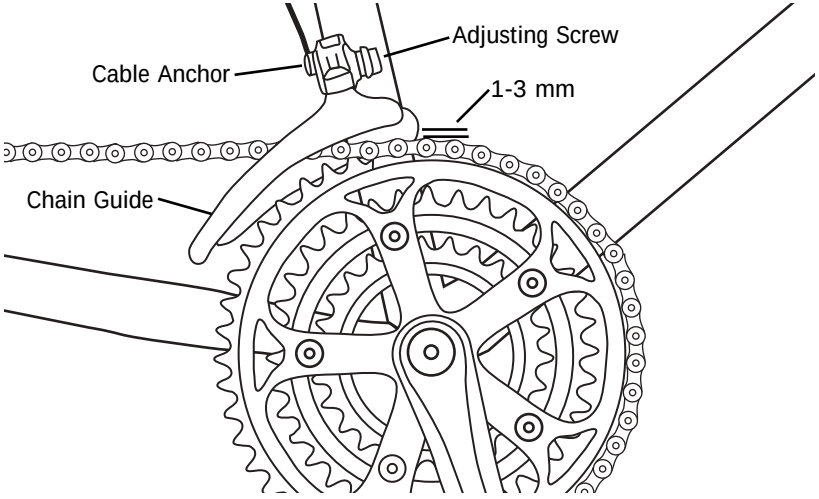


FIGURE 9 - Front derailleur position. Lower edge of outer chain guide should be 1mm to 3mm above the top of the large chainring.

Always wipe any excess oil/lubrication after application. Excess lube will attract dirt, which will contribute to the degeneration of your bike and its parts.

TECH 1.7 - Specific Derailleur Adjustment

If you are at all unsure of your abilities to properly adjust the derailleurs on your Brodie bicycle take it to your dealer or an experienced mechanic to have your bike's drivetrain inspected and adjusted as necessary.

TECH 1.8 - Tech Tips II - Derailleur Maintenance

Front Derailleur low gear limit

Do this adjustment when the front derailleur will not shift properly to the small chainring (granny gear).

- Shift the chain onto the small ring and large rear cog.
- Loosen the cable anchor bolt and remove all tension.
- Turn the low gear adjustment screw (see figure 10) until the chain is approximately 1.25mm from the inner chain guide.
- For Shimano shifters, push the left index lever (shift return lever) at least twice to make sure it is in its lowest setting.
- (For twist shifters, rotate the left shifter all the way forward.)
- Screw the shifter's adjusting barrel in (clockwise) to within one turn of its limit.
- Pull the front shift cable taut and tighten the clamp bolt to 35-40 inch/pounds.

Do this adjustment when the front derailleur will not shift properly to the large chainring.

- Shift the chain to the smallest rear cog.
- Turn the high gear adjustment screw (the outer screw) of the front derailleur counterclockwise so it will be out of the way of the front derailleur's motion in the following step.
- Shift the chain onto the large chainring.
- Use the left shifter to position the front derailleur so that the chain clears the outer chain guide by 1mm.
- Retighten the high-gear adjustment screw until it meets resistance.

Rear derailleur high gear limit

Do this adjustment when the rear derailleur will not shift properly to the smallest rear cog.

- Shift the chain to the small rear cog and large chainring.
- Loosen the cable clamp bolt on the rear derailleur and free the cable.
- Stand to the rear of the bicycle and make sure that the outer side of the small cog, the two derailleur pulleys, and the chain are all in line as shown in Figure 10.
- If they are not, turn the rear derailleur's high-gear adjustment screw (marked "H") until they are aligned.

For Shimano shifters.

- Push the right index lever (shift return lever) at least eight or nine times (depending on gearing) to make sure it is in its lowest setting. For twist shifters, rotate the right shifter all the way forward.
- Screw the rear derailleur shifter's adjustment barrel in (clockwise) to within two turns of its inner limit, and the rear derailleur's adjustment barrel to within one turn of its inner limit.
- Pull the rear shift cable taut, insert the cable into the clamp bolt groove on the rear derailleur, and tighten the clamp bolt to 35-50 inch/ pounds

Rear derailleur low gear limit

Do this adjustment when the rear derailleur shifts beyond or short of the largest cog.

- Shift the chain to the smallest rear cog.
- Turn the rear derailleur's low-gear adjustment screw (marked "L" counterclockwise so it will be out of the way of the rear derailleur's motion in the following step.
- Carefully shift the chain onto the large rear cog.
- Do not over shift or the chain may wedge itself between the large cog and the spokes.
- Stand to the rear of the bicycle and make sure that the large cog, the two derailleur pulleys, and the chain are all in line (see Figure 10).
- If they are not in line, turn the rear derailleur's adjustment barrel until they are aligned.
- Re-tighten the low-gear adjustment screw until it meets resistance.

Checking derailleur adjustment

To check the adjustment of the derailleur system.

- Shift through various gear combinations making sure the chain does not rub on the front derailleur.
- Also ensure that the chain will not fall off of the front chainrings either to the inside or outside and check to make sure the derailleur and big chainring do not rub.

Other Derailleur Maintenance

Lubricate the front and rear derailleur pivots each month. Keep the front derailleur clamp bolt tightened to 20-35 inch/pounds and the rear derailleur fixing bolt tightened to 60-75 inch/pounds. Keep the shift lever clamp bolts (or Grip Shift shifter clamp bolts) tightened to 25-40 inch/pounds, and the shift lever pivot fixing bolts tightened to 22-30 inch/pounds.

Minor adjustments will be needed over time to maintain accuracy and ease of shifting. You can make fine adjustments by turning adjustment barrels. The front and rear derailleur system has an adjustment barrel on the shifter. The rear derailleur on Shimano systems have adjustment barrels on the shifter and rear derailleur (adjustment can be done from either barrel). These adjustment barrels are to be used for minor tuning of your drivetrain ONLY. For quality drivetrain set-up, see your dealer.

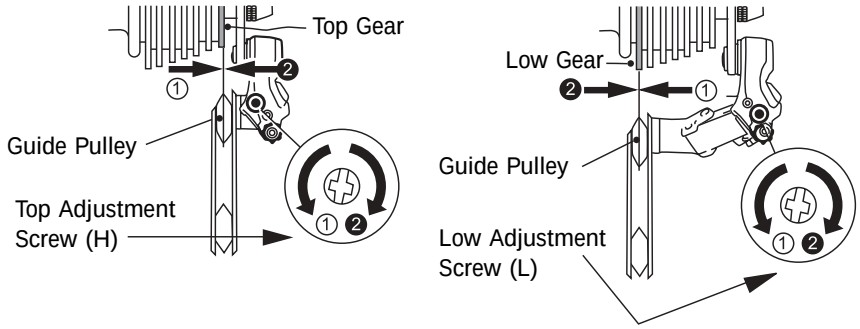


FIGURE 10 - Rear derailleur alignment. The outer side of the small cog, the two pulleys and the chain should all be in line. Adjust indexing while chain is on second smallest cog.

TECH 1.9 - Inspection II

Handlebar Stem/Headset Inspection

- Inspect stem for damage.
- If you find or suspect damage have it inspected by your dealer before riding.
- Check stem tightness before every ride by holding the wheel stationary between your knees and trying to turn the handlebars. If they move independently, reposition them and tighten the pinch bolts on the headset.
- To adjust handlebar position add or remove spacers below the stem.
- The stem cannot be raised.
- If you wish to lower the stem see your dealer.

Aheadset Adjustments

- The AheadSet bearings are adjusted by first loosening the two handlebar stem/steerer bolts and the top clamp of double clamp forks on the steerer tube and stanchions.
- The stem cannot be adjusted if the stem and brake hanger bolts are at all tight.
- Before adjusting the headset, make sure you have loosened all three bolts. Failure to do so may result in a cracked stem cap.
- Also, over tightening the headset can destroy it. Tighten the AheadSet draw bolt to 22 inch/pounds. Re-tighten the stem/steerer bolts to 80 inch/pounds.
- Re-tighten the hanger bolt to 25~0 inch/pounds.
- Make sure the stem is properly aligned with the front wheel.
- Have your AheadSet headset greased twice a year by your Brodie dealer.

!!WARNING!! It is very important that the headset bearings be neither loose nor tight. Riding a bicycle with an improperly adjusted headset may result in loss of control, causing serious injury or death to the rider or damage to the bicycle.

Handlebar Stem/Handlebar

- Inspect handlebar for damage.
- If you find or suspect damage, have it inspected by your dealer. Do not ride your bicycle until the problem is fixed.
- Make sure the stem's handlebar clamp bolt is tightened to 80-100 inch/pounds. An under-tightened or over tightened bolt is dangerous.
- Also make sure the handlebar end plugs are in place.
- The handlebar angle can be adjusted by loosening the handlebar clamp bolt, positioning the handlebar as desired and re-tightening the bolt.

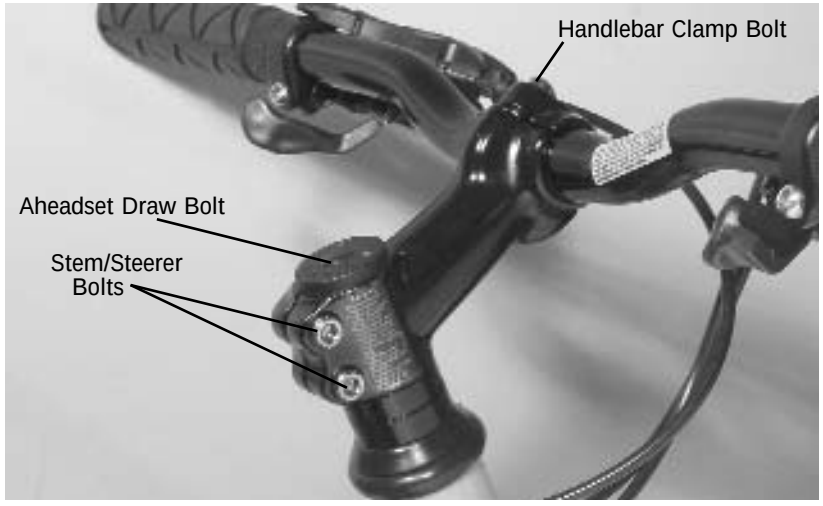


FIGURE 11 - AheadSet Stem/Headset System.

Grips

- Loose handlebar grips are unsafe.
- Remove and clean loose grips.
- To remount, spray hair spray on the handlebar and slide the grip back on. If this method fails use rubber cement.
- Bar end bolts should be tightened to 50-70 inch/pounds.
- Make sure the bar end plugs are in place.
- Unplugged handlebar or bar ends can result in serious puncture-wound type injuries.

Saddle and Seatpost

- The saddle fixing bolt should be kept tightened to 140-175 inch/pounds.
- Make sure the seatpost is securely held by the quick release or seatpost binder.
- Inspect the seatpost and the top of the frame where the seatpost enters for cracks or damage.

Always make sure the seatpost is inserted past the maximum height marker. Failure to do so may result in serious injury or death to the rider.

- The seatpost should be greased every three months.
- The seatpost quick release should be tight enough to keep the seat and seatpost from rotating during normal riding, and no tighter. To check tightness, grasp seat with your hands, hold the rear wheel between your knees, and try to rotate the seat side to side.
- Open the seatpost's quick-release lever to its mid position (in line with skewer) and tighten the nut by hand until it is snug.
- Do not over-tighten the nut as this puts unnecessary stress on frame and makes seat-height adjustment more difficult.
- Never tighten the seat post quick release lever without the seat post in the frame as damage may result.

TECH 2.0 - DRIVETRAIN



FIGURE 12 - Side view of drive train

Cranks

Crank bolts need to be checked after the first ten hours of 100 miles of riding. As the crank is mounted on a tapered spindle it will seat and require further tightening. The fixing bolt on each crank arm should be tightened to 200-240 inch/pounds. Whenever the crank arms are removed, a thin film of grease should be applied to the crank arm spindle tapers before the crank arms are reinstalled to eliminate creaking.

Chainrings

The chainring bolts should be kept tightened to 70-90 inch/pounds. Periodically clean and inspect the chainrings. If teeth are bent or broken the chainring needs to be replaced. Some chainrings have truncated teeth (Figure 13) to assist in shifting. Familiarize yourself with the chainrings to be able to discern between damaged or truncated teeth.

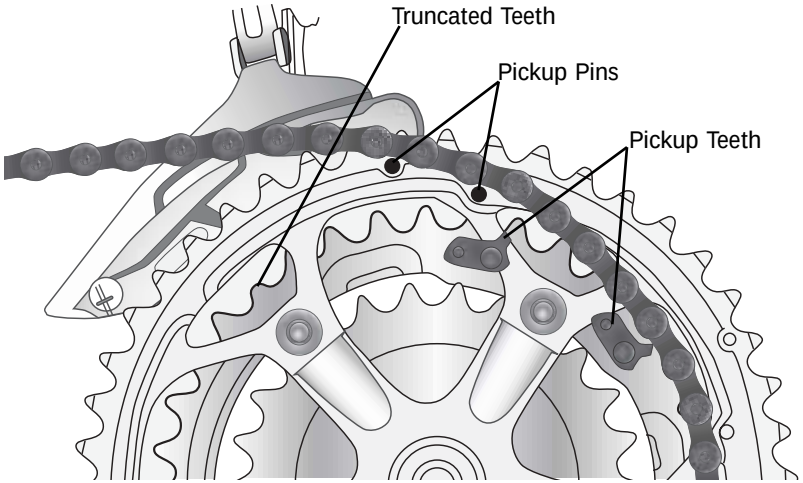


FIGURE 13 - Chainrings with truncated teeth, pickup pins, and pickup teeth to aid shifting.

Step-In (Clipless) Pedals

The pedal's four bindings should be loose enough to release when necessary and tight enough not to release prematurely. Pedals must have equal amounts of tension and be free of debris. Pedal spring tension is adjusted with a 3mm Allen key. Tension increases when the screw is turned clockwise and decreases when turned counterclockwise. The indicator near the screw displays the spring tension. The spring tension changes in 3 steps with one turn of the screw. The screw can be turned 9 times. When it is turned in all the way in the direction increasing tension, it suddenly becomes hard to turn. Do not turn beyond that point. When turning in the other direction, stop turning when the end of the adjustment screw becomes even with the spring plate.

A Note About Step-In (Clipless) Pedals

Step-in pedals are used in conjunction with shoes that have special cleats fitted to the soles. Ask your Brodie dealer to recommend the best shoes for your riding style. If you are unfamiliar with the use of clipless pedals, practice engaging and disengaging the cleat and

pedal before riding in traffic or off-road. Until "clicking in" becomes a reflex action there is the danger of swerving or falling when trying to engage or remove the shoe from the pedal.

Caution **Ask your Brodie dealer to demonstrate how to use clipless pedals and have your dealer make sure that your pedals are set up so that you can easily disengage the cleat. The pedal's release tension should be adjusted properly. See dealer for further details.**

Rear Cassette (Cogs)

Use a small screwdriver or toothbrush to clean out debris and grease between the cogs. A cog with worn, bent, or broken teeth should be replaced. As with the front chainrings some cogs are truncated to aid in shifting.

Chain

Clean the chain and inspect it for tight links, wear and damage to pins. If you find damage, replace the chain. As a chain wears, it lengthens. If your chain is skipping or shifting poorly have your dealer check your chain for excessive stretch. Lubricate the chain before it is dry. Remove excess oil when lubricating to keep the chain from retaining dirt or sand.



PART VI
BRUCE SPICER'S RIDING TIPS



Bruce’s Bio

Bruce is our Product Manager. He has spent the better part of the eighties and nineties as a member of the Canadian National Road Team (8yrs) and a pro-level Mountain biker (8yrs). With an unprecedented 13 Canadian National Championship, Bruce has experienced more pleasure and pain in the saddle than most of us mere mortals could ever comprehend.

The Front Brake is Your Friend

Don't believe people who tell you to ignore the front brake because it will flip you over the bars. Use a smooth, steady squeeze on the brake lever and you will soon learn to brake hard without flipping or skidding. You'll have more control over your stopping ability, and the trails will thank you.

Synthetics -- Even Better Than The Real Thing

Cotton is a great natural fibre, but it sucks for riding in.
A polypropylene jersey made of modern synthetics will do wonders for your riding comfort by wicking sweat away from your body. As you get more into riding, shoes and shorts designed for cycling will make a huge difference in performance and comfort. You'll be dryer and warmer and beat the bronchitis bug faster than I figured out how to spell it!

Ride the bike, don't let it ride you

Suspension developments are taking away the need to use "Body English" more and more. But, to really ride a bike well, you still need to 'help' it over even the smallest obstacles as well as into dips and holes in the trail. Your hands control the front wheel, your feet control the rear.

Boy Scouts Are Cool. Be Prepared

How long will you be riding? How badly could the weather deteriorate? Will you be standing around later in cold, wet gear? Pumps, spares, a change of clothes can make a world of difference to your ride, and make you a hero to those who didn't put the thought in beforehand. Splitting the responsibilities on longer epics makes sense. ie: one rider brings a chain break, another brings a spare derailleur, etc. Everybody should bring spare tubes though!

Consider Weight to Strength.

The trend in the past has been towards ultra-light frames & parts. When hardcore riding tests the limits of rider and machine, durability & bombproof strength become just as important. The market has become more sensible to strength and less obsessed by purely weight. Don't sacrifice reliability and safety with parts and accessories that can't take the abuse you'll want to dish out.

The Right Bike From the Right Dealer

Select a reputable dealer that will be able to fill your needs. Your bicycle retailer should assist you to find the right bike, the correct fit and explain the operation of your new purchase. Check out the way they treat other customers, especially newbies. Ask about after-purchase tune-ups and maintenance. Avoid stores that deliver attitude instead of service.

What's Your Favourite Position?

The mass of your upper body has a significant influence on how your bike rolls over terrain. When climbing steeps, spread your weight over both wheels and move it fore and aft depending on traction. Usually you will have your rear forward on the saddle, driving your weight into the rear tire. Keep your elbows bent and chest low.

Beginners will inch over the side of a drop-off with their weight way off the back of the saddle. This is fine if the runout is gradual, but if it's more abrupt you need more aggressive body english. Get centered over the bike. As you go over you will be heavy on the hands and light on the feet. As you transition at the bottom pull up on the bars and be heavy on the feet. As you progress, you will just wheelie over the edge, landing rear wheel first. Practise on small drops first, because you can't afford to mess up a big one!

Where you look is where you go

When choosing a line through the terrain, look up the trail at where you want to end up, not where you don't! Following your eyes will guide you away from the obstacles. As a novice, this was the best piece of riding advice I ever had given to me.

PART VII
WARRANTY INFORMATION

- This warranty does not cover damages or failure of the bicycle or parts as a result of: bicycle racing; stunt or acrobatic riding, jumping, and similar activities; usage as a power-propelled vehicle; any other misuse, abuse, negligence, or accident; improper assembly, improper fit, improper adjustment, improper maintenance, or alterations; and normal wear and tear.
- This warranty is issued to and for the exclusive benefit of the original purchaser of the bicycle and is not assignable or in any way transferable to subsequent purchasers or users.
- This warranty does not cover bodily injuries.
- This warranty expressly excludes any liability for any incidental or consequential damages.
- To the extent allowed by law, any implied warranty of merchantability or fitness for a particular purpose applicable to these bicycles is limited in duration to the duration of the written warranty herein.
- There are no other warranties which extend beyond the description on the face of this written warranty, and these warrantors do not authorize any person to create for them any other obligation or liability in connection with these bicycles.
- Repair or replacement of defective parts or accessories constitutes the sole remedy under this warranty.
- This warranty gives you specific legal rights, and your rights may vary from state to state and country to country.

Warranty Claims

To make a claim under this warranty, you must present the defective part to an authorized Brodie dealer with your original sales receipt or other proof of purchase containing the purchase date and serial number. If the distributor and manufacturer determine that this claim is valid under the terms of this warranty, they will, at their option, repair or replace the part without charge. However, the original purchaser will be responsible for any shipping or dealer labor charges incurred from the repair or replacement of the defective part.

	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
16	37.8	34.6	32.0	29.7	27.7	26.0	24.4	23.1	21.8	20.8	19.8	18.9	18.0	17.3	16.6	16.0	15.4	14.8	14.3	13.8	13.4	13.0	12.6	12.2	11.8	11.5
17	40.1	36.8	34.0	31.5	29.4	27.6	26.0	24.5	23.2	22.1	21.0	20.0	19.2	18.4	17.6	17.0	16.3	15.7	15.2	14.7	14.2	13.8	13.3	13.0	12.6	12.2
18	42.5	39.0	36.0	33.4	31.2	29.2	27.5	26.0	24.6	23.4	22.2	21.2	20.3	19.5	18.7	18.0	17.3	16.7	16.1	15.6	15.0	14.6	14.1	13.7	13.3	13.0
19	44.9	41.1	38.0	35.2	32.9	30.8	29.0	27.4	26.0	24.7	23.5	22.4	21.4	20.5	19.7	19.0	18.2	17.6	17.0	16.4	15.9	15.4	14.9	14.5	14.1	13.7
20	47.2	43.3	40.0	37.1	34.6	32.5	30.5	28.8	27.3	26.0	24.7	23.6	22.6	21.6	20.8	20.0	19.2	18.5	17.9	17.3	16.7	16.2	15.7	15.2	14.8	14.4
21	49.6	45.5	42.0	39.0	36.4	34.1	32.1	30.3	28.7	27.3	26.0	24.8	23.7	22.7	21.8	21.0	20.2	19.5	18.8	18.2	17.6	17.0	16.5	16.0	15.6	15.1
22	52.0	47.6	44.0	40.8	38.1	35.7	33.6	31.7	30.1	28.6	27.2	26.0	24.8	23.8	22.8	22.0	21.1	20.4	19.7	19.0	18.4	17.8	17.3	16.8	16.3	15.8
23	54.3	49.8	46.0	42.7	39.8	37.3	35.1	33.2	31.4	29.9	28.4	27.1	26.0	24.9	23.9	23.0	22.1	21.3	20.6	19.9	19.2	18.6	18.1	17.5	17.0	16.6
24	56.7	52.0	48.0	44.5	41.6	39.0	36.7	34.6	32.8	31.2	29.7	28.3	27.1	26.0	24.9	24.0	23.1	22.2	21.5	20.8	20.1	19.5	18.9	18.3	17.8	17.3
25	59.0	54.1	50.0	46.4	43.3	40.6	38.2	36.1	34.2	32.5	30.9	29.5	28.2	27.0	26.0	25.0	24.0	23.2	22.4	21.6	20.9	20.3	19.6	19.1	18.5	18.0
26	61.4	56.3	52.0	48.2	45.0	42.2	39.7	37.5	35.5	33.8	32.1	30.7	29.3	28.1	27.0	26.0	25.0	24.1	23.3	22.5	21.8	21.1	20.4	19.8	19.3	18.7
27	63.8	58.5	54.0	50.1	46.8	43.8	41.2	39.0	36.9	35.1	33.4	31.9	30.5	29.2	28.0	27.0	26.0	25.0	24.2	23.4	22.6	21.9	21.2	20.6	20.0	19.5
28	66.1	60.6	56.0	52.0	48.5	45.5	42.8	40.4	38.3	36.4	34.6	33.0	31.6	30.3	29.1	28.0	26.9	26.0	25.1	24.2	23.4	22.7	22.0	21.4	20.8	20.2
29	68.5	62.8	58.0	53.8	50.2	47.1	44.3	41.8	39.6	37.7	35.9	34.2	32.7	31.4	30.1	29.0	27.9	26.9	26.0	25.1	24.3	23.5	22.8	22.1	21.5	20.9
30	70.9	65.0	60.0	55.7	52.0	48.7	45.8	43.3	41.0	39.0	37.1	35.4	33.9	32.5	31.2	30.0	28.8	27.8	26.8	26.0	25.1	24.3	23.6	22.9	22.2	21.6
31	73.2	67.1	62.0	57.5	53.7	50.3	47.4	44.7	42.4	40.3	38.3	36.6	35.0	33.5	32.2	31.0	29.8	28.7	27.7	26.8	26.0	25.1	24.4	23.7	23.0	22.3
32	75.6	69.3	64.0	59.4	55.4	52.0	48.9	46.2	43.7	41.6	39.6	37.8	36.1	34.6	33.2	32.0	30.8	29.7	28.6	27.7	26.8	26.0	25.2	24.4	23.7	23.1
33	78.0	71.5	66.0	61.2	57.2	53.6	50.4	47.6	45.1	42.9	40.8	39.0	37.3	35.7	34.3	33.0	31.7	30.6	29.5	28.6	27.6	26.8	26.0	25.2	24.5	23.8
34	80.3	73.6	68.0	63.1	58.9	55.2	52.0	49.1	46.5	44.2	42.0	40.1	38.4	36.8	35.3	34.0	32.7	31.5	30.4	29.4	28.5	27.6	26.7	26.0	25.2	24.5
35	82.7	75.8	70.0	65.0	60.6	56.8	53.5	50.5	47.8	45.5	43.3	41.3	39.5	37.9	36.4	35.0	33.7	32.5	31.3	30.3	29.3	28.4	27.5	26.7	26.0	25.2
36	85.0	78.0	72.0	66.8	62.4	58.5	55.0	52.0	49.2	46.8	44.5	42.5	40.6	39.0	37.4	36.0	34.6	33.4	32.2	31.2	30.1	29.2	28.3	27.5	26.7	26.0
37	87.4	80.1	74.0	68.7	64.1	60.1	56.5	53.4	50.6	48.1	45.8	43.7	41.8	40.0	38.4	37.0	35.6	34.3	33.1	32.0	31.0	30.0	29.1	28.2	27.4	26.7
38	89.8	82.3	76.0	70.5	65.8	61.7	58.1	54.8	52.0	49.4	47.0	44.9	42.9	41.1	39.5	38.0	36.5	35.2	34.0	32.9	31.8	30.8	29.9	29.0	28.2	27.4
39	92.1	84.5	78.0	72.4	67.6	63.3	59.6	56.3	53.3	50.7	48.2	46.0	44.0	42.2	40.5	39.0	37.5	36.2	34.9	33.8	32.7	31.6	30.7	29.8	28.9	28.1
40	94.5	86.6	80.0	74.2	69.3	65.0	61.1	57.7	54.7	52.0	49.5	47.2	45.2	43.3	41.6	40.0	38.5	37.1	35.8	34.6	33.5	32.5	31.5	30.5	29.7	28.8

	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
41	96.9	88.8	82.0	76.1	71.0	66.6	62.7	59.2	56.1	53.3	50.7	48.4	46.3	44.4	42.6	41.0	39.4	38.0	36.7	35.5	34.3	33.3	32.3	31.3	30.4	29.6
42	99.2	91.0	84.0	78.0	72.8	68.2	64.2	60.6	57.4	54.6	52.0	49.6	47.4	45.5	43.6	42.0	40.4	39.0	37.6	36.4	35.2	34.1	33.0	32.1	31.2	30.3
43	101.6	93.1	86.0	79.8	74.5	69.8	65.7	62.1	58.8	55.9	53.2	50.8	48.6	46.5	44.7	43.0	41.4	39.9	38.5	37.2	36.0	34.9	33.8	32.8	31.9	31.0
44	104.0	95.3	88.0	81.7	76.2	71.5	67.2	63.5	60.2	57.2	54.4	52.0	49.7	47.6	45.7	44.0	42.3	40.8	39.4	38.1	36.9	35.7	34.6	33.6	32.6	31.7
45	106.3	97.5	90.0	83.5	78.0	73.1	68.8	65.0	61.5	58.5	55.7	53.1	50.8	48.7	46.8	45.0	43.3	41.7	40.3	39.0	37.7	36.5	35.4	34.4	33.4	32.5
46	108.7	99.6	92.0	85.4	79.7	74.7	70.3	66.4	62.9	59.8	56.9	54.3	52.0	49.8	47.8	46.0	44.2	42.7	41.2	39.8	38.5	37.3	36.2	35.1	34.1	33.2
47	111.0	101.8	94.0	87.2	81.4	76.3	71.8	67.8	64.3	61.1	58.1	55.5	53.1	50.9	48.8	47.0	45.2	43.6	42.1	40.7	39.4	38.1	37.0	35.9	34.9	33.9
48	113.4	104.0	96.0	89.1	83.2	78.0	73.4	69.3	65.6	62.4	59.4	56.7	54.2	52.0	49.9	48.0	46.2	44.5	43.0	41.6	40.2	39.0	37.8	36.7	35.6	34.6
49	115.8	106.1	98.0	91.0	84.9	79.6	74.9	70.7	67.0	63.7	60.6	57.9	55.3	53.0	50.9	49.0	47.1	45.5	43.9	42.4	41.0	39.8	38.6	37.4	36.4	35.3
50	118.1	108.3	100.0	92.8	86.6	81.2	76.4	72.2	68.4	65.0	61.9	59.0	56.5	54.1	52.0	50.0	48.1	46.4	44.8	43.3	41.9	40.6	39.3	38.2	37.1	36.1
51	120.5	110.5	102.0	94.7	88.4	82.8	78.0	73.6	69.7	66.3	63.1	60.2	57.6	55.2	53.0	51.0	49.1	47.3	45.7	44.2	42.7	41.4	40.1	39.0	37.8	36.8
52	122.9	112.6	104.0	96.5	90.1	84.5	79.5	75.1	71.1	67.6	64.3	61.4	58.7	56.3	54.0	52.0	50.0	48.2	46.6	45.0	43.6	42.2	40.9	39.7	38.6	37.5
53	125.2	114.8	106.0	98.4	91.8	86.1	81.0	76.5	72.5	68.9	65.6	62.6	59.9	57.4	55.1	53.0	51.0	49.2	47.5	45.9	44.4	43.0	41.7	40.5	39.3	38.2
54	127.6	117.0	108.0	100.2	93.6	87.7	82.5	78.0	73.8	70.2	66.8	63.8	61.0	58.5	56.1	54.0	52.0	50.1	48.4	46.8	45.2	43.8	42.5	41.2	40.1	39.0
55	130.0	119.1	110.0	102.1	95.3	89.3	84.1	79.4	75.2	71.5	68.0	65.0	62.1	59.5	57.2	55.0	52.9	51.0	49.3	47.6	46.1	44.6	43.3	42.0	40.8	39.7
56	132.3	121.3	112.0	104.0	97.0	91.0	85.6	80.8	76.6	72.8	69.3	66.1	63.3	60.6	58.2	56.0	53.9	52.0	50.2	48.5	46.9	45.5	44.1	42.8	41.6	40.4

Using the table at RIGHT (below) you can calculate your own gearing ratios. Multiplying the wheel diameter by the number of teeth in the chain wheel and divide that result by the number of teeth in the free hub cog. For example, if you have a 26" wheel, a 46-tooth chainwheel and a 32-tooth freehub cog, your gear would be:

(26 x 46)/32 = 38.13 inches of gear.

Gear 'inches' refers back to the high wheeler or Penny Farthing of the 1880's. This historic bike had a tiny rear wheel and a huge front wheel. The pedals were attached to the big wheel, and there were no chains or gears. Depending on the rider's strength the bigger the fromt wheel, the faster the bike would go. The smaller the wheel, the easier the bike would go uphill.

Record of maintenance

Enter each repair here.

	date:

For the most current manual visit www.brodiebikes.com

Record of purchase

* Brodie Model _____ Color _____
* Serial # _____ Size _____
* Date of Purchase _____
* Dealer _____
* Address _____
* City _____
* State/Prov. _____ * Zip/Postal Code _____
* Dealer Phone # ___(_____)_____
* **Attach Receipt Here:**

*Required for warranty purposes

Brodie Bicycle Warranty

Brodie warranty will cover defects in material and workmanship of the frame from the date of purchase to the registered original owner with a copy of the original, dated receipt. Different materials and different categories of bikes have their own specific warranty details, as outlined below.

Cromoly Steel Frames

5 year limited warranty to the registered original owner. Maximum fork travel length permitted is 85mm.

Aluminum Hardtail XC Frames

5 year limited warranty to the registered original owner. Maximum fork travel length permitted is 105mm.

Scandium Frames

2 year limited warranty to the registered original owner. Maximum fork travel length permitted is 105mm.

Aluminum Freeride Hardtails

2 year limited warranty to the registered original owner. Maximum fork travel length permitted is 130mm.

Full Suspension

2 year limited warranty to the registered original owner. Maximum fork travel length permitted is 130mm.

Full Suspension Freeride

1 year limited warranty to the registered original owner. Maximum fork travel length permitted is 150mm.

DH/Freeride

1year limited warranty to the registered original owner. No maximum fork travel length. Recommended fork travel length is 175-205mm (7" to 8")

*** See the Brodie Spec. Chart for your particular model if you're not sure.**

Respective manufacturers cover the components on your bicycle. Brake Pads, Cables, Tires, Tubes, Grips and Drive Train are considered wear and tear items, and are not covered by warranty.

An authorized Brodie dealer must assemble bicycles. Warranty claims must be handled through an authorized Brodie dealer. To qualify for warranty, the Brodie warranty registration card must be filled out and submitted within 30 days of purchase. Online registration is also available at www.brodiebikes.com.

Brodie Frames

Brodie's frames have a warranty against manufacturers defects, and defects in material. You must install a fork that is within the range of travel length, which is used as original equipment for each model. It is required that you use a DH style headset when installing long travel forks on frames.

What Will Void Your Warranty

Installing a fork with longer travel than was originally specified for that bike. If it was purchased as a frame only, the maximum acceptable fork length is the same as what the corresponding bike model was spec'd with, as outlined in the Specification Chart.

Performing any modification to the frame, i.e. drilling, filling and cutting. Allowing a tire to rub against a frame, wearing a groove into a tube. Allowing 'chain suck' to cut into and damage a chainstay.

Crashing into things. We cannot be responsible for your riding errors or indiscretions! If you break your bike it's your problem, not warranty. When you ride in extreme terrain, BMX parks, urban staircases, etc. or attempt to duplicate the stunts seen in videos, you risk personal injury to yourself, and your bike. The warranty on your bike does not cover missed landings, ghost rides, and aborted wheelie drops, suddenly appearing trees, or just crashing in general – even while 'just riding along'.

Warranty Card

* Name _____ ☐ Female ☐ Male
* Address _____
* City _____
* State/Prov. _____ * Zip/Postal Code _____
* Home Phone # (_____) _____
Is the Purchaser the Primary User? ☐ Yes ☐ No
Age: ☐ 0-17 ☐ 18-24 ☐ 25-34 ☐ 35-49 ☐ 50-64 ☐ 65+
* Brodie Model _____ Color _____
* Serial # _____ Size _____
* Date of Purchase _____
* Dealer _____
* Address _____
* City _____
* State/Prov. _____ * Zip/Postal Code _____
* Dealer Phone # (_____) _____

* Required for warranty purposes

Reason for Choosing a Brodie Bike? Choose all applicable
☐ Brodie Reputation ☐ Frame Design and Quality
☐ Components ☐ Style
☐ Price ☐ Dealer Service

Purpose for Buying a Brodie Bike? Choose all applicable
☐ Off Road Riding ☐ DH ☐ Recreational Riding
☐ Commuting ☐ Touring ☐ Racing/Competition
☐ Form of Excercise ☐ Freeriding

What Other Brands Did You Consider Buying? Choose all applicable
☐ Trek ☐ Giant ☐ Norco
☐ Kona ☐ Specialized ☐ Rocky Mountain
☐ Other (specify) _____

What is Your Household Income? Choose only one
☐ $15,000 or less ☐ $15,001-$30,000
☐ $30,001-$50,000 ☐ $50,001-$75,000
☐ $75,001 +

Or register online at www.brodiebikes.com

From: _____

Place
Stamp
Here

Brodie
280 SW Marine Drive
Vancouver BC
Canada V5X 2R5